

# Installation Guide (Windows Server 2016)

NEC Express Server Express5800 Series

Express5800/R120i-1M Express5800/R120i-2M Express5800/R120h-1M, R120h-1M (2nd-Gen), R120h-1M (3rd-Gen) Express5800/R120h-2M, R120h-2M (2nd-Gen), R120h-2M (3rd-Gen) Express5800/R120h-1E Express5800/R120h-2E Express5800/R120h Express5800/R110j-1

Chapter 1 Installing Windows

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EXPRESSBUILDER E8.10-010.07 Starter Pack S8.10-010.09

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# Introduction

Thank you for purchasing our product.

When using the EXPRESSBUILDER / Starter Pack version, see this manual before installing Windows.

Supported versions is as follows.

	Supported versions	
EXPRESSBUILDER	E8.10-010.07	(3.88.6)
Starter Pack	S8.10-010.09	

Please read the instructions carefully and keep this document for your future reference.

# **Conventions Used in This Document**

### Notations used in the text

The symbols used in this document include the following:

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)

#### **Removal Media**

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

- USB Memory
- Flash FDD

#### **Abbreviations of Operating Systems**

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

### About description of model names

The following models are supported by this document. If not mentioned especially, the contents is for all models. When the contents differs by model, each contents are described with model name.

Supported model is as follows.

Express5800/R120i-1M Express5800/R120i-2M	
Express5800/R120h-1M, R120h-1M (2nd-Gen), R120h-1M (3rd-Gen) Express5800/R120h-2M, R120h-2M (2nd-Gen), R120h-2M (3rd-Gen)	
Express5800/R120h-1E Express5800/R120h-2E	
Express5800/T120h	
Express5800/R110j-1	

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

https://www.nec.com/

# **NEC Express5800 Series**

# **Installing Windows**

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

#### 1. Information of Windows Installation

Describes Supported Windows OS and mass storage controllers which is supported by EXPRESSBUILDER/Starter Pack.

- Flow of Windows Installation
   Describes the flow chart of Windows installation.
- Installing Windows Server 2016
   Describes how to install Windows Server 2016.
- Setting up for Maintenance
   Describes the features that should be set up for maintenance in advance.

#### 5. Backup of system information

Describes how to back up the setting information of the system in advance of troubles.

# **I**. Information of Windows Installation

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

Important

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



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

Refer to the following for the installation of virtual OS.

#### If your virtualization infrastructure is Hyper-V:

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

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

#### If your virtualization infrastructure is not Hyper-V:

Refer to the manual provided by virtualization infrastructure vendor to prepare the virtual environment.

Prepare a media or an ISO image of the OS to install.

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

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

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

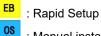
For details, see Chapter 2 (3. Details of EXPRESSBUILDER) in Maintenance Guide or Chapter 1 (4. Details of EXPRESSBUILDER) in Maintenance Guide (Common).

#### <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.



: Manual installation

Name of Windows OS		Boot	mode	Installation method		
		UEFI	Legacy	EB	OS	
Windows Server 2016 *	Standard	~	N/A	✓	✓	
Willdows Server 2016	Datacenter	~	N/A	$\checkmark$	✓	

✓ : Supported

\* "Nano Server" is not supported.

### **1.3** 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.

#### (1) Express5800/R120i-1M, R120i-2M

			R120i-1M	R120i-2M			
RA	RAID controller supporting the installation of OS						
	N8103-189	RAID Controller (RAID 0/1)	✓	✓			
	N8103-190	RAID Controller (2GB, RAID 0/1/5/6)	$\checkmark$	✓			
	N8103-191	RAID Controller (4GB, RAID 0/1/5/6)	√	✓			
	N8103-192	RAID Controller (RAID 0/1)	$\checkmark$	N/A			
	N8103-193	RAID Controller (2GB, RAID 0/1/5/6)	$\checkmark$	N/A			
	N8103-194	RAID Controller (4GB, RAID 0/1/5/6)	$\checkmark$	N/A			
	N8103-195	RAID Controller (RAID 0/1)	$\checkmark$	✓			
	N8103-201	RAID Controller (2GB, RAID 0/1/5/6)	$\checkmark$	✓			
	N8103-237	RAID Controller (4GB, RAID 0/1/5/6)	$\checkmark$	✓			
	N8103-238	RAID Controller (8GB, RAID 0/1/5/6)	$\checkmark$	✓			
	N8103-239	480GB SSD Adapter for OS Boot (RAID 1)	N/A	N/A			
Oth	er options						
	N8103-197	SAS Controller	$\checkmark$	✓			
	N8190-163	Fibre Channel Controller (1ch)	✓	√			
	N8190-164	Fibre Channel Controller (2ch)	$\checkmark$	$\checkmark$			
	N8190-165	Fibre Channel Controller (1ch)	✓	$\checkmark$			
	N8190-166	Fibre Channel Controller (2ch)	√	$\checkmark$			
	N8190-171	Fibre Channel Controller (1ch)	✓	√			
	N8190-172	Fibre Channel Controller (2ch)	✓	$\checkmark$			
				<u> </u>			

#### (2) Express5800/R120h-1M, R120h-2M (2nd-Gen) (3rd-Gen)

		R120h-1M	R120h-2M	R120h-1M	R120h-2M	R120h-1M	R120h-2M
				(2nd-Gen)	(2nd-Gen)	(3rd-Gen)	(3rd-Gen)
D controller s	supporting the installation of OS						
Onboard RA	ID Controller	~	~	✓	✓	✓	~
N8103-189	RAID Controller (RAID 0/1)	~	✓	✓	~	~	v
N8103-190	RAID Controller (2GB, RAID 0/1/5/6)	~	✓	✓	~	~	v
N8103-191	RAID Controller (4GB, RAID 0/1/5/6)	✓	✓	✓	✓	✓	v
N8103-192	RAID Controller (RAID 0/1)	✓	N/A	✓	N/A	✓	N
N8103-193	RAID Controller (2GB, RAID 0/1/5/6)	✓	N/A	✓	N/A	✓	N
N8103-194	RAID Controller (4GB, RAID 0/1/5/6)	✓	N/A	✓	N/A	✓	N
N8103-195	RAID Controller (RAID 0/1)	~	~	✓	✓	✓	v
N8103-201	RAID Controller (2GB, RAID 0/1/5/6)	✓	✓	✓	✓	✓	v
N8103-239	480GB SSD Adapter for OS Boot (RAID 1)	N/A	N/A	N/A	N/A	N/A	N
er options							
N8103-196	RAID Controller (2GB, RAID 0/1/5/6)	~	~	~	~	~	,
N8103-197	SAS Controller	✓	~	~	~	~	,
N8190-163	Fibre Channel Controller (1ch)	~	~	~	~	~	``
N8190-164	Fibre Channel Controller (2ch)	~	~	~	~	~	,
N8190-165	Fibre Channel Controller (1ch)	~	~	~	~	~	,
N8190-166	Fibre Channel Controller (2ch)	~	~	~	~	~	,
N8190-171	Fibre Channel Controller (1ch)	~	~	~	~	~	•
N0400 470	Fibre Channel Controller (2ch)	~	~	~	~	~	

#### (3) Express5800/R120h-1E, R120h-2E

		R120h-1E	R120h-2E
RAID controller s	upporting the installation of OS		
Onboard RA	ID Controller	~	~
N8103-189	RAID Controller (RAID 0/1)	N/A	✓
N8103-190	RAID Controller (2GB, RAID 0/1/5/6)	N/A	✓
N8103-191	RAID Controller (4GB, RAID 0/1/5/6)	N/A	N/A
N8103-192	RAID Controller (RAID 0/1)	✓	N/A
N8103-193	RAID Controller (2GB, RAID 0/1/5/6)	✓	N/A
N8103-194	RAID Controller (4GB, RAID 0/1/5/6)	N/A	N/A
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)	✓	✓
N8103-197	SAS Controller	✓	✓
N8190-163	Fibre Channel Controller (1ch)	✓	✓
N8190-164	Fibre Channel Controller (2ch)	✓	$\checkmark$
N8190-165	Fibre Channel Controller (1ch)	✓	$\checkmark$
N8190-166	Fibre Channel Controller (2ch)	✓	$\checkmark$
N8190-171	Fibre Channel Controller (1ch)	✓	$\checkmark$
N8190-172	Fibre Channel Controller (2ch)	~	✓

#### (4) Express5800/T120h

		T120h		
RAID controller	supporting the installation of OS			
Onboard R	Onboard RAID Controller			
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	2 RAID Controller (RAID 0/1)	N/A		
N8103-193	RAID Controller (2GB, RAID 0/1/5/6)	N/A		
N8103-194	RAID Controller (4GB, RAID 0/1/5/6)	N/A		
N8103-195	6 RAID Controller (RAID 0/1)	$\checkmark$		
N8103-201	RAID Controller (2GB, RAID 0/1/5/6)	$\checkmark$		
Other options				
N8103-196	RAID Controller (2GB, RAID 0/1/5/6)	✓		
N8103-197	SAS Controller	√		
N8190-163	Fibre Channel Controller (1ch)	✓		
N8190-164	Fibre Channel Controller (2ch)	✓		
N8190-165	Fibre Channel Controller (1ch)	√		
N8190-166	Fibre Channel Controller (2ch)	$\checkmark$		
N8190-171	Fibre Channel Controller (1ch)	✓		
N8190-172	Fibre Channel Controller (2ch)	√		

### (5) Express5800/R110j-1

			R110j-1
RAI	D controller s	supporting the installation of OS	
	Onboard RA	ID Controller	$\checkmark$
	N8103-192	RAID Controller (RAID 0/1)	$\checkmark$
	N8103-193	RAID Controller (2GB, RAID 0/1/5/6)	$\checkmark$
Oth	er options		
	N8103-196	RAID Controller (2GB, RAID 0/1/5/6)	✓
	N8103-197	SAS Controller	$\checkmark$
	N8190-163	Fibre Channel Controller (1ch)	✓
	N8190-164	Fibre Channel Controller (2ch)	✓
	N8190-165	Fibre Channel Controller (1ch)	✓
	N8190-166	Fibre Channel Controller (2ch)	✓
	N8190-171	Fibre Channel Controller (1ch)	✓
	N8190-172	Fibre Channel Controller (2ch)	✓
	N8103-197 N8190-163 N8190-164 N8190-165 N8190-166 N8190-171	SAS Controller         Fibre Channel Controller (1ch)         Fibre Channel Controller (2ch)         Fibre Channel Controller (1ch)         Fibre Channel Controller (2ch)         Fibre Channel Controller (1ch)	· · · · · · · · · · · · · · · · · · ·

### **1.4** Supported Optional LAN board

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

#### (1) Express5800/R120i-1M, R120i-2M

		R120i-1M	R120i-2M
N8104-206	Quad Port 1000BASE-T LOM Card	$\checkmark$	$\checkmark$
N8104-207	Dual Port 10GBASE-T LOM Card	$\checkmark$	✓
N8104-208	Dual Port 10/25GBASE SFP+ LOM Card	✓	✓
N8104-209	Quad Port 1000BASE-T Adapter	✓	$\checkmark$
N8104-210	Dual Port 10GBASE-T Adapter	✓	✓
N8104-211	Dual Port 10/25GBASE SFP28 Adapter	✓	✓
N8104-212	Dual Port 10/25GBASE SFP28 Adapter	✓	✓
N8104-217	Dual Port 10GBASE-T LOM Card	✓	✓
N8104-219	Dual Port 10GBASE-T Adapter	✓	✓

### (2) Express5800/R120h-1M, R120h-2M (2nd-Gen) (3rd-Gen)

		R120h-1M	R120h-2M	R120h-1M (2nd-Gen)	R120h-2M (2nd-Gen)	R120h-1M (3rd-Gen)	R120h-2M (3rd-Gen)
N8104-171	Quad Port 1000BASE-T LOM Card	✓	✓	✓	✓	N/A	N/A
N8104-172	Quad Port 1000BASE-T LOM Card	~	~	✓	~	✓	✓
N8104-173	Dual Port 10GBASE-T LOM Card	✓	✓	✓	~	N/A	N/A
N8104-175	Dual Port 10GBASE-T LOM Card	~	~	~	~	✓	$\checkmark$
N8104-176	Dual Port 10GBASE SFP+ LOM Card	✓	✓	✓	✓	N/A	N/A
N8104-177	Dual Port 25GBASE SFP+ LOM Card	✓	✓	✓	✓	N/A	N/A
N8104-178	Dual Port 1000BASE-T Adapter	✓	✓	✓	✓	✓	$\checkmark$
N8104-179	Quad Port 1000BASE-T Adapter	✓	$\checkmark$	$\checkmark$	✓	$\checkmark$	$\checkmark$
N8104-180	Dual Port 1000BASE-T Adapter	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	✓	$\checkmark$
N8104-181	Quad Port 1000BASE-T Adapter	✓	✓	✓	✓	✓	$\checkmark$
N8104-182	Dual Port 10GBASE-T Adapter	✓	✓	✓	✓	✓	$\checkmark$
N8104-183	Dual Port 10GBASE-T Adapter	✓	✓	✓	✓	✓	$\checkmark$
N8104-184	Dual Port 10GBASE-T Adapter	✓	✓	✓	✓	✓	$\checkmark$
N8104-185	Dual Port 10GBASE SFP+ Adapter	✓	✓	✓	✓	✓	$\checkmark$
N8104-186	Dual Port 10GBASE SFP+ Adapter	~	~	~	~	✓	✓
N8104-187	Dual Port 25GBASE SFP28 Adapter	~	~	~	~	✓	✓
N8104-213	Dual Port 10GBASE-T LOM Card	N/A	N/A	N/A	N/A	✓	✓
N8104-215	Dual Port 10GBASE-T Adapter	N/A	N/A	N/A	N/A	✓	✓

 $\checkmark$  : Supported

#### (3) Express5800/R120h-1E, R120h-2E

		R120h-1E	R120h-2E
N8104-171	Quad Port 1000BASE-T LOM Card	✓	✓
N8104-172	Quad Port 1000BASE-T LOM Card	✓	$\checkmark$
N8104-173	Dual Port 10GBASE-T LOM Card	$\checkmark$	$\checkmark$
N8104-175	Dual Port 10GBASE-T LOM Card	$\checkmark$	$\checkmark$
N8104-176	Dual Port 10GBASE SFP+ LOM Card	$\checkmark$	$\checkmark$
N8104-177	Dual Port 25GBASE SFP+ LOM Card	$\checkmark$	$\checkmark$
N8104-178	Dual Port 1000BASE-T Adapter	$\checkmark$	$\checkmark$
N8104-179	Quad Port 1000BASE-T Adapter	$\checkmark$	$\checkmark$
N8104-180	Dual Port 1000BASE-T Adapter	$\checkmark$	$\checkmark$
N8104-181	Quad Port 1000BASE-T Adapter	✓	$\checkmark$
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	✓	✓
N8104-193	Dual Port 1000BASE-T LOM Card	$\checkmark$	$\checkmark$
N8104-194	Dual Port 10GBASE-SR LOM Card	$\checkmark$	$\checkmark$
N8104-195	Dual Port 10GBASE-T LOM Card	$\checkmark$	$\checkmark$
N8104-215	Dual Port 10GBASE-T LOM Card	N/A	N/A

#### (4) Express5800/T120h

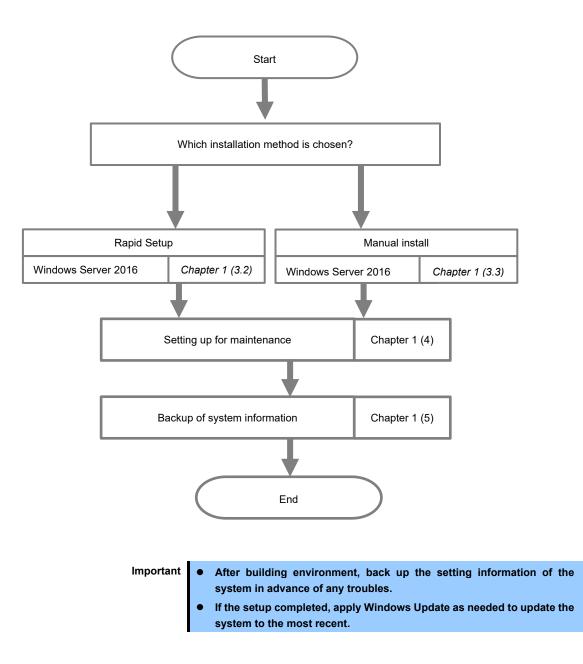
		T120h
N8104-178	Dual Port 1000BASE-T Adapter	✓
N8104-179	Quad Port 1000BASE-T Adapter	✓
N8104-180	Dual Port 1000BASE-T Adapter	✓
N8104-181	Quad Port 1000BASE-T Adapter	✓
N8104-182	Dual Port 10GBASE-T Adapter	$\checkmark$
N8104-183	Dual Port 10GBASE-T Adapter	✓
N8104-184	Dual Port 10GBASE-T Adapter	✓
N8104-185	Dual Port 10GBASE SFP+ Adapter	✓
N8104-186	Dual Port 10GBASE SFP+ Adapter	✓
N8104-187	Dual Port 25GBASE SFP28 Adapter	✓
N8104-215	Dual Port 10GBASE-T Adapter	N/A

### (5) Express5800/R110j-1

		R110j-1
N8104-171	Quad Port 1000BASE-T LOM Card	$\checkmark$
N8104-172	Quad Port 1000BASE-T LOM Card	✓
N8104-173	Dual Port 10GBASE-T LOM Card	$\checkmark$
N8104-176	Dual Port 10GBASE SFP+ LOM Card	$\checkmark$
N8104-178	Dual Port 1000BASE-T Adapter	$\checkmark$
N8104-179	Quad Port 1000BASE-T Adapter	$\checkmark$
N8104-180	Dual Port 1000BASE-T Adapter	$\checkmark$
N8104-181	Quad Port 1000BASE-T Adapter	$\checkmark$
N8104-182	Dual Port 10GBASE-T Adapter	✓
N8104-183	Dual Port 10GBASE-T Adapter	✓
N8104-185	Dual Port 10GBASE SFP+ Adapter	$\checkmark$
N8104-186	Dual Port 10GBASE SFP+ Adapter	$\checkmark$
N8104-215	Dual Port 10GBASE-T Adapter	N/A

# 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.

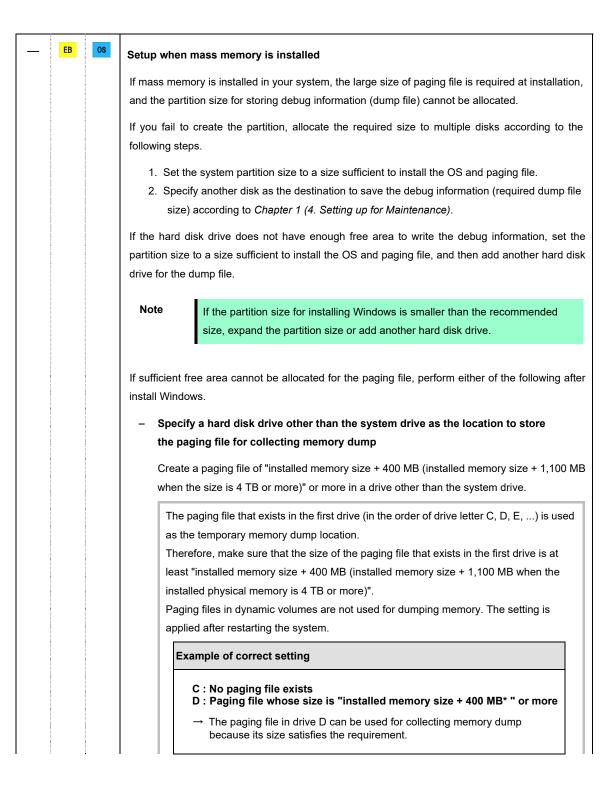


: Rapid Setup

: Manual Installation

BIOS	BIOS setting		
_	EB	OS	Change <b>Boot Mode</b> to <b>UEFI Mode</b> . For details, see <i>Chapter 2 (1. System Utilities)</i> in <i>Maintenance Guide.</i>
			System Configuration > BIOS/Platform Configuration (RBSU) > Boot Options > Boot Mode > UEFI Mode
_	EB	OS	Select <b>Enabled</b> for x2APIC feature of processor. For details, see <i>Chapter 2 (1. System Utilities)</i> in <i>Maintenance Guide.</i>
			System Configuration > BIOS/Platform Configuration (RBSU) > Processor Options > Processor x2APIC Support > Enabled
_	EB	OS	<u>R120h-1M, R120h-2M, R120h-1E, R120h-2E, T120h</u>
			Change time zone to the Unspecified Time Zone.
			For details, see Chapter 2 (1. System Utilities) in Maintenance Guide.
			System Configuration > BIOS/Platform Configuration (RBSU) > Date and time >
			Time Zone : Unspecified Time Zone
_	EB	OS	R120h-1M, R120h-2M, R120h-1E, R120h-2E, T120h
			Change time format to the Local Time.
			For details, see Chapter 2 (1. System Utilities) in Maintenance Guide.
			System Configuration > BIOS/Platform Configuration (RBSU) > Date and time >
			Time Format : Local Time
	EB	OS	R120i-1M/R120i-2M, R120h-1M(2nd-Gen)/(3rd-Gen), R120h-2M(2nd-Gen)/(3rd-Gen), R110j-1
			Change time format to the Coordinated Universal Time (UTC).
			For details, see Chapter 1 (1. System Utilities) in Maintenance Guide (Common).
			System Configuration > BIOS/Platform Configuration (RBSU) > Date and time >
			Time Format : Coordinated Universal Time (UTC)
	EB	OS	R120i-1M/R120i-2M, R120h-1M(2nd-Gen)/(3rd-Gen), R120h-2M(2nd-Gen)/(3rd-Gen), R110j-1
			Change <b>time zone</b> to the <b>Set arbitrary time zone</b> .
			For details, see Chapter 1 (1. System Utilities) in Maintenance Guide (Common).
			System Configuration > BIOS/Platform Configuration (RBSU) > Date and time >
			Time Zone : Set arbitrary time zone

r			
	EB	08	If your system has 64 or more logical CPU per 1 processor, set one of the following settings. For details, see <i>Chapter 1 (1. System Utilities)</i> in <i>Maintenance Guide (Common)</i> . If [Sub-NUMA Clustering] is [Disabled] System Configuration > BIOS/Platform Configuration (RBSU) > Memory Options > Virtual NUMA > [Enabled] If [Sub-NUMA Clustering] is [Enable SNC2 (2-clusters)] * System Configuration > BIOS/Platform Configuration (RBSU) > Memory Options > Virtual NUMA > [Disabled] * Sub-NUMA Clustering depends on hardware configuration. For hardware configurations where this feature is not available, set according to the case of setting [Disabled].
			For details, see Chapter 1 (1. System Utilities) in Maintenance Guide (Common).
Hardy	ware c	-	uration
			The following hardware configurations require special procedures.
	EB	OS	Installation When Multiple Logical Drives Exist If you select wrong hard disk drive in Windows Server 2016 installation, the setup may erase existing data unexpectedly. Refer to displayed disk capacity or partition size to find target hard disk drive. If it is difficult to determine the hard disk drive, remove the hard disk drives other than OS installation destination before starting install OS.
	EB	08	<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	08	<b>Peripherals such as RDX</b> Remove a RDX 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	LTO and similar media Do not set media that is unnecessary to installation during setup.
	EB	OS	<b>Reinstalling to dynamic disks</b> 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 Installation.



	Example of incorrect setting 1
	C : Paging file whose size is smaller than the installed memory size D : Paging file whose size is "installed memory size + 400 MB* " or more
	→ The paging file in drive C is used for collecting memory dump, but collection may fail because the size of the paging file is smaller than the installed memory size.
	Example of incorrect setting 2
	C : Paging file whose size is "installed memory size x 0.5" D : Paging file whose size is "installed memory size x 0.5 E : Paging file whose size is 400 MB*
	→ The total paging file size in all drives is "installed memory size + 400 MB <sup>3</sup> ", but collection may fail because only the paging file in drive C is used for collecting memory dump.
	Example of incorrect setting 3
	C : No paging file exists D : Paging file whose size is "installed memory size + 400 MB* " or more (in dynamic volume)
	→ Paging files in a dynamic volume cannot be used for collecting memory dump. Thus, collecting memory dump fails.
	* This value is installed memory size +1,100 MB when the installed memory size is 4 TB or mo
p	pecify a drive other than the system drive for "Dedicated Dump File".
	pecify a drive other than the system drive for "Dedicated Dump File". Create the registry shown below by using the Registry Editor and specify the na Dedicated Dump File. <for "dedicateddumpfile.sys"="" d="" drive="" example:="" in=""></for>
	Create the registry shown below by using the Registry Editor and specify the na
	Create the registry shown below by using the Registry Editor and specify the na Dedicated Dump File. <for "dedicateddumpfile.sys"="" d="" drive="" example:="" in=""> Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl</for>
	Create the registry shown below by using the Registry Editor and specify the na Dedicated Dump File. <for "dedicateddumpfile.sys"="" d="" drive="" example:="" in=""> Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name : DedicatedDumpFile</for>
	Create the registry shown below by using the Registry Editor and specify the na Dedicated Dump File. <for "dedicateddumpfile.sys"="" d="" drive="" example:="" in=""> Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl</for>
	Create the registry shown below by using the Registry Editor and specify the na Dedicated Dump File. <for "dedicateddumpfile.sys"="" d="" drive="" example:="" in=""> Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name : DedicatedDumpFile Type : REG_SZ Data : D:\dedicateddumpfile.sys</for>
	Create the registry shown below by using the Registry Editor and specify the na Dedicated Dump File. <for "dedicateddumpfile.sys"="" d="" drive="" example:="" in=""> Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name : DedicatedDumpFile Type : REG_SZ Data : D:\dedicateddumpfile.sys Note the following when specifying Dedicated Dump File:</for>
	Create the registry shown below by using the Registry Editor and specify the na Dedicated Dump File. <for "dedicateddumpfile.sys"="" d="" drive="" example:="" in=""> Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name : DedicatedDumpFile Type : REG_SZ Data : D:\dedicateddumpfile.sys Note the following when specifying Dedicated Dump File: • The setting is applied after restarting the system.</for>
	Create the registry shown below by using the Registry Editor and specify the native Dedicated Dump File. <pre></pre> <pre></pre>
	Create the registry shown below by using the Registry Editor and specify the na Dedicated Dump File. <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre>Key : HKEY_LOCAL_MACHINE\SYSTEM</pre>
	<ul> <li>Create the registry shown below by using the Registry Editor and specify the name dedicated Dump File.</li> <li>For example: "dedicateddumpfile.sys" in drive D&gt; Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name : DedicatedDumpFile Type : REG_SZ Data : D:\dedicateddumpfile.sys Note the following when specifying Dedicated Dump File: <ul> <li>The setting is applied after restarting the system.</li> <li>Specify a drive that has free space of "installed memory size + 400MB (instal memory size + 1,100 MB when the installed memory size is 4 TB or more) more. </li> <li>Dedicated Dump File cannot be placed in dynamic volumes.</li> </ul></li></ul>
	<ul> <li>reate the registry shown below by using the Registry Editor and specify the natedicated Dump File.</li> <li>For example: "dedicateddumpfile.sys" in drive D&gt; <ul> <li>Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl</li> <li>Name : DedicatedDumpFile</li> <li>Type : REG_SZ</li> <li>Data : D:\dedicateddumpfile.sys</li> </ul> </li> <li>Note the following when specifying Dedicated Dump File: <ul> <li>The setting is applied after restarting the system.</li> </ul> </li> <li>Specify a drive that has free space of "installed memory size + 400MB (instamemory size + 1,100 MB when the installed memory size is 4 TB or more) more.</li> </ul>

Syster	m partitio	n size	
-	EBOS	The system partition size can be calculat	ed by using the following formula.
		Size required to install the OS + paging	g file size + dump file size + application size
		Desktop Experience	
		Size required to install the OS	= 15,200 MB
		Paging file size (recommended)	= installed memory size x 1.5
		Dump file size	<ul> <li>installed memory size + 400MB (installed memory size is 4 TB or less)</li> <li>installed memory size + 1,100MB (installed memory size is exceeding 4 TB)</li> </ul>
		Application size	= as required by the application
		Server Core	
		Size required to install the OS	= 10,300MB
		Paging file size (recommended)	= installed memory size x 1.5
		Dump file size	<ul> <li>installed memory size + 400MB (installed memory size is 4 TB or less)</li> </ul>
			<ul> <li>installed memory size + 1,100MB (installed memory size is exceeding 4 TB)</li> </ul>
		Application size	= as required by the application
		Ensure that the partition size is sufficient The following partition sizes are recomm Desktop Experience : 32	e minimum partition size required for system installation. for system operations. ended.
		*1GB = 1,024MB Note • The above paging file s	sizes are recommended for collecting debug . The initial size of the Windows partition paging file
		<ul> <li>must be large enough Make sure you set a su there will be a virtual m collect correct debug in</li> <li>Regardless of the sizes maximum size of the du memory size + 1,100 M</li> </ul>	to store dump files. Ifficient paging file size. If the paging file is insufficient, memory shortage that may result in an inability to nformation. of internal memory and write debug information, the imp file is "installed memory size + 400 MB (installed B when installed memory size is 4 TB or more)". Ipplications or other items, add the amount of space

If the partition size for installing Windows is smaller than the recommended size, expand the partition size or add another hard disk drive. When installing using Rapid Setup The Windows OS creates three partitions at the head of the hard disk drive. **Recovery Partition** : 450MB EFI System Partition (ESP) : 100MB \*1 Microsoft Reserved Partition (MSR) 16MB \*2 : 566MB of disk space is allotted to the two partitions at the head. Free area System Partition Microsoft Reserved Partition (MSR)\*2 **Recovery Partition** (16MB) (450MB) EFI System Partition (ESP)\*1 (100MB) \*1 May be 300MB in size depending on hard disk drive type. \*2 MSR is not displayed on Disk Management. When installing using Manual Installation When creating a partition, Windows OS creates the following partitions at the hard disk drive. **Recovery Partition** 450MB EFI System Partition (ESP) 100MB \*1 \_ Microsoft Reserved Partition (MSR) 16MB \*2 · 566MB is allocated for these three partitions out of the specified partition size. For example, when 61,440MB is specified for partition size, the area available free area is calculated as follows: 61,440MB - (499MB + 100MB + 16MB) = 60,825MB Free area System Partition Microsoft Reserved Partition (MSR)\*2 **Recovery Partition** (16MB) 450MB EFI System Partition (ESP)\*1 (100MB) \*1 May be 300MB in size depending on hard disk drive type. \*2 MSR is not displayed on Disk Management.

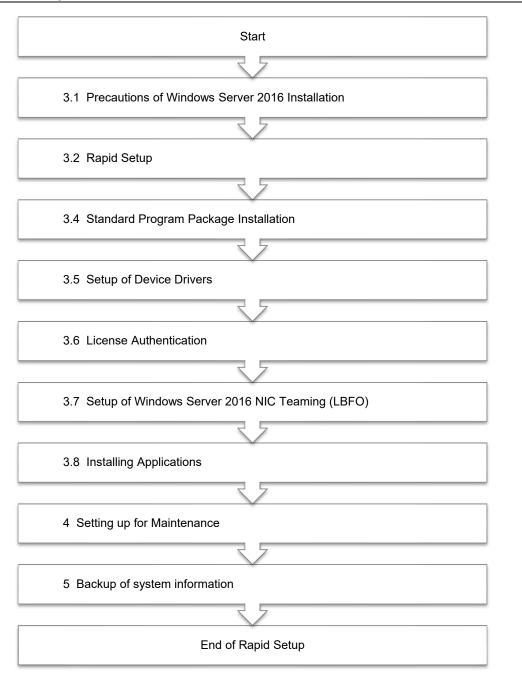
\ <b>A</b> /im	lowe C	onior	2016 Hyper V cupport
wind	iows 5	berver	2016 Hyper-V support
_	EB	OS	Refer to the following web site for information related to Windows Server 2016 Hyper-V. https://www.58support.nec.co.jp/global/download/w2016/hyper-v/hyper-v-ws2016.html
Usin	g BitLo	ocker	
_	EB	OS	<ul> <li>If using BitLocker, note the following.</li> <li>Be sure to keep the recovery password secure. Do not keep it near a server running BitLocker.</li> <li>Important If the recovery password is not entered, the OS cannot be started, and the content of the partition encrypted by BitLocker cannot be referenced any</li> </ul>
			<ul> <li>more. The recovery password might be required at startup of the OS after the following: <ul> <li>Replacement of motherboard</li> <li>Change of BIOS setting</li> <li>Initialization of trusted platform module (TPM) * <ul> <li>* Depending on your system, it may not be supported. Refer to the Instruction Manuals about hardware.</li> </ul> </li> </ul></li></ul>
			• To reinstall the operating system into a partition that is encrypted with BitLocker, delete the BitLocker-encrypted partition prior to reinstallation.
Supp	oort fo	r NIC t	eaming in Windows Server 2016
_	EB	08	The NIC teaming feature, which used to be provided by network interface card (NIC) vendors, is built into Windows Server 2016. In Windows Server 2016, this feature is also called "load balancing and failover (LBFO)". Refer to <i>Chapter 1 (3.7 Setup of Windows Server 2016 NIC Teaming (LBFO)</i> and specify any
			required settings.
Insta	lling b	oundle	d software
	EB	OS	When you install software from <b>Applications</b> on Starter Pack menu, confirm each install procedure beforehand by referring to Installing Bundled Software in Installation Guide (Windows). Hardware setting may be required, be sure to confirm it.
Appl	y Wind	dows l	Jpdate
_	EB	08	If the setup completed, apply Windows Update as needed to update the system to the most recent.

#### 3.2 Rapid Setup

This section describes how to install Windows Server 2016 with Rapid Setup.

Important
Setup will delete all data of the hard disk drive.
Disconnect hard disk drives from the RAID controller that is not to be setup.

#### 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)
    - $\rightarrow\,$  The Starter Pack which supports Windows Server 2016 is "S8.10-010.09". Download it from Web site.

#### 3.2.3 Installation procedure

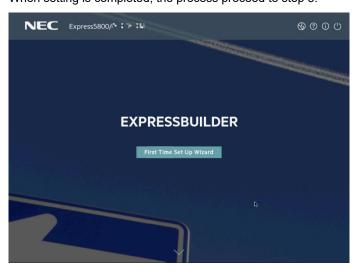
Note

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.

Provisioning
Smart Storage Administrator
Server Hardware Diagnostics UEFI
Server Hardware Diagnostics Full Test
 The highlighted entry will be executed automatically in 12s.

Only when running an OS for the first time, operating environment of EXPRESSBUILDER is set. When the following screen appears, click "First Time Set Up Wizard". When setting is completed, the process proceed to step 3.



For details of EXPRESSBUILDER and "FIRST TIME SET UP WIZARD", see Chapter 2 (3.Deltails of EXPRESSBUILDER) in Maintenance Guide.

- NEC
   Express5800/+1 : 14

   C
   EXPRESSBUILDER

   Rapid Setup
   Perform Maintenance
- 3. The next screen is displayed, click Rapid Setup.

4. When the following window appears, click **Skip**.

e <sup>€</sup> Web Proxy Settings		×	
Does your server need a web proxy ser proxy configuration below first if it doe		Enter the web	
Web Proxy Server *		Port	
http://			
Web Proxy Server		Port	
	Skip		

#### 5. Select **DVD Configuration**.

When the message appears in the lower left of the screen, click "×" to close it.

Note	When choosing <b>DVD C</b> orrections of the media.	onfiguration or File on a USB drive, click ">" icon after
NEC Express5800/EL 11	) ⓒ 및 슈 (2)	
Rapid Se	tup	
Fast and simple process for setting up C	S installation and configuration	
SVD Configuration File on a USB drive	SMB/CES (Westows Share) FTP Size	
Install 05 from the internet Primare reporting variant the connected. Primare reporting variant the connected. Primare variant of the second variant the second variant the content of the second variant th	k	

Choose an OS installation source from the following types.

DVD Configuration	DVD-ROM
File on a USB drive	USB flash drive
SMB/CIFS (Windows Share)	Network sharing folder
FTP Site	This option is not available.
Install OS from the internet	This option is not available.

Each media supports the following file format.

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

Flat: a standard folder/file structure ISO: single ISO or UDF file

Choose an OS source media depending on the media type.

DVD Configuration	Automatically detects on OS installation media. If the detection fails, try again.	
File on a USB drive	Choose OS installation file on USB flash drive connected. Supports only a USB drive formatted with FAT or exFAT format.	
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 Confirm Password	

When you select "DVD Configuration" and connected multiple optical disk drive, next screen is displayed. Select the optical disk drive in which the OS installation media was inserted. Click **connect** of the lower right of the screen.

NEC EX	press5800/	HO RE	
	ල <sup>ව</sup> DVD Configu	ration	×
	2 DVD-ROM M	edia	
0	۲	hp_DVD-ROM_DUDON /dev/sr0 Microsoft Windows Server M Standard (Desktop Experience)	5]
DVD Contro		HPE DVDRW_GP70N /dev/sr1 not found	TP Sate
Install OS from 1		x	connect
<			

6. Mounted RAID controller is automatically recognized. Wait until installation completes.

NEC	Express5800/P 12, 1		
RSS > Preparing Con	figuration		
Summary and Instal	i.		
View/Edit Details:		Preparing a recommended RAID configuration	
		2	
		Cancel	
		*	
<			

- When the RAID system is not configured.

EXPRESSBUILDER configures RAID system automatically. RAID system configuration can be changed from "Storage controllers" setting screen of Step 7.

- When the RAID system is already configured.

EXPRESSBUILDER do not configure RAID system.

When a message indicating that the recommended array configuration cannot be created, confirm the contents and proceed.

SS > Preparing Configuration		
Summary and Install		
View/Edit Details:	Rapid Setup is not able to create a recommended array settings since the system found the detected RAID controller contain at least one	
OS Settings	logical drive.	
Storage Controllers	Click "Continue" and Rapid Setup will prepare the rest of the	
OS Volume Partitions	configurations except a recommended array settings. Alternatively, you can select to manually configure RAID from the Rapid Setup	
Firmware Update	Dashboard.	
	Click "Exit" If you wish to cancel the preparation and return to EXPRESSBUILDER.	
	Exit	
	,	

Click menu of left pane or edit button on the item you want to edit to confirm and modify details.
 After completion, click Accept Configuration to start installation.

	ss5800/ <b>F_1;+_1</b> •	\$ A ¥ ® 0 U
RSS > Summary and Install		
Summary and Install		Accept Configuration
View/Edit Details: OS Settings	OS Settings 🖉	
Storage Controllers OS Volume Partitions	Media Source: DVD-ROM Media Operating System: Microsoft Windows Server 🐜 *Standard (Deskto	p Experience)
Firmware Update	Storage Controllers 🖉	
	Boot Controller: • (F**) Girls * (FigB: DCG: 10) • OS Drive • 1000 GB RAID1 (SATA HDD)	×
	OS Volume Partitions $ \mathscr{O} $	
	Use Recommended Partition: Yes	1
<	Firmware Update 🥜	

Tips

When you configure RAID system from EXPRESSBUILDER, the system reboots automatically after clicking **Accept Configuration**. After reboot, EXPRESSBUILDER starts automatially and resumes from the next procedure. Wait a moment without any operation.

Confirm the settings and specify any required settings.

OS Setting

- On the following "Operating System", specify settings for the OS installation.
- Password can be used alphanumeric characters only.
   If a sign (such as "!") is included, an error message will appear.
- Set your time zone.
- You can enable the functions of Windows, if necessary.

Install the HyperV role on this system	The HyperV role can be Enabled.
Enable Windows Firewall	Windows Firewall can be Enabled.

Storage controller

• Choose the RAID controller of installation destination.

Partition of the OS volume

- Specify the any partition size, and then remove the choice of **Use Recommended Partition**. Enter the partition size of Basic data partition to installation destination (Unit: MB \*), or specify it with percentage. The following partitions cannot be changed.
  - Recovery
  - EFI system partition
  - Microsoft reserved partition
- When not choosing Use Recommended Partition, the OS is installed using all area of a hard disk drive.

• Select hard disk drive (logical drive) to install OS.

Important	You can confirm name of hard disk drives (e.g.: Logical Drive 1) from
	"Storage controllers" setting screen.
	If you select wrong hard disk drive as OS destination drive(logical drive),
	existing data may be cleared unexpectedly.
	Be careful when you select hard disk drive for installation.
Einer Lindete 🖉	

Firmware Update

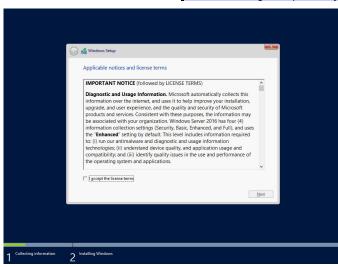
- This feature is the reservations in future.
- 8. When copying is complete, the system restart automatically.

Server Status	NEC Express5800/	q-un	
© Server has booted	b Viewer		
Ø Server has booted			*
	Server Status		
Job Status	$\ensuremath{\mathcal{G}}$ Server has booted		
	Job Status		
	Se Express OS Install	Copying (592KB / 20084 KB ) 75.1%	× 0

9. Confirm the license terms.

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

If a choosing installation OS screen appears, the inserted OS media is different from the setting of step 7. Retry the setting from the beginning.

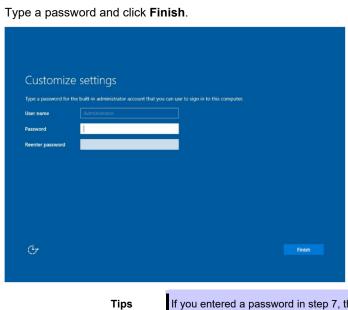


Tips

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

	Mindows Strup	
	Sana Copylog Vincions Res (VA) Garting Ranese Installing updates Finishing up	
1 Collecting information	2 Installing Windows	

10. The following screen appears depending on the setting of Step 7.

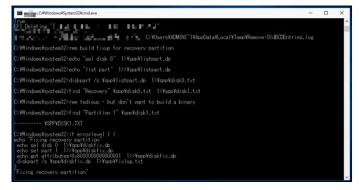


**Desktop Experience** 

If you entered a password in step 7, this screen is not displayed.

After signing in, installation automatically resumes.

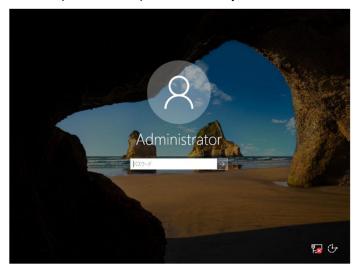
After installation is complete, the system automatically restarts.



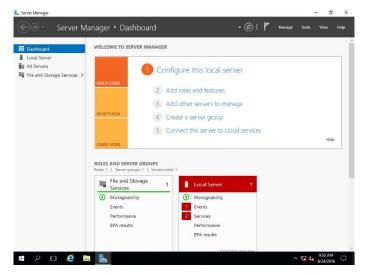
Press <Ctrl> + <Alt> + <Delete> key to unlock.



Enter the password and press <Enter> key.

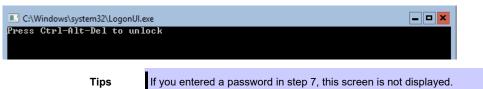


Windows Server 2016 starts.



#### Server Core

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



Type a new password and press <Enter> key.

C:\Windows\system32\Log	onUl.exe	×
Enter new credentials New password : _ Confirm password :	for Administrator or hit ESC to cancel	

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

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

Windows Server 2016 starts.



Tips

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

- After signing in, installation automatically resumes.
   After installation is complete, the system automatically restarts.
- 12. See Chapter 1 (3.4 Standard Program Package Installation) to install SPP.
- 13. Install drivers and specify detailed settings according to Chapter 1 (3.5 Setup of Device Drivers).
- 14. Confirm if Windows is activated according to Chapter 1 (3.6 License Authentication).
- 15. See Chapter 1 (3.7 Setup of Windows Server 2016 NIC Teaming (LBFO)) to setup a team as needed.
- 16. Install the applications as needed according to Chapter 1 (3.8 Installing Applications).
- 17. Set the other OS settings according to Chapter 1 (4. Setting up for Maintenance).
- 18. See Chapter 1 (5. Backup of system information) to back up the system.

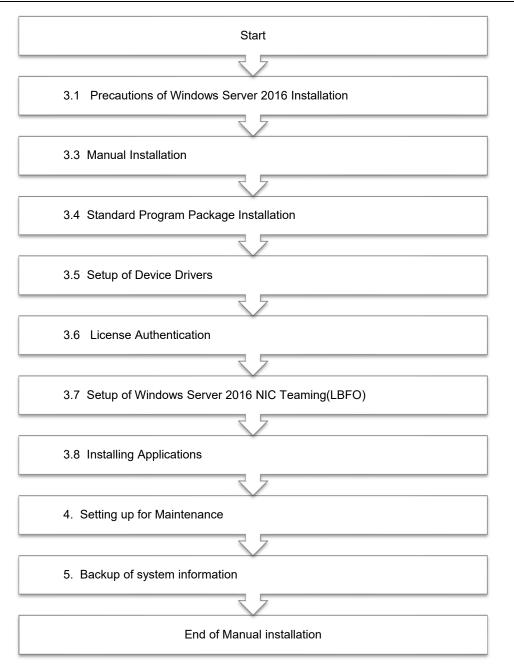
The Windows installation with Rapid Setup option is now complete.

# 3.3 Manual Installation

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

Important	Disconnect hard disk drives from the RAID controller that is not to be setup.
Note	"Manual Installation" installs OS without EXPRESSBUILDER.

### 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)
    - → The Starter Pack which supports Windows Server 2016 is "S8.10-010.09". Download it from Web site.

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. <Starter Pack>:\software\010\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.

- Turn on peripherals (such as a display), and then turn on the server. Insert OS installation media into the drive.
- 2. To run EXPRESSBUILDER, press <F11> key during POST.

On the One-Time Boot Menu, select the optical disk drive in which the OS installation media was inserted.

3. 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.



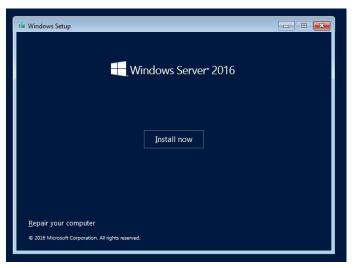
Note

If the Windows Setup screen (the screen in the next step) does not display, the <Enter> key was not properly pressed. Turn the system power on again, and then start again.

4. Click Next.

Windows Setup		
	Windows Server	2016
Lang	uage to install: <mark>English (United States)</mark>	<b></b>
<u>T</u> ime and cu	rrency format: English (United States)	<b>_</b>
<u>K</u> eyboard or	input method: US	×
Entery	your language and other preferences and cli	ck "Next" to continue.
© 2016 Microsoft Corporation	on. All rights reserved.	Next

5. Click Install now.



If the following message is displayed: Go to Step 6.

If the following message is not displayed: Go to Step 8.

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

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

<Removable media>:\sw\_raid1\_driver\ws2016\_ws2019

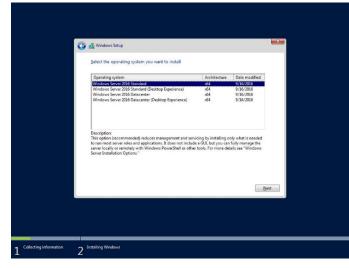
7. Select the following driver from the displayed list of drivers, and click Next.

HPE Smart Array S100i SR Gen10 SW RAID

8. Type the product key, and then click **Next**.

	🕞 🚜 Windows Setup	
	you need to enter a valid Windows product k email you received after buying a digital copy Windows came in. The product key looks like this: X0000-X000	
	Binacy datement	] don't have a product key Kend
1 Collecting information	2 <sup>Installing Windows</sup>	
	Tips	If you are using Backup DVD-ROM, this screen does not appear.

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



Tips

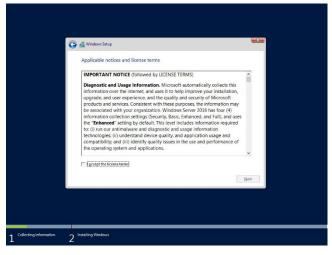
Options are displayed depending on the installation media you are using.

Read the message of the screen, and then choose an installation option.
Windows Server 2016 Standard or Windows Server 2016 Datacenter
$\rightarrow$ Described as "Server Core" by this manual
Windows Server 2016 Standard (Desktop Experience) or Windows
Server 2016 Datacenter (Desktop Experience)

→ Described as "Desktop Experience" by this manual

10. Read the license terms carefully.

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



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

0	🔏 Windows Setup	9
	Which type of installation do you want?	
	Upgrade: Install Windows and keep files, settings, and applications The files, settings, and applications are moved to Windows with this option. This option is only available when a supported version of Windows is already summing on the computer.	
	Content: Install Windows only Jahransed? The file, white, and applications sends moved to Windows with this optime. If you want to make changes to prediction and advise, state the computer wang the installation date. We recommend backing up your files bidres you continue.	
	Help me decide	
1 Collecting information 2	Installing Windows	

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

If the driver was loaded in steps 6 and 7, if the RAID controller is not in use, proceed to step 15.

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

	eeds is missing. This could be a DVD, USB or Hard disk USB flash drive with the driver on it, please insert it
Note: If the installation media for can safely remove it for this step	or Windows is in the DVD drive or on a USB drive, you o.
	Browse OK Cancel

- 13. After setting the Starter Pack DVD in the USB-DVD drive, assign a file directory, and click OK.
  - Onboard RAID Controller

#### <Starter Pack>:\software\010\drivers\sw\_raid1\_driver\ws2016\_ws2019

- RAID Controller (N8103-189/190/191/192/193/194/195/201/237/238)

<Starter Pack>:\software\010\drivers\dac1\_driver

\_

\_

- 14. Select the following driver from the displayed list of drivers, and click Next.
  - Onboard RAID Controller
    - RAID Controller (N8103-189/192) : HPE Smart Array E208i-a SR Gen10
  - RAID Controller (N8103-190/193) : HPE Smart Array P408i-a SR Gen10
    - RAID Controller (N8103-191/194) : HPE Smart Array P816i-a SR Gen10
  - RAID Controller (N8103-195) : HPE Smart Array E208i-p SR Gen10
  - RAID Controller (N8103-201)
  - RAID Controller (N8103-237)
  - RAID Controller (N8103-238)
- : HPE SR416i-a Gen10+

: HPE Smart Array P408i-p SR Gen10

: HPE Smart Array S100i SR Gen10 SW RAID

: HPE SR932i-p Gen10+

15. Click New.

C	🦉 🔏 Windows Setup			
	Where do you want to install Win	dows? Total size	Free space Type	
	Drive 1 Unallocated Space	64.0 MB	64.0 MB	
	Drive 2 Partition 1: VID	511.0 MB 300.0 MB	416.0 MB Primary 56.0 MB Recovery	
	Drive 3 Partition 1: Recovery Drive 3 Unallocated Space	300.0 MB 279.1 GB	279.1 GB	
	Refresh Delete	Format	* Ngw	
				Next
Collecting information 2	Installing Windows			
	Tips	If Nov	v is not dis	nlaved on the s

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

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

Drive 1 Unablocated Space     64.0 MB     64.0 MB     64.0 MB     70 market     7		Name			Total size	Free space	Туре
Drivel 3 Partition 1: Recovery 300.0 M8 50.0 M8 Recovery     Drivel 3 Unallocated Space 279.1 G8 279.1 G8     Pedreth	-						
Drive 3 Unallocated Space 2791 GB 2791 GB     P Editesh	-						
fy_Befresh XDelete ≪Eormat *New	~						Recovery
Chand down Court Star hotons AND	€ <u>p</u> . <u>R</u> efresh	h	XDelete	Eom			
Long gives are freed and the Abbia	😢 Load d	driver	Extend	Size:	285801	₩B	Apply

17.

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

Windows Setup  To ensure that all Windows features v additional partitions for system files.	work correctly, Windows might create
	OK Cancel
Tips	<ul> <li>When creating a partition, the OS creates the following partitions at top of the hard</li> <li>disk drive.</li> <li>Recovery Partition</li> <li>EFI System Partition (ESP)</li> <li>Microsoft Reserved Partition (MSR)</li> </ul>
Select the partition created in st	
Important	When the following screen appears, read the message and click [OK]

select the partition to be formatted because data in the partitior
Windows Setup
This partition might contain important files or applications from your computer manufacturer. If you format this partition, any data stored on it will be lost.
OK Cancel

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

Name	tition 1: Recovery	Total size 300.0 MB	Free space	Type	^
-	tition 2: Recovery	450.0 MB	433.0 MB		
Drive 3 Par		100.0 MB	95.0 MB		
Drive 3 Par	tition 4	16.0 MB	16.0 MB	MSR (Reserved)	
Drive 3 Par	tition 5	278.5 GB	278.5 GB	Primary	•
<u>№ R</u> efresh <u>● Load driver</u>	▶ Delete	✓ Format	∦ N <u>e</u> r	N.	
				1	Vext

Tips

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

If Starter Pack DVD is in the drive, change it to the OS disk, and then click Refresh.

When the following message appears, Windows installation starts automatically.

ľ	🔮 Windows Setup
	Installing Windows
	Status
	Copping Windows (Res (0%) Costally user uside) (of instantions instantion of the second secon
1 Collecting information	2 Institutes Windows

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

19. Set user settings according to operating system chosen in step 9.

#### **Desktop Experience**

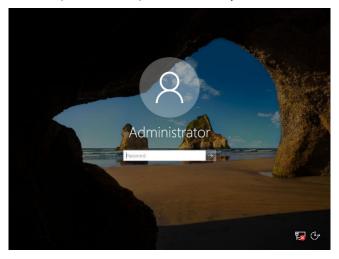
Type a password and click Finish.

Customize	e settings			
		that you can use to sign in to this cor	nputer.	
User name Password	Administrator			
Reenter password				
140				Finish

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



Enter the password and press <Enter> key.



Windows Server 2016 starts.

Server Manager	anager • Dashl	board	• @ I	Manage	Tools View Help
Bashboard	WELCOME TO SERVE	R MANAGER			
Local Server All Servers File and Storage Services		1 Configure	this local server		
	QUICK START	2 Add roles	and features		
	WHAT'S NEW		servers to manage		
			erver group his server to cloud services		
	LEARN MORE				Hide
	ROLES AND SERVER Roles: 1   Server group				
	File and Stor Services	rage 1	Local Server 1		
	Manageability		Manageability		
	Events	1	Events		
	Performance	2	Services Performance		
	and the second se				
	BPA results		BPA results		
	BPA results				

#### Server Core

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

C:\Windows\system32\LogonUl.exe	<b>– –</b> ×
Press Ctrl-Alt-Del to unlock	

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



Enter a new password and press <Enter> key.

C:\Windows\system32\LogonUI.exe	_ <b>  X</b>
Enter new credentials for Administrator or hit ESC to cancel New password : Confirm password :	

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

C:\Windows\system32\LogonUl.e Administrator Your password has been ch Ok	
Windows Server 2016 star	ts.
Administrator: C:\Windo	ws\system32\cmd.exe
C:\Users\Administra	tor>
Tips	Refer to the following website for more details.
	Configure and Manage Server Core Installations
	https://technet.microsoft.com/us-en/library/jj574091.aspx

- 20. See Chapter 1 (3.4 Standard Program Package Installation) to install SPP.
- 21. Install drivers and specify detailed settings according to Chapter 1 (3.5 Setup of Device Drivers).
- 22. Confirm if Windows is activated according to Chapter 1 (3.6 License Authentication).
- 23. See Chapter 1 (3.7 Setup of Windows Server 2016 NIC Teaming (LBFO)) to setup a team as needed.
- 24. Install the applications as needed according to Chapter 1 (3.8 Installing Applications).
- 25. Set the other OS settings according to Chapter 1 (4. Setting up for Maintenance).
- 26. See Chapter 1 (5. Backup of system information) to back up the system.

The Windows installation with Manual Installation is now complete.

## **3.4** Standard Program Package Installation

Standard Program Package (SPP) contains drivers customized for this server.

Make sure to install Standard Program Package before running the server system.

System reboot is required after applying Standard Program Package.

This program can apply using iLO remote console and iLO virtual media.

 Important
 Make sure to update firmware by booting "Starter Pack DVD" before applying

 Standard Program Package. If you mistake procedure, the system may not start.

#### 3.4.1 Before the installation

Confirm the next contents before applying Standard Program Package.

Sign-in to the Windows with an Administrators privilege.

(1) Installing these drivers individually

(2) Delete Folders

(3) Updating firmware

#### (1) Installing these drivers individually

When you use these options, refer to the following procedure to install these drivers individually from "Starter Pack DVD" before installing SPP. SPP may be stopped with error if you do not install the driver beforehand.

Although the message indicated that the latest version has already been installed may be displayed, proceed with the installation. After that, restart the server.

Devices/Options	Driver application modules in the Starter Pack DVD
When the R120h-1M / R120h-1M (2nd-Gen) / R120h-2M / R120h-2M (2nd-Gen) / R110j-1 standard network adapters or N8104-171/178/179 is installed to the server	\software\010\drivers\lan1_driver\cp045019.exe
When N8104-213/215 is installed to the server	\software\010\drivers\lan2_driver\cp045020.exe
When N8104-173/182/185 is installed to the server	\software\010\drivers\lan3_driver\cp047060.exe
When N8104-177/183/187 is installed to the server	\software\010\drivers\lan4_driver\cp049989.exe
When N8104-172/180/181 is installed to the server	\software\010\drivers\lan5_driver\cp047043.exe
When N8104-175/184 is installed to the server	\software\010\drivers\lan6_driver\cp047050.exe
When N8104-176/186 is installed to the server	\software\010\drivers\lan7_driver\cp053182.exe

When the R120h-1E / R120h-2E / T120h standard network adapters or N8104-193/194/195 is installed to the server	\software\010\drivers\lan8_driver\cp053138.exe
When N8104-207/210/211 is installed to the server	\software\010\drivers\lan9_driver\cp049988.exe
When N8104-206/209 is installed to the server	\software\010\drivers\lan10_driver\cp047041.exe
When N8104-208/212 is installed to the server	\software\010\drivers\lan11_driver\cp048044.exe
When N8104-217/219 is installed to the server	\software\010\drivers\lan12_driver\cp045254.exe
When N8103-189/190/191/192/193/194/195/196/197/ 201/237/238 is installed to the server	\packages\cp056524.exe

#### (2) Delete Folders

If C:\cpqsystem exists, delete that folder.

#### (3) Updating firmware

If BitLocker function is enabled, disable it once to update firmware.
If you update with enable setting, recovery password may be required when
OS boots. Set it enabled after (3) Updating firmware processes.

1. Stop the ESMPRO/ServerAgentService service.

If ESMPRO/ServerAgentService is installed, stop following services before updating firmware.

Desktop Experience

Stop following services from Administrative Tools - Services.

- ESMCommonService
- ESM System Management Service
- Server Core

Run the following command.

net stop ESMCommonService

net stop ESMSystemManagementService

- 2. Set the Starter Pack DVD to the drive.
- From the command prompt, type the following command.
   In the example below, the optical disk drive is the D drive.

#### cd /d D:\packages

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

clean-cache.bat /y

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

Start the firmware update.

Wait for the update to complete (about 20 to 30 minutes).

#### smartupdate.bat /s /romonly /ignore\_tpm /ignore\_warnings

6. The message "Deployment done." or "No applicable component found." appears in the command

prompt, the command prompt returns to waiting for input.

After removing the Starter Pack DVD, restart Windows Server 2016 manually.

Deploy completed on Node - localhost
Deployment done.
Sending Shutdown request to engine
Waiting for engine to shutdown
Successfully shutdown the service.
e:\packages>

If the message "Deployment done." or "No applicable component found." does not appear in the command prompt, failed to update firmware. Refers to *chapter 2 (2.1 Problem of OS)*.

The update is now complete.

### 3.4.2 Installing Standard Program Package on Desktop Experience

- 1. Sign-in to the Windows with an Administrators privilege.
- Stop the ESMPRO/ServerAgentService service.
   If ESMPRO/ServerAgentService is installed, stop following services before applying Standard Program Package.

Stop following services from Administrative Tools - Services.

- ESMCommonService
- ESM System Management Service
- 3. Set the Starter Pack DVD to the drive.
- 4. Run the **start\_up.bat** under the root folder on DVD.
- 5. Click Integrated Installation on the menu.

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

6. 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 in – Uninstall the application prior to reinstalling t	stalling the application. the application.	
	<ul> <li>Standard Program Package</li> </ul>		
í	Hoppications     Insections     Insection	Rev2.0	Not installed
	Express Report Service	Rev3.5E	Not installed
	Express Report Service (HTTPS)	Rev3.8 Rev1.00 (3459)	Not installed
	RAID Report Service	Rev3.05	Not installed
	RESTful Interface Tool	Rev2.0.0.0	Not installed
			Install

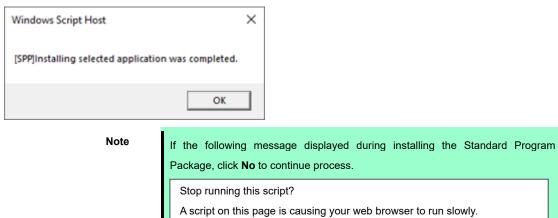
7. If you had updated firmware beforehand, click **OK** to start the installation of Standard Program Package.

Wait until installation completes (about 5 to 15 minutes).

		×
?	After updating the BIOS/FW of the server by booting this Starter Pack DVD, you can install the Standard Program Package(SPP) by using this feature. If you install the SPP before updating the BIOS/FW included in this DVD, the server becomes failing to boot. Are you ready to install the SPP?	
	OK Cancel	

- Note
- After installing a standard program package, the following message displays and refers to *chapter 2 (2.1 Problem of OS)*.
  - An error occurred during installing the Standard Program Package. To handle this error, refer to troubleshooting of Installation Guide (Windows) according to your Starter Pack version. (Code: \_\_\_\_\_\_)
     Click [OK] to restart the computer. If the Starter Pack disc is inserted, click [OK] and then remove it.
     ILO may be reset during applying Standard Program Package. If iLO is reset, iLO remote console and iLO virtual media is disconnected. When iLO remote console and iLO virtual media is disconnected, connect again after 30 seconds or more.

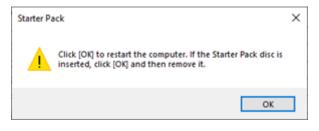
#### 8. Click OK.



If it continues to run, your computer might become unresponsive.

9. Windows Server 2016 restarts automatically.

Then, remove the Starter Pack DVD.



SPP installation is now complete.

#### 3.4.3 Installing Standard Program Package on Server Core

- 1. Sign-in to the Windows with an Administrators privilege.
- 2. Stop the ESMPRO/ServerAgentService service.

If ESMPRO/ServerAgentService is installed, stop following services before applying Standard Program Package.

Run the following command.

net stop ESMCommonService

net stop ESMSystemManagementService

- 3. Set the Starter Pack DVD to the drive.
- 4. From the command prompt, type the following command.

In the example below, the optical disk drive is the D drive.

cd /d D:\software\010\win\seamless

C:\Users\administrator>cd /d D:\software\010\win\seamless

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

instcmd.vbs spp /s

```
D:\software\010\win\seamless >instcmd.vbs spp /s
```

6. If you had updated firmware beforehand, click **OK** to start the installation of Standard Program Package.

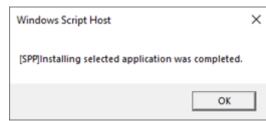
Wait until installation completes (about 5 to 15 minutes).

After updating the BIOS/FW of the server by booting this Starter Pack DVD, you can install the Standard Program Package(SPP) by using this feature. If you install the SPP before updating the BIOS/FW included in this DVD, the server becomes failing to boot. Are you ready to install the SPP?		OK Cancel	ard program package, the following message display
	?	Starter Pack DVD, you can install the Standard Program Package(SPP) by using this feature. If you install the SPP before updating the BIOS/FW included in this DVD, the server becomes failing to boot.	×

 After installing a standard program package, the following message displays and refers to chapter 2 (2.1 Problem of OS).

	×	
	An error occurred during installing the Standard Program Package. To handle this error, refer to troubleshooting of Installation Guide (Windows) according to your Starter Pack version. (Code: )	
	Click [OK] to restart the computer. If the Starter Pack disc is inserted, click [OK] and then remove it.	
	ОК	
▶ i	LO may be reset during applying Standard Program Package.	
	If iLO is reset, iLO remote console and iLO virtual media is disc	onnected.
	When iLO remote console and iLO virtual media is disconne	cted, connect
;	again after 30 seconds or more.	

7. Click OK.



8. After removing the Starter Pack DVD, restart Windows Server 2016 manually.

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.

Important	Wake On LAN (WOL) is supported by standard network adapters and N8104-171/172/173/175/193/194/195/206/207/208/213/217 only. When using Wake On LAN see <i>Chapter 1 (3.5.2 Setting up LAN drivers - (3) Setting up Wake on LAN</i> ).
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 address.

#### (2) Optional LAN board

This server supports the following optional LAN boards.

R120i-1M R120i-2M	N8104-206/207/208/209/210/211/212/217/219
R120h-1M R120h-1M (2nd-Gen) R120h-2M R120h-2M (2nd-Gen)	N8104-171/172/173/175/176/177/178/179/180/181/182/183/184/185/186/187
R120h-1M (3rd-Gen) R120h-2M (3rd-Gen)	N8104-172/175/178/179/180/181/182/183/184/185/186/187/213/215
R120h-1E R120h-2E	N8104-171/172/173/175/176/177/178/179/180/181/182/183/184/185/186/187/ 193/194/195
T120h	N8104-178/179/180/181/182/183/184/185/186/187
R110j-1	N8104-171/172/173/176/178/179/180/181/182/183/185/186

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)*.

### (3) Network adapter name

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

-	Standard	network	adapters
---	----------	---------	----------

R120h-1M R120h-1M (2nd-Gen) R120h-2M R120h-2M (2nd-Gen)	HPE Ethernet 1Gb 4-port 331i Adapter #xx(*1)
R120h-1E R120h-2E	HPE Ethernet 1Gb 2-port 368i Adapter #xx(*1)
T120h	HPE Ethernet 1Gb 4-port 369i Adapter #xx(*1)
R110j-1	HPE Ethernet 1Gb 2-port 332i Adapter #xx(*1)

#### - Optional LAN boards:

N8104-171	HPE Ethernet 1Gb 4-port 331FLR Adapter #xx(*1)
N8104-172	HPE Ethernet 1Gb 4-port 366FLR Adapter #xx(*1)
N8104-173	HPE FlexFabric 10Gb 2-port 533FLR-T 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	HPE Ethernet 1Gb 2-port 361T Adapter #xx(*1)
N8104-181	HPE 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)
N8104-193	HPE Ethernet 1Gb 2-port 368FLR-MMT Adapter #xx(*1)
N8104-194	HPE Ethernet 10Gb 2-port 568FLR-MMSFP+ Adapter #xx(*1)
N8104-195	HPE Ethernet 10Gb 2-port 568FLR-MMT Adapter #xx(*1)
N8104-206	Intel(R) Ethernet Network Adapter I350-T4 for OCP NIC 3.0 #xx(*1)
N8104-207	Marvell FastLinQ Ethernet 10Gb 2-port BaseT QL41132HQRJ OCP3 Adapter #xx(*1)
N8104-208	Intel(R) Ethernet Network Adapter E810-XXV-2 for OCP 3.0 #xx(*1)
N8104-209	Intel(R) Ethernet Server Adapter I350-T4 #xx(*1)
N8104-210	Marvell FastLinQ Ethernet 10Gb 2-port BaseT QL41132HLRJ Adapter #xx(*1)
N8104-211	Marvell FastLinQ Ethernet 10/25Gb 2-port SFP28 QL41232HLCU Adapter #xx(*1)
N8104-212	Intel(R) Ethernet Network Adapter E810-XXV-2 #xx(*1)
N8104-213	HPE Ethernet 10Gb 2-port 535FLR-T Adapter #xx(*1)

- N8104-215 HPE Ethernet 10Gb 2-port 535T Adapter #xx(\*1)
- N8104-217 Broadcom NetXtreme E-Series Dual-port 10GBASE-T Ethernet OCP 3.0 Adapter #xx(\*1)
- N8104-219 Broadcom P210tep NetXtreme-E Dual-port 10GBASE-T Ethernet PCIe 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 N8104-173/177/182/183/185/187/207/210/211 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.

# The network adapter name displayed in the device manager may be different from the one listed above.

In this case, the correct network adapter name can be displayed by following the procedure below.

- 1. Start Device Manager.
- 2. Open **Network Adapters**, right click on the relevant adapter, and select **Delete**.
- 3. When **Delete the driver software of this device** checkbox is displayed, do not surely put a check.
- 4. Select Uninstall.
- 5. Select Scan hardware change from Control.

#### 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.

Important	If you are using a network adapter for N8104-213/215/217/219, changing the
	setting is not supported of "Speed & Duplex".
	Use int the "Auto Negotiation" of default value.

Tips

Tips

If you are using a network adapter for N8104-177/185/187, the network adapter 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**.
- 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.

Tips

When using the N8104-177/183/187/207/210/211, Link control set to Driver controlled. \*When Link control is Preboot controlled, link speed setting of BIOS take a priority.

- 4. Click OK in the Network Adapter Properties dialog box.
- 5. Restart the system.

The link speed setting is now complete.

#### (2) Configuring Flow Control

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

Tips

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

- 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 Flow Control to show Value.
- 4. The Value can be changed by the down-arrow button.
- 5. Click **OK**, and then restart the system.

The Flow Control setting is now complete.

#### (3) Setting up Wake on LAN

- When using R120h-1E / R120h-2E / T120h standard network adapters and N8104-172/175/193/194/ 195/206/208 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.

- When not using Wake On LAN on the N8104-208, be sure to follow the procedure below to set it.
  - 1. Start the system.
  - 2. Press the <F9> key during the startup process to access System Utility.
  - Enter the System Configuration, select the LAN controller to set Wake On LAN.
     In the case of this product, it is the following name.

    - OCP Slot 10 Port 2 : Intel(R) Ethernet Network Adapter E810-XXV-2 for OCP 3.0 xx:xx:xx:xx:xx:xx
  - 4. Select NIC Configuration, set the Wake On LAN to Disabled.
  - Select F12: Save and Exit, and select OK or Yes Save Changes.
     When the Reboot button appears, press <Enter> to restart the system.
     Setup is now complete.
- When using R120h-1M / R120h-1M (2nd-Gen) / R120h-2M / R120h-2M (2nd-Gen) / R110j-1 standard network adapters and N8104-171/173/207/213/217 with the server, Wake On LAN must be configured in the BIOS. For information on changing settings in the BIOS, refer to the maintenance guide for each server.

### 3.5.3 Using Graphics Accelerator

For installation with the Rapid Setup or Manual installation, the drivers are installed by Standard Program Package.

If you install the Graphics Accelerator driver after installing Standard Program Package, install Standard Program Package again according to *Chapter 1 (3.4 Standard Program Package Installation)*.

## 3.5.4 Using SAS Controller (N8103-197)

For installation with the Rapid Setup or Manual installation, the drivers are installed by Standard Program Package.

If you install the SAS controller (N8103-197) after installing Standard Program Package, install driver by following steps.

- 1. Insert the Starter Pack DVD into the optical disk drive.
- 2. Run the \packages\cp056524.exe on the DVD to install the driver.
- 3. After installing driver, restart the server.

### 3.5.5 Using RAID Controller (N8103-189/190/191/192/193/194/195/196/201/237/238)

For installation with the Rapid Setup or Manual installation, the drivers are installed by Standard Program Package.

If you install the RAID controller (N8103-189/190/191/192/193/194/195/196/201/237/238) after installing

Standard Program Package, install driver by following steps.

- 1. Insert the Starter Pack DVD into the optical disk drive.
- 2. Run the \packages\cp056524.exe on the DVD to install the driver.
- 3. After installing driver, restart the server.

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

For installation with the Rapid Setup or Manual installation, 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 )*.

If you use the Fibre Channel controller (N8190-163/164/171/172), install driver by following steps after install Standard Program Package.

- 1. Insert the Starter Pack DVD into the optical disk drive.
- 2. Run the \software\010\drivers\fc1\_driver\ws2016\cp054532.exe on the DVD to install the driver.
- 3. After installing driver, restart the server.

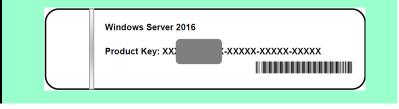
# **3.6** License Authentication

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

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

Note

To activate Windows Server 2016, enter the Product Key written on the COA (Certificate of Authenticity) label. The COA label of Windows Server 2016 is attached to the operating system media package.



### 3.6.1 Desktop Experience

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

Recycle Bin	
Apps and <u>F</u> eatures Power <u>O</u> ptions	
System	
Device <u>M</u> anager Net <u>w</u> ork Connections	
— Dis <u>k</u> Management	
Computer Management	
Windows PowerShell Windows PowerShell (Admin)	
Settings	
File <u>Explorer</u>	
Search	
<u>B</u> un	
Shut down or sign out	
Desktop	^ ख़ ⋪₀

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 als Securi	io ty and Ma	intenance	Computer description: Workgroup: WORKGROUP Windows activation Connect to the Internet to activate Windows. R ad the Microsoft Software License Terms Product ID: 0000-00000-00000 @Activate Windows	~		
Ŧ	Q	0	e		<u>.</u>	^ 🖬		43 AM 7/2016	

4.

#### 3. Click Activate Windows.

See also	Windows activation Connect to the		Windows. Read the Microsoft Soft	ware License Terms	
Security and Maintenance	Product ID: 000	000	Activate Windows		
erform license au	thenticatior	า.			
ettings				– 🗆 X	
🔅 Home		Windows	5		
Find a setting	Q	Edition	Windows Server 2016 Stan	dard	
Ipdate & security		Activation	Unable to reach Windows Learn more	activation servers	
C Windows Update		Product Key	XXXXX-XXXXX-XXXXX-XXX	XX-XXXXX	
Windows Defender		Activate	Windows now		
C Recovery		To install a ne	w product key, select change	product key.	
<ul> <li>Activation</li> </ul>		Change	product key		
🖁 For developers		If you're havin try and fix the	g problems with activation, s problem.	select Troubleshoot to	
		Control Troubles	hoot		

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 Step 6.

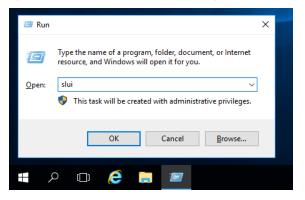
Windows Server 2016 DVD-ROM:	
------------------------------	--

Product key is <u>already entered</u> :	Go to Step 9.
Product key is not entered:	Go to Step 6.

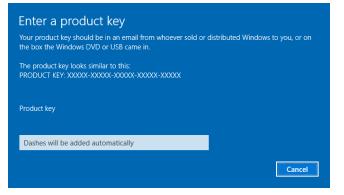
6. Right-click the lower left of the screen, and click **Run** from the menu displayed.

Task Manager	
Control Panel	
File Explorer	
Search	
Run	
Shut down or sign out	
Desktop	
クロ (き) =	

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



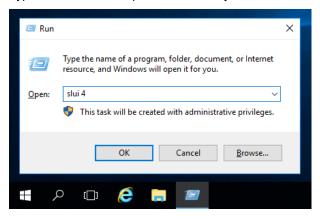
8. Change the product key. On the next screen, type the product key.



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.



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

Afghanistan	~	

Get the installation ID required for license activation.

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.								
<b>Toll free:</b> not availa	ble							
<b>Toll:</b> (971) (4) 3	91 7000							
Installati	on ID:							
0000000	0000000	0000000	0000000	0000000	0000000	0000000	0000000	000000
						Enter conf	irmation l	DCancel

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.									
	А	В	с	D	E	F	G	н	
					[	Activate Wi	ndows	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.

#### 3.7.1 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.

#### 3.7.2 Creating a team

Create a team by using the NIC teaming setup tool.

- In the Servers section, select the name of the server to set up.
   If there is only one server connected, the name of the server is selected automatically.
- 2. In the Teams section, under Tasks, select New Team. The New Team wizard then starts.
- 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 s			
<b>LACP</b> Configures dynamic aggregation between the NIC and switches.			

Load balancing mode

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

#### Standby adapter

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

Setting all adapters to active mode is also possible.

#### Primary team interface

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

#### 3.7.3 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.

https://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 *the manual of each applications*. This feature is <u>only</u>

```
available on Desktop Experience.
```

System reboot is required after installing applications.

Application can install using iLO remote console and iLO virtual media.

Tips

This function supports clean installation of applications only. If you re-install installed application, refer to *the manual of each applications*.

- 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	
	Versions	
F	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				NEC
	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.		
i	Octande d'Hogrammackage     Opplications     VINEC ESMPRO ServerAcentService	Rev2.0	Not installed	
	Express Report Service	Rev3.5E	Not installed	
	Express Report Service (HTTPS)	Rev3.8	Not installed	
5	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	
				nstall
				]

Note	<ul> <li>Applications available for installation are chosen by default.</li> </ul>			
	• If your system environment does not satisfy the prerequisite for an application,			
	you cannot install it. For details, see the on-screen information and the manual			
	of each applications.			
	• 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.			
	• If the following message displayed during installing applications, click No to			
	continue process.			
	Stop running this script?			
	A script on this page is causing your web browser to run slowly. If it continues to run, your computer might become unresponsive.			

- 6. When a message indicating restart appears, click **OK** to restart the server.
- 7. See *the manual of each Applications* to install the bundled software or confirm that the software is appropriate to your operating environment.

Now installation of applications is complete.

# **4**. Setting up for Maintenance

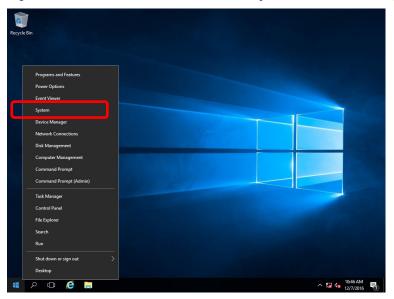
We recommend setting up the following features for maintenance.

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

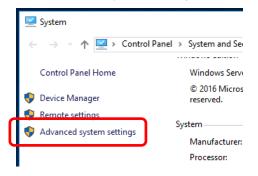
This section explains the procedures for collecting a memory dump (debug information) in the server.

ImportantWhen you restart the system to save the memory dump, a message<br/>informing you that the system is short of virtual memory might appear.<br/>Ignore this message and proceed with the restart. If you reset or restart the<br/>system again, the memory dump might not be saved normally.

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



2. Click Advanced system settings.



3. In Startup and Recovery, click Settings.

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

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

Startup and Recovery	×
System startup Default operating system: Windows Server 2016	
✓ Time to display list of operating systems:     30 ♀       ✓ Time to display recovery options when needed:     30 ♀	
System failure          Write an event to the system log         Automatically restart         Write debugging information         Automatic memory dump	
Dump file: D:\MEMORY.DMP Qverwrite any existing file Disable <u>a</u> utomatic deletion of memory dumps when disk space is low	
OK Cancel	

Note the following when specifying a dump file:

- We recommend specifying Kernel memory dump for Write debugging information.
- 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).
- The size of the debug information (memory dump) changes if DIMM is added. Make sure that the free space of the drive to save the debug information is sufficient.

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

System Properties	Х
Computer Name Hardware Advanced Remote	
You must be logged on as an Administrator to make most of these changes. Performance Visual effects, processor scheduling, memory usage, and virtual memory	
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	

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

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

#### 7. In Virtual memory, click Change.

Performance (	Options			×
Visual Effects	Advanced	Data Execution Preve	ntion	
	scheduling ow to alloc	ate processor resourc	es.	
Adjust fo	r best perfo	mance of:		
○ <u>P</u> rogra	ims	Background	d <u>s</u> ervices	
-Virtual me	mory			
A paging were RAN		ea on the hard disk th	nat Windows uses as if it	
Total pag	ing 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	×
Automatically manage paging file s Paging file size for each drive Drive [Volume Label] Pag C:	size for all drives ging File Size (MB) System managed
Selected drive: C: Space available: 366520 MB © <u>C</u> ustom size: Initial size (MB): Ma <u>x</u> imum size (MB): O System managed size O No paging file	Set
Total paging file size for all drives Minimum allowed: 16 MB Recommended: 1889 MB Currently allocated: 8192 MB	OK Cancel
	Cancer

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 manager 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: © <u>C</u> ustom size: Initial size (MB): Ma <u>x</u> imum size (MB):	C: 366520 MB
○ S <u>y</u> stem managed si ○ <u>N</u> o paging file	ze <u>S</u> et
- Total paging file size for	
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.
- When DIMM is added, re-specify the paging file according to the increased memory size.

#### 10. Click OK.

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

Specification of the memory dump settings is now complete.

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

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

If an application error occurs, get user-mode process dump information using the following procedures without closing the pop-up window that reported the error:

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

8			
Recycl	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		
-	<u>م</u> آ <i>م</i>	▲ 10 4	10:46 AM

2. Click More details.

🕎 Task Manager	-		×
Tł	ere are no running apps		
⊘ More <u>d</u> etails		<u>E</u> n	id task

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

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

Tips	If the folder is not displayed, open Explorer, select Hidden items in the View tab.			
	□   🖸 📑 〒   Administrator – □ ×			
	File Home Share View			
	Impreview pane       Impre			
	Panar lavout Current view ide			

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

# **5.** Backup of system information

After environment building, back up the setting information of the system in advance of any troubles.

- Back up RBSU settings contained in system utility.
   For details, see Chapter 1 (Backup and Restore of RBSU Settings) in Maintenance Guide (Common).
- Back up detail information of iLO 5.
   See "iLO 5 User's Guide" for details of procedure.



# **NEC Express5800 Series**

# Maintenance

This chapter explains maintenance of server, and what actions are to be taken in case of trouble when operating this server.

#### 1. Failure Information

Describes how to collect the failure information. See this section in case of a failure.

#### 2. Troubleshooting

Describes how to troubleshoot the server. See this section if you suspect a failure.

#### 3. Windows System Recovery

Describes Windows recovery setup. See this section if the Windows is corrupt.

# **I**. Failure Information

If the server does not work normally, you can collect failure information by using the following way.

The failure information to be described is to be collected only at the request of your sales representative.

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

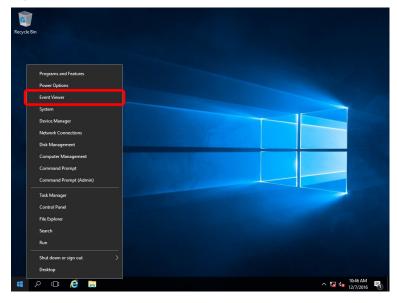
### **I.I** Collecting Event Logs

To collect the various event logs of the server, follow the steps below.

Tips

If a STOP error, system error, or stall occurs, restart the system and then follow the steps below.

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



2. Select the type of log in Windows Logs.

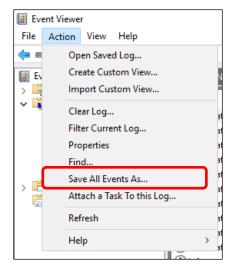
Application records events related to running applications.

Security records events related to security.

System records events that occur in Windows system components.

🛃 Event Viewer					- 5	×
File Action View Help						
🗢 🔿 🙍 📰 📓 📰						
🛃 Event Viewer (Local)	Windows Logs				Actions	
Custom Views     Windows Logs     Application	Name Application	Type Administrative	Number of Events 403	Size 1.07 MB	Windows Logs	•
Security Setup System	Security Setup System	Administrative Operational Administrative	1,337 0 1,394	1.07 MB 68 KB 1.07 MB	Create Custom View Import Custom View	
Source Section     Source Section     Subscriptions	Forwarded Events	Operational	0	0 Bytes	View Refresh Help	• •
					Application Open Properties Help	•

#### 3. Click Save All Events As... from Action menu



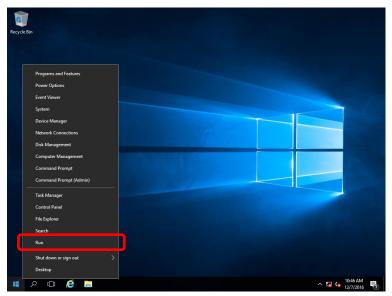
- 4. Type the file name of the archived log in **File name**.
- 5. Select the type of the log file you want to save in **Save as type**, and then click **Save**.

### **1.2** Collecting Configuration Information

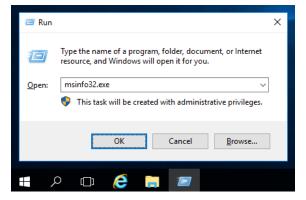
This section describes how to collect hardware information or configuration.

TipsIf a STOP error, system error, or stall occurs, restart the system and then follow<br/>the steps below.

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



2. Type msinfo32.exe, and then press <Enter> key.



System Information starts.

- 3. Click **Export** from **File** menu.
- 4. Type a file name to save in **File Name**, and then Click **Save**.

### **1.3** Collecting User-Mode Process Dump

The user-mode process dump is the failure information related to application errors.

For details, see Chapter 1 (4.2 How to Create a User-Mode Process Dump File).

### **I.4** Collecting Memory Dump

If an error occurs, the dump file will be saved to get necessary information. You can specify any location for saving the diagnostic information. For details, see *Chapter 1 (4.1 Specifying Memory Dump Settings (Debug Information)*).

Consult with your sales representative before dumping the memory. Dumping the memory while the server is in operating normally will affect the system operation.

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

## 2. Troubleshooting

If this system does not operate as intended, check it according to the contents of *Maintenance Guide* before sending it for repair. If an item in the checklist corresponds with a problem you are experiencing, follow the processing instructions.

### 2.1 Problem of OS

#### [?] Unable to apply Standard Program Package



→ According to your environment, individual installation of firmware and drivers may be required before applying Standard Program Package.

Refer to Chapter 1 (3.4.1 Before the installation) for details.

When the problem does not solve, collect log by following procedure to request survey through the supplier.

- 1. Sign-in to the Windows with an Administrators privilege.
- 2. Set the Starter Pack DVD to the drive.
- 3. Run the \packages\gatherlog.bat on the DVD.
- 4. Collect genelated Zip file.

#### [?] Unable to update firmware

→ According to your environment, individual installation of drivers may be required before updating firmware. Refer to Chapter 1 (3.4.1 Before the installation) for details.

When the problem does not solve, collect log by following procedure to request survey through the supplier.

- 1. Sign-in to the Windows with an Administrators privilege.
- 2. Set the Starter Pack DVD to the drive.
- 3. Run the \packages\gatherlog.bat on the DVD.
- 4. Collect genelated Zip file.

### **3.** Windows System Recovery

Recover the Windows system by using the following instructions if the system does not work normally.

Note

- After recovering Windows, install drivers and the Starter Pack referring to Chapter 1 (3.5 Setup of Device Drivers) and Chapter 1 (3.4 Standard Program Package Installation).
- If the Windows system cannot find hard disk drives, you cannot recover the Windows system.

### 3. I Recovery of Windows Server 2016

If the Windows does not start normally, you can recover it using the feature of the Windows installation media. To run this feature, start the installation media, and then choose **Repair your computer** in the setup wizard. We recommend that this option is performed by the system administrator.

If the RAID controller driver is required, take the following steps:

Note

When the server configures an onboard RAID controller and an internal optical disk drive, load the driver from a removable media. Copy the following folder from Starter Pack DVD to a removable media in advance. *<Starter Pack>:\software\010\drivers\sw\_raid1\_driver* 

- 1. After turning on the server or restarting the server, insert the OS installation media into the server.
- 2. Press <F11> key during POST to start Boot Menu.

In **One-Time Boot Menu**, select the optical disk drive to which OS installation media is set by Step 1, and then exit the menu.

 When the message "Press any key to boot from CD or DVD..." appears on the upper of the screen, press <Enter> key to boot from the media.

While boot-up proceeds, the message "Loading files..." appears.

- 4. Choose Repair your computer in the setup wizard.
- 5. Click Troubleshoot.
- 6. Click Command Prompt.
- After setting Starter Pack DVD to the drive, run the following command to load the driver: ("D:" means a drive name of DVD and this name depends on your system)

#### For onboard RAID controller:

drvload D:\software\010\drivers\sw\_raid1\_driver\ws2016\_ws2019\SmartDQ.inf

#### For RAID controller (N8103-189/190/191/192/193/194/195/201/237/238)

drvload D:\software\010\drivers\dac1\_driver\SmartPqi.inf

When the server configures an onboard RAID controller and an internal optical disk drive, load the driver from a removable media. ("E:" means a drive name of removable media and this name depends on your system)

drvload E:\sw\_raid1\_driver\ws2016\_ws2019\SmartDQ.inf

Tips

The volume label for each drive can be checked from the display result of the dir command. Example: **dir C:**\

8. Exit the command prompt.

The driver installation is completed.

# NEC Express5800 Series



3

1. List of Windows Event Logs Shows a list of Windows event logs.

# **1**. List of Windows Event Log

ſ	D	Source	Level	Message (Description)
	ID	Timing when an event is logged		Action

All Windows OS

"System Log"

1	VDS Basic Provider	Error	Unexpected failure. Error code : 32@01000004
	At the time of a USB Device connection		When it's at the time of a USB Device connection, it's no problem.
10	Smart Update Manager System Log	Warning	The description for Event ID 10 from source Smart Update Manager System Log cannot be found. Either the component that raises this event is not installed on your local computer or the installation is corrupted. You can install or repair the component on the local computer. If the event originated on another computer, the display information had to be saved with the event. The following information was included with the event: Disabling blocked firewall rules
	When applying Standard Program Package		This event may be registered when Firefall is enabled, but this does not affect system operation.
11	Elxfc	Error	The driver detected a controller error on Device\RaidPortX. (X is any number)
11	When applying Standard Program Package		This event does not affect system operation.
	ql2300	Error	The driver detected a controller error on Device\RaidPortX. (X is any number)
11	When starting system.		<ul> <li>If your system could not recognize device with this event, please refer following steps.</li> <li>Be disabled and enabled N8190-165/166 from Device Manager.</li> <li>1. Start Device Manager.</li> <li>2. Right click HPE SN1100Q 16G 1p FC HBA or HPE SN1100Q 16G 2p FC HBA of Storage Controllers, and choice Disable Device.</li> <li>3. "Disabling this device will cause it to stop functioning. Do you really want to disable it?" message appeared, click Yes.</li> <li>4. Right click disabled HPE SN1100Q 16G 1p FC HBA or HPE SN1100Q 16G 2p FC HBA, choice Enable Device.</li> <li>- Reboot the system.</li> </ul>
51	Cdrom	Warning	Error detected on the device \Device\CdRom0 during the paging operation.
	When installing an OS		This event may be registered in the event viewer, but this does not affect system operation.

ID	Source	Level	Message (Description)
U	Timing when an event is logged		Action

#### All Windows OS "System Log"

Application Popup	Error	The description for Event ID 56 from source Application Popup cannot be found. Either the component that raises this event is not installed on your local computer or the installation is corrupted. You can install or repair the component on the local computer. If the event originated on another computer, the display information had to be saved with the event. The following information was included with the event: PCI XXXXXXXXXXXXXXXXXXXX The message resource is present but the message was not found in the message table. * A different number replaces X depending on the connection status of LAN controller.
When installing an OS, starting applying Starter Pack	g system, or	When multiple LAN controller are loaded it is registered, but does not affect system operation.
Application Popup	Error	The description for Event ID 56 from source Application Popup cannot be found. Either the component that raises this event is not installed on your local computer or the installation is corrupted. You can install or repair the component on the local computer. If the event originated on another computer, the display information had to be saved with the event. The following information was included with the event: SCSI XXXXXXXXXXXXXXXXXXXXXX The message resource is present but the message was not found in the message table. * A different number replaces X depending on the connection status of RAID controller and SAS controller.
When installing an OS, starting system, or applying Starter Pack		When multiple RAID controller or SAS controller are loaded it is registered, but does not affect system operation.
SmartDQa Warning		Reset was issued to the device \Device\RaidPort(x). (x is any number)
While the system is running		If this message has been registered as a log during heavy I/O, there is no problem since the OS has succeeded in retry. Continue using.
SmartPqi	Warning	Reset was issued to the device \Device\RaidPort(x). (x is any number)
While the system is running		If this message has been registered as a log during heavy I/O, there is no problem since the OS has succeeded in retry. Continue using.
Disk	Warning	Disk x is suddenly removed.
When creating a RAID		If you create new RAID on Windows, this event can be registered, but this does not affect the system operation.
	When installing an OS, starting applying Starter Pack         Application Popup         When installing an OS, starting or applying Starter Pack         SmartDQa         While the system is running         SmartPqi         While the system is running         Disk	When installing an OS, starting system, or applying Starter Pack         Application Popup       Error         When installing an OS, starting system, or applying Starter Pack       Event         When installing an OS, starting system, or applying Starter Pack       Warning         When installing an OS, starting system, or applying Starter Pack       Warning         SmartDQa       Warning         While the system is running       Warning         Disk       Warning

Ī	ID	Source	Level	Message (Description)
		Timing when an event is logged		Action

#### All Windows OS "System Log"

1407	ESMCommonService	Error	This is the event which occurred between this system start-up and the last system stop or system shutdown. Date : YYYY-MM-DD hh:mm:ss Event Class : 0x11 Event Code : 0x0A Status : Critical Description : xxxxx Connectivity status changed to xxxxx for adapter in slot x, port x This event does not affect system operation
1407	or applying Standard Program	Error	This is the event which occurred between this system start-up and the last system stop or system shutdown. Date : YYYY-MM-DD hh:mm:ss Event Class : 0x11 Event Code : 0x0C Status : Criticals Description : Redundancy status changed to xxxxx by adapter in slot x, port x
	When starting system, or applying Standard Program Package		This event does not affect system operation.
1407	ESMCommonService	Error	This is the event which occurred between this system start-up and the last system stop or system shutdown. Date : YYYY-MM-DD hh:mm:ss Event Class : 0x11 Event Code : 0x0D Status : Critical Description : All links are down in adapter xxxxx in slot x
	When starting system, or applying Standard Program Package		This event does not affect system operation.
4367	Agentless Management Service	Error	Description of Event ID 4367, IML Class Code 17, Event Code 13: All links are down in adapter xxxxx in slot xCheck the connection to the adapter and validate the connectivity from the server to any external device, including the cabling. If no problems are found, the adapter or other connectivity device may need replacement.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.

Source	Level	Message (Description)
Timing when an event is logged		Action

#### All Windows OS "System Log"

4367	Agentless Management Service	Error	Description of IML Event ID 4367, Class Code 17, Event Code 12: Redundancy status changed to decreased by adapter in slot x, port xlf redundancy decreased, check the connection to the adapter and validate the connectivity from the server to any external device, including the cabling. If no problems are found, the adapter or other connectivity device may need replacement
	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
4367	Agentless Management Service	Error	Description of IML Event ID 4367, Class Code 17, Event Code 10: xxxxx Connectivity status changed to Link Failure for adapter in slot x, port xlf the connection is lost, then check the physical connection from the server to its destination device such as interconnect ,blade, switch etc, including any cables. Refer to the NIC issues flowchart in the Troubleshooting Guide for more information.
	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
7000	Service Control Manager	Error	QLogic Fibre Channel Service service failed to start due to the following error: the system cannot find the file specified
	Applying Standard Program Package		This event does not affect system operation.
37130	ESMCommonService	Error	Date : YYYY-MM-DD hh:mm:ss Event Class : 0x11 Event Code : 0x0A Status : Critical Description : xxxxx Connectivity status changed to xxxxx for adapter in slot x, port x
	When starting system, or applying Standard Program Package		This event does not affect system operation.
37132	ESMCommonService	Error	Date : YYYY-MM-DD hh:mm:ss Event Class : 0x11 Event Code : 0x0C Status : Critical Description : Redundancy status changed to xxxxx by adapter in slot x, port x
	When starting system, or applying Standard Program Package		This event does not affect system operation.
37133	ESMCommonService	Error	Date : YYYY-MM-DD hh:mm:ss Event Class : 0x11 Event Code : 0x0D Status : Critical Description : All links are down in adapter xxxxx in slot x
	When starting system, or applying Standard Program	Package	This event does not affect system operation.

ID	Source	Level	Message (Description)
U	Timing when an event is logged	d	Action

2	bnxtnd	Warning	xxxxx #xx : The network link is down. Check to make sure the network cable is properly connected. * x is a different display name depending on the LAN board.。
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
4	b57nd60a	Warning	Broadcom NetXtreme Gigabit Ethernet #xx: The network link is down. Check to make sure the network cable is properly connected.
4	When installing an OS, starting applying Standard Program Pac		This event does not affect system operation.
4	I2nd	Warning	xxxxx #xx : The network link is down. Check to make sure the network cable is properly connected. * x is a different display name depending on the LAN board.
	When installing an OS, starting applying Standard Program Pac		This event does not affect system operation.
4	l2nd2	Warning	xxxxx #xx : The network link is down. Check to make sure the network cable is properly connected. * x is a different display name depending on the LAN board.
-	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
4	q57nd60a	Warning	xxxxx #xx : The network link is down. Check to make sure the network cable is properly connected. * x is a different display name depending on the LAN board.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
9	bxfcoe	Warning	The SAN link is down for port WWN XX:XX:XX:XX:XX:XX:XX:XX: Check to make sure the network cable is properly connected. (X is any number)
0	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
	qefcoe	Warning	The SAN link is down for port WWN XX:XX:XX:XX:XX:XX:XX:XX: Check to make sure the network cable is properly connected. (X is any number)
9	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
	bnxtnd	Error	xxxxx #xx : Firmware returned failure status. * x is a different display name depending on the LAN board.
23	About N8104-213/215/217/219, when changing the link speed setting with the LAN cable and switching hub not connected, or when you restart the system in the state after changing the settings		This event does not affect system operation.

П	Source	Level	Message (Description)
ID	Timing when an event is logged		Action

	bnxtnd	Warning	xxxxx #xx : Adapter Incompatible speed selection between Port 1 and Port 2. Reported link speeds are correct and might not match
		0	Speed and Duplex setting. * x is a different display name depending on the LAN board.
26	About N8104-213/215/217/219, when changing the link speed setting with the LAN cable and switching hub not connected, or when you restart the system in		This event does not affect system operation.
	the state after changing the setti	ngs	xxxxx #xx
27	e1rexpress	Warning	<ul> <li>Network link is disconnected.</li> <li>* x is a different display name depending on the LAN board.</li> </ul>
	When installing an OS, starting applying Standard Program Pac		This event does not affect system operation.
			xxxxx #xx
	e1iexpress	Warning	Network link is disconnected.
27			* x is a different display name depending on the LAN board.
	When installing an OS, starting applying Standard Program Pac		This event does not affect system operation.
			xxxxx #xx
	icea	Warning	Network link is disconnected.
27			* x is a different display name depending on the LAN board.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
	ixgbs	Warning	xxxxx #xx
			Network link is disconnected.
27			* x is a different display name depending on the LAN board.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
			xxxxx #xx
	ixgbi	Warning	Network link is disconnected.
27			* x is a different display name depending on the LAN board.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
			xxxxx #xx
	i40ea	Warning	Network link is disconnected.
27	l		* x is a different display name depending on the LAN board.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
			xxxxx #xx
	i40eb	Warning	Network link is disconnected.
27			* x is a different display name depending on the LAN board.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.

D	Source	Level	Message (Description)
ID	Timing when an event is logged		Action

		1	
27	i40ei	Warning	The description for Event ID 27 from source "i40ei" cannot be found. Either the component that raises this event is not installed on your local computer or the installation is corrupted. You can install or repair the component on the local computer.
	When installing an OS, starting applying Standard Program Pac		This event does not affect system operation.
56	qebdrv	Warning	NTPNP_PCIxxxx: RDMA has been implicitly disabled due to RDMA interface incompatibility between NDIS Miniport (ver x.xx.xx.) and VBD (ver x.xx.x.x) drivers. VBD driver upgrade is required. * "x" depends on the system environment.
	When applying Standard Progra	m Package	This event does not affect system operation.
57	qebdrv	Warning	NTPNP_PCIxxxx: RDMA has been implicitly disabled due to RDMA interface incompatibility between NDIS Miniport (ver x.xx.xx.x) and VBD (ver x.xx.x.x) drivers. NDIS Miniport upgrade is required. * "x" depends on the system environment.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
69	i40ea	Warning	HPE Ethernet xGb x-port xxxx Adapter The driver for the device detected a newer version of the NVM image than expected. Please install the most recent version of the network driver. *"x" depends on the system environment.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
69	i40eb	Warning	HPE Ethernet xGb x-port xxxx Adapter The driver for the device detected a newer version of the NVM image than expected. Please install the most recent version of the network driver. *"x" depends on the system environment.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
69	i40ei	Warning	The description for Event ID 69 from source "i40ei" cannot be found. Either the component that raises this event is not installed on your local computer or the installation is corrupted. You can install or repair the component on the local computer.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.

	D	Source	Level	Message (Description)
ID	U	Timing when an event is logged		Action

	I		
101	i40eb	Warning	HPE Ethernet xGb x-port xxxx Adapter PROBLEM: Flow Control disabled on this interface. For RDMA traffic, it is recommended that flow control be enabled end to end on all network interfaces and switches to avoid performance degradation from dropped packets. ACTION: Enable link level flow control or priority flow control for network direct port 445 on this interface. * "x" depends on the system environment.
	When installing an OS, starting s applying Standard Program Pac		This event does not affect system operation. After Standard Program Package is applied, this log will no longer be registered.
101	icea	Warning	Intel(R) Ethernet Network Adapter E810-XXV-2 xxxxx PROBLEM: Flow Control disabled on this interface. For RDMA traffic, it is recommended that flow control be enabled end to end on all network interfaces and switches to avoid performance degradation from dropped packets. ACTION: Enable link level flow control or priority flow control for network direct port 445 on this interface. * "x" depends on the system environment.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation. After Standard Program Package is applied, this log will no longer be registered.
219	Microsoft-Windows- Kernel-PnP	Warning	The driver \Driver\WudfRd failed to load for the device xxxxxxxxxxxxxxxxxxxx
	When starting system or connecting a disk		This may be recorded when starting the system or connecting a disk depending on timing, but does not affect system operation.
225	Kernel-PnP	Warning	The application YYY with process id XXX stopped the removal or ejection for the device ZZZ.  * ZZZ : Instance name of the device YYY : Name of the process that was using the device XXX : ID of the process that was using the device
	When applying Standard Program Package		This event does not affect system operation if it is logged when applying Standard Program Package.
262	icea	Error	Intel(R) Ethernet Network Adapter E810-XXV-2 xxx PROBLEM: Module is not present. Possible Solution(s): Manually set the speed/duplex or use Intel(R) Ethernet Port Configuration Tool to change the port option. If the problem persists, use a cable/module that is found in the supported modules and cables list for this device. * "x" depends on the optional LAN board environment.
	When SFP+/SFP28 module(N8104-189/190) or DA cable disconnected from optional LAN board(N8104-208/212).		Confirm the SFP+/SFP28 module (N8104-189/190) or DA cable.

Ī	D	Source	Level	Message (Description)
	ID	Timing when an event is logged		Action

272	icea	Error	Intel(R) Ethernet Network Adapter E810-XXV-2 xxx PROBLEM: A parallel fault was detected. Possible Solution: Change link partner connection and configuration. * x is a different display name depending on the LAN board.
	When SFP+/SFP28 module (N8104-189/ 190) or DA cable is connected to the LAN board (N8104-208/212) and the network link is down. Applying Standard Program Package.		This event does not affect system operation.
7023	Service Control Manager	Error	"xxxxxxx service terminated with the following error: A device attached to the system is not functioning."
1023	When running an OS for the first	time	This event does not affect system operation if it is recorded only on the first startup and not recorded repeatedly.
7023	Service Control Manager When running an OS for the rebooting it, or while the system		The Data Sharing Service service terminated with the following error: %%3239247874 * The message may not be displayed correctly as follows, but there is no problem. The description for Event ID 7023 from source Service Control Manager cannot be found. Either the component that raises this event is not installed on your local computer or the installation is corrupted. You can install or repair the component on the local computer. If the event originated on another computer, the display information had to be saved with the event. The following information was included with the event: Data Sharing Service %%3239247874 The locale specific resource for the desired message is not present. This event does not affect system operation.
7024	Service Control Manager	Error	The Intel® Ethernet Thermal Sensor Monitor Service service terminated with the following service-specific error: The operation completed successfully."
	When starting system, or applying Standard Program Package		This event does not affect system operation.
7030	Service Control Manager	Error	The Printer Extensions and Notifications service is marked as an interactive service. However, the system is configured to not allow interactive services. This service may not function properly.
	When running an OS for the first time		This event does not affect system operation if it is recorded only on the first startup and not recorded repeatedly.
10010	Microsoft-Windows- DistributedCOM	Error	The server {XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
10010	When running an OS for the rebooting it	first time or	Refer to the following website. <u>https://support.microsoft.com/ja-jp/help/956479</u> (Japanese)

ſ	ē	Source	Level	Message (Description)
	ID	Timing when an event is logged		Action

10317	Microsoft-Windows-NDIS	Error	Miniport Microsoft Network Adapter Multiplexor Driver, {xxxxxxx-xxxx-xxxx-xxxx-xxxxx, had event Network Interface deleted while PNP Device still exists. Note that this event is provided for informational purpose and might not be an error always (Eg: In case of vSwitch which was recently un-installed or a LBFO team was removed)
	When removing a team		This event does not affect system operation.
10400	Microsoft-Windows-NDIS	Warning	The network interface "xxxxx" has begun resetting. There will be a momentary disruption in network connectivity while the hardware resets. Reason: The network driver detected that its hardware has stopped responding to commands. This network interface has reset xx time(s) since it was last initialized. * x is a different display name depending on the LAN board.
	When applying Standard Program Package		This event does not affect system operation.

		Source	Level	Message (Description)
ID	Timing when an event is logged		Action	

#### Windows Server 2016 "Application Event Log"

1014	Microsoft-Windows- Security-SPP	Warning	Acquisition of End User License failed. hr=0x80072EE7
1014	When running an OS for the first time		This event does not affect system operation if it is not recorded repeatedly after activating the Windows.
1015	Microsoft-Windows- Security-SPP	Warning	Detailed HRESULT. Returned hr=0xC004F022, Original hr=0x80049E00
1015	When running an OS for the first	time	This event does not affect system operation if it is not recorded repeatedly after activating the Windows.
1534	Microsoft-Windows- User Profiles Service	Warning	Profile notification of event Create for component {2c86c843-77ae-4284-9722-27d65366543c} failed, error code is Not implemented.
	When running an OS for the first time		This event does not affect system operation if it is recorded only on the first startup and not recorded repeatedly.
8198	Microsoft-Windows- Security-SPP Error		License Activation (slui.exe) failed with the following error code: hr=0x******* Command-line arguments: RuleId=********************
	When running an OS for the first time or rebooting it		This event does not affect system operation if it is not recorded repeatedly after activating the Windows.
8200	Microsoft-Windows- Security-SPP	Error	License acquisition failure details. hr=0x80072EE7
8200	When running an OS for the first time or rebooting it		This event does not affect system operation if it is not recorded repeatedly after activating the Windows.

ID	Source	Level	Message (Description)
	Timing when an event is logged		Action

#### Windows Server 2016 "Applications and Services Logs"

	1	1	
69	Microsoft-Windows- AppModel-Runtime	Error	Failed with 0x490 modifying AppModel Runtime status for package ************************************
	When running an OS for the first	time	This event does not affect system operation if it is recorded only on the first startup and not recorded repeatedly.
134	Microsoft-Windows- Time-Service	Warning	NtpClient was unable to set a manual peer to use as a time source because of DNS resolution error on 'time.windows.com,0x8'. NtpClient will try again in 15 minutes and double the reattempt interval thereafter.
	When running an OS for the rebooting it	first time or	This event does not affect system operation if it is not recorded after connecting to the internet.
200	Microsoft-Windows- DeviceSetupManager Warning		When running an OS for the first time or rebooting it
200	When running an OS for the first time or rebooting it		This event does not affect system operation if it is not recorded after connecting to the internet.
201	Microsoft-Windows- DeviceSetupManager	Warning	A connection to the Windows Metadata and Internet Services (WMIS) could not be established.
201	When running an OS for the first time or		This event does not affect system operation if it is not recorded after connecting to the internet.
202	Microsoft-Windows- DeviceSetupManager	Warning	The Network List Manager reports no connectivity to the internet.
202	When running an OS for the first time or rebooting it		This event does not affect system operation if it is not recorded after connecting to the internet.
506	Microsoft-Windows- DeviceManagement- Pushrouter	Error	DmWapPushService: Failed to register WNF with EventAggregator for WAP messages received by SMS Router. Result: (0xC002000B).
	When running an OS for the first time		This event does not affect system operation if it is recorded only on the first startup and not recorded repeatedly.

# **Revision Record**

Document Number	Date	Notes
CBZ-002473-332-00	February 2024	The first edition