

# Installation Guide (Windows Server 2019)

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

- Chapter 1 Installing Windows
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- Chapter 3 Appendix

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# Introduction

Thank you for purchasing our product.

When using the **EXPRESSBUILDER E8.10-010.01 (3.70.46)**, see this manual before installing Windows. Please read carefully the instructions 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 2019	Windows Server 2019 Standard		
	Windows Server 2019 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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zlib.h -- interface of the 'zlib' general purpose compression library version 1.2.2, October 3rd, 2004

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# **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.

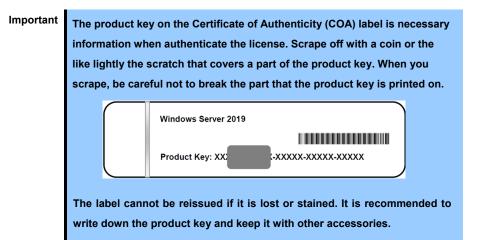
- Flow of Windows Installation
   Describes the flow chart of Windows installation.
- Installing Windows Server 2019
   Describes how to install Windows Server 2019.
- Setting up for Maintenance
   Describes the features that should be set up for maintenance in advance.

#### 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.



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/w2019/hyper-v/hyper-v-ws2019.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.
- 3. 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.

EB : Rapid Setup S : Manual installation							
	Boot mode		Installation method				
Name of Windows OS		UEFI	Legacy	EB	OS		
Windows Server 2019 *	Standard	√	N/A	$\checkmark$	~		
	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			
RAID controller supporting the installation of OS at EXPRESSBUILDER					
N8103-189 RAID Controller (RAID 0/1)	✓	✓			
N8103-190 RAID Controller (2GB, RAID 0/1/5/6)	✓	~			
N8103-191 RAID Controller (4GB, RAID 0/1/5/6)	✓	✓			
N8103-192 RAID Controller (RAID 0/1)	✓	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 RAID Controller (RAID 0/1)	✓	✓			
N8103-201 RAID Controller (2GB, RAID 0/1/5/6)	✓	✓			
N8103-237 RAID Controller (4GB, RAID 0/1/5/6)	✓	✓			
N8103-238 RAID Controller (8GB, RAID 0/1/5/6)	✓	✓			
N8103-239 480GB SSD Adapter for OS Boot (RAID 1)	✓	✓			
Other options					
N8103-184/E184 SAS Controller	✓	~			
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)	✓	✓			
N8190-172 Fibre Channel Controller (2ch)	✓	~			

#### (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)		
RAID controller supporting the installation of OS at EXPRESSBUILDER								
Onboard RAID Controller	~	~	~	~	~	~		
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)	✓	N/A	✓	N/A	✓	N/A		
N8103-193 RAID Controller (2GB, RAID 0/1/5/6)	✓	N/A	✓	N/A	✓	N/A		
N8103-194 RAID Controller (4GB, RAID 0/1/5/6)	✓	N/A	✓	N/A	✓	N/A		
N8103-195 RAID Controller (RAID 0/1)	$\checkmark$	~	~	~	~	~		
N8103-201 RAID Controller (2GB, RAID 0/1/5/6)	~	~	~	~	~	~		
N8103-239 N8103-239 480GB SSD Adapter for OS Boot (RAID 1)	N/A	N/A	N/A	N/A	~	~		
Other options			·					
N8103-196 RAID Controller (2GB, RAID 0/1/5/6)	~	~	~	~	~	~		
N8103-184/E184 SAS Controller	✓	~	~	~	~	~		
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)	✓	~	~	~	~	~		
N8190-172 Fibre Channel Controller (2ch)	~	~	~	~	~	~		

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

	R120h-1E	R120h-2E				
RAID controller supporting the installation of OS at EXPRESSBUILDER						
Onboard RAID Controller	✓	$\checkmark$				
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)	✓	$\checkmark$				
N8103-201 RAID Controller (2GB, RAID 0/1/5/6)	✓	√				
Other options						
N8103-196 RAID Controller (2GB, RAID 0/1/5/6)	×	✓				
N8103-184/E184 SAS Controller	✓	✓				
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)	4	✓				
N8190-172 Fibre Channel Controller (2ch)	✓	✓				

### (4) Express5800/T120h

	T120h			
RAID controller supporting the installation of OS at EXPRESSBUILDER				
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 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 RAID Controller (RAID 0/1)	✓			
N8103-201 RAID Controller (2GB, RAID 0/1/5/6)	✓			
Other options				
N8103-196 RAID Controller (2GB, RAID 0/1/5/6)	✓			
N8103-184/E184 SAS Controller	✓			
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)	×			
N8190-172 Fibre Channel Controller (2ch)	✓			

### (5) Express5800/R110j-1

	R110j-1			
RAID controller supporting the installation of OS at EXPRESSBUILDER				
Onboard RAID Controller	$\checkmark$			
N8103-192 RAID Controller (RAID 0/1)	✓			
N8103-193 RAID Controller (2GB, RAID 0/1/5/6)	√			
Other options				
N8103-196 RAID Controller (2GB, RAID 0/1/5/6)	✓			
N8103-184/E184 SAS Controller	✓			
N8103-197 SAS Controller	<ul> <li>✓</li> </ul>			
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)	$\checkmark$			

### **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	$\checkmark$	~
N8104-207 Dual Port 10GBASE-T LOM Card	✓	✓
N8104-208 Dual Port 10/25GBASE SFP+ LOM Card	✓	✓
N8104-209 Quad Port 1000BASE-T Adapter	✓	✓
N8104-210 Dual Port 10GBASE-T Adapter	✓	~
N8104-211 Dual Port 10/25GBASE SFP28 Adapter	$\checkmark$	✓
N8104-212 Dual Port 10/25GBASE SFP28 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	~	~	~	~	~	~
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	~	~	~	~	~	~
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	~	~	~	~	~	~
N8104-183 Dual Port 10GBASE-T Adapter	~	~	~	~	~	~
N8104-184 Dual Port 10GBASE-T Adapter	~	~	$\checkmark$	~	~	~
N8104-185 Dual Port 10GBASE SFP+ Adapter	~	~	~	~	~	~
N8104-186 Dual Port 10GBASE SFP+ Adapter	~	~	~	~	~	~
N8104-187 Dual Port 25GBASE SFP28 Adapter	~	~	~	~	~	~

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

		R120h-1E	R120h-2E
N8104-171	Quad Port 1000BASE-T LOM Card	✓	✓
N8104-172	Quad Port 1000BASE-T LOM Card	√	✓
N8104-173	Dual Port 10GBASE-T LOM Card	✓	✓
N8104-175	Dual Port 10GBASE-T LOM Card	✓	✓
N8104-176	Dual Port 10GBASE SFP+ LOM Card	✓	✓
N8104-177	Dual Port 25GBASE SFP+ LOM Card	✓	✓
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	$\checkmark$	✓
N8104-184	Dual Port 10GBASE-T Adapter	$\checkmark$	~
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	√	~
N8104-194	Dual Port 10GBASE-SR LOM Card	$\checkmark$	~
N8104-195	Dual Port 10GBASE-T LOM Card	√	~

#### (4) Express5800/T120h

	T120h
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	$\checkmark$
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	$\checkmark$
N8104-187 Dual Port 25GBASE SFP28 Adapter	✓

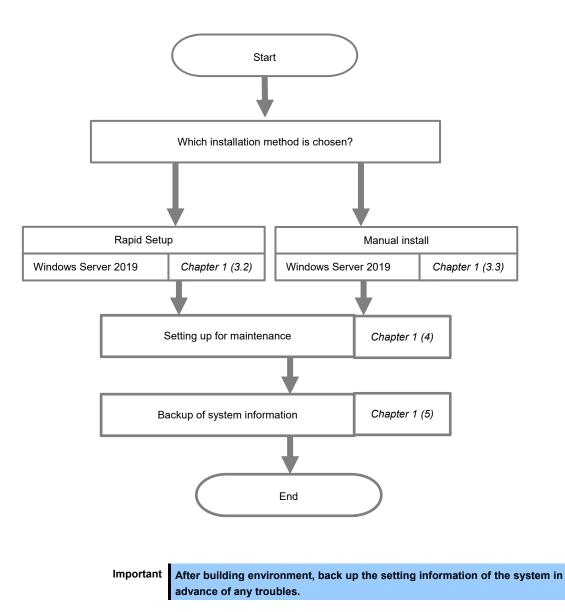
 $\checkmark$  : Supported

#### (5) Express5800/R110j-1

	R110j-1
N8104-171 Quad Port 1000BASE-T LOM Card	$\checkmark$
N8104-172 Quad Port 1000BASE-T LOM Card	$\checkmark$
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	$\checkmark$
N8104-183 Dual Port 10GBASE-T Adapter	$\checkmark$
N8104-185 Dual Port 10GBASE SFP+ Adapter	$\checkmark$
N8104-186 Dual Port 10GBASE SFP+ Adapter	$\checkmark$

# 2. Flow of Windows Installation

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



# **3.** Installing Windows Server 2019

### **3.1** Precautions of Windows Server 2019 Installation

Read the precautions explained this section before installing.



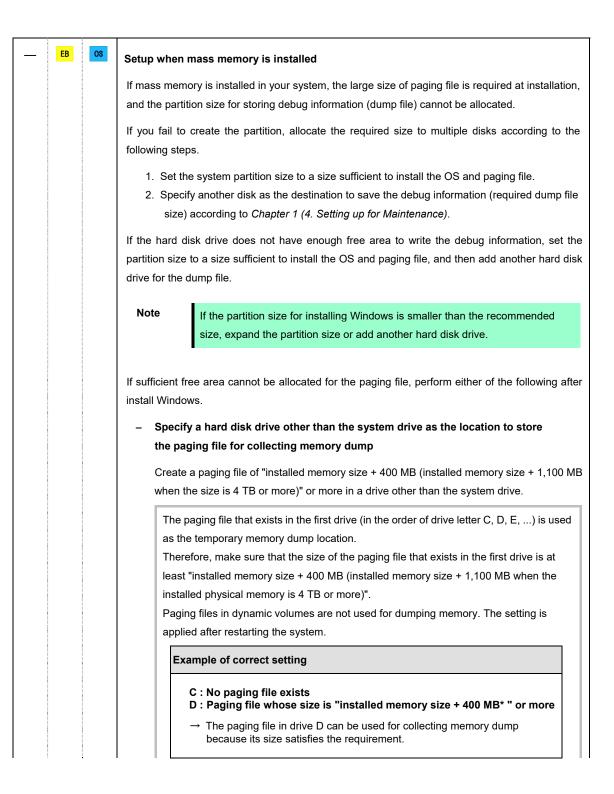
: Rapid Setup

: Manual Installation

BIOS sett	ing	
ЕВ	08	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
ЕВ	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
ЕВ	OS	R120h-1M, R120h-2M, R120h-1E, R120h-2E, T120h 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	08	<u>R120h-1M, R120h-2M, R120h-1E, R120h-2E, T120h</u> Change <b>time format</b> to the <b>Local Time</b> . For details, see <i>Chapter 2 (1. System Utilities)</i> in <i>Maintenance Guide</i> .
		System Configuration > BIOS/Platform Configuration (RBSU) > Date and time > Time Format : Local Time
EB	OS	R120i-1M/R120i-2M, 120h-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)
ЕВ	OS	R120i-1M/R120i-2M, 120h-1M(2nd-Gen)/(3rd-Gen), R120h-2M(2nd-Gen)/(3rd-Gen), R110j-1 Change time zone to the Set arbitrary time zone. 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

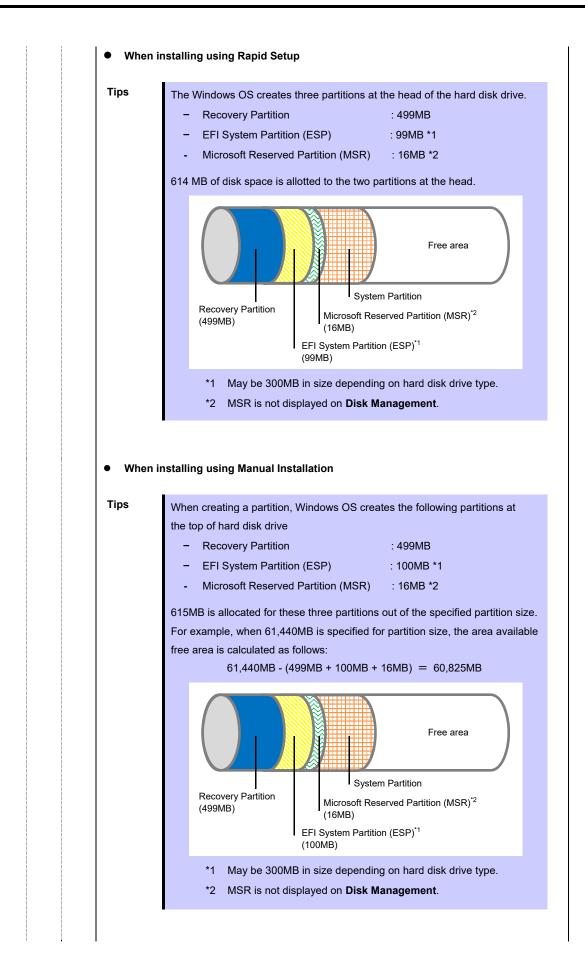
Г

EB	05	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 <i>Chapter 1 (1. System Utilities</i> ) in <i>Maintenance Guide (Common)</i> .
Hardware o	config	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 2019 installation, the setup may erase existing data unexpectedly. Refer to displayed disk capacity or partition size to find target hard disk drive.
EB	08	Reinstalling to a mirrored volume When you install Windows Server 2019 in an environment with a mirrored volume created using Windows, disable mirroring before installing the operating system and enable it again after the installation. Use [Computer Management] – [Disk Management] to create, disable, or remove the mirrored volume.
EB	OS	Peripherals such as RDX 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	DAT, 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* ", 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
•	ecify a drive other than the system drive for "Dedicated Dump File".
, )	reacify a drive other than the system drive for "Dedicated Dump File". reate the registry shown below by using the Registry Editor and specify the na edicated Dump File. For example: "dedicateddumpfile.sys" in drive D> Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSetControl
	reate the registry shown below by using the Registry Editor and specify the na edicated Dump File. <for "dedicateddumpfile.sys"="" d="" drive="" example:="" in=""> Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl</for>
	reate the registry shown below by using the Registry Editor and specify the na edicated Dump File. For example: "dedicateddumpfile.sys" in drive D> Key : HKEY_LOCAL_MACHINE\SYSTEM
) )	reate the registry shown below by using the Registry Editor and specify the na edicated Dump File. <for "dedicateddumpfile.sys"="" d="" drive="" example:="" in=""> <a href="https://key">Key</a> : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name : DedicatedDumpFile</for>
	reate the registry shown below by using the Registry Editor and specify the na edicated Dump File. For example: "dedicateddumpfile.sys" in drive D> Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name : DedicatedDumpFile Type : REG_SZ Data : D:\dedicateddumpfile.sys
	reate the registry shown below by using the Registry Editor and specify the na edicated Dump File. For example: "dedicateddumpfile.sys" in drive D> Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name : DedicatedDumpFile Type : REG_SZ Data : D:\dedicateddumpfile.sys Note the following when specifying Dedicated Dump File:
	reate the registry shown below by using the Registry Editor and specify the na edicated Dump File. For example: "dedicateddumpfile.sys" in drive D> Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name : DedicatedDumpFile Type : REG_SZ Data : D:\dedicateddumpfile.sys Note the following when specifying Dedicated Dump File: • The setting is applied after restarting the system.
	reate the registry shown below by using the Registry Editor and specify the na edicated Dump File. For example: "dedicateddumpfile.sys" in drive D> Key : HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name : DedicatedDumpFile Type : REG_SZ Data : D:\dedicateddumpfile.sys Note the following when specifying Dedicated Dump File:
	<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;</li> <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> 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 (instamemory size + 1,100 MB when the installed memory size is 4 TB or more)</li></ul>
r €	<ul> <li>eate 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>ote 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>
re <f< td=""><td><ul> <li>eate the registry shown below by using the Registry Editor and specify the nardicated 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>ote 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> <li>Dedicated Dump File cannot be placed in dynamic volumes.</li> </ul> </td></f<>	<ul> <li>eate the registry shown below by using the Registry Editor and specify the nardicated 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>ote 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> <li>Dedicated Dump File cannot be placed in dynamic volumes.</li> </ul>

Syste	em pa	rtition	size	
—	EB	OS	The system partition size can be calcu	lated by using the following formula.
			Size required to install the OS + pag	ing file size + dump file size + application size
			Desktop Experience	
			Size required to install the OS	= 12,400 MB
			Paging file size (recommended)	= installed memory size + 400MB
			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	= 8,600MB
			Paging file size (recommended)	= installed memory size + 400MB
			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	<ul> <li>as required by the application</li> </ul>
			For example, if the installed memory s the partition size is calculated as follow 12,400MB + (2,048MB + 400MB) = 17,396MB	
			Ensure that the partition size is sufficient The following partition sizes are recon	
			Server Core : *1GB = 1,024MB	32,768MB(32GB) or more
			information (dump fi must be large enoug Make sure you set a insufficient, there wi inability to collect co • Regardless of the si maximum size of the memory size + 1,10	le sizes are recommended for collecting debug ile). The initial size of the Windows partition paging file gh to store dump files. a sufficient paging file size. If the paging file is Il be a virtual memory shortage that may result in an orrect debug information. izes of internal memory and write debug information, the e dump file is "installed memory size + 400 MB (installed 0 MB when installed memory size is 4 TB or more)". er applications or other items, add the amount of space
			needed by the appli	cation to the partition. dows is smaller than the recommended size, expand the



Wind	lows S	erver	2019 Hyper-\	/ support
	EB	OS		ollowing web site for information related to Windows Server 2019 Hyper-V. www.58support.nec.co.jp/global/download/w2019/hyper-v/hyper-v-ws2019.html
Using	g BitL	ocker		
	EB	OS	Ũ	cker, note the following. to keep the recovery password secure. Do not keep it near a server running
			Important	If the recovery password is not entered, the OS cannot be started, and the content of the partition encrypted by BitLocker cannot be referenced any more. The recovery password might be required at startup of the OS after the following: - Replacement of motherboard - Change of BIOS setting - Initialization of trusted platform module (TPM) * * Depending on your system, it may not be supported. Refer to the Instruction Manuals about hardware.
				all the operating system into a partition that is encrypted with BitLocker, delete the -encrypted partition prior to reinstallation.
Supp	oort fo	r NIC t	eaming in Wi	indows Server 2019
	EB	OS	built into Wir balancing and	ning feature, which used to be provided by network interface card (NIC) vendors, is ndows Server 2019. In Windows Server 2019, this feature is also called "load d failover (LBFO)". In the presence of the server 2019 NIC Teaming (LBFO) and specify any
			required setti	ngs.

### 3.2 Rapid Setup

This section describes how to install Windows Server 2019 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

Start
3.1 Precautions of Windows Server 2019 Installation
3.2 Rapid Setup
3.4 Standard Program Package Installation
3.5 Setting for collecting specific event logs
3.6 Setup of Device Drivers
3.7 License Authentication
3.8 Setup of Windows Server 2019 NIC Teaming (LBFO)
3.9 Installing Applications
4 Setting up for Maintenance
5 Backup of system information
ζ_
End of Rapid Setup

#### 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 2019 DVD-ROM*)
- Starter Pack
  - Starter Pack DVD (Optional or downloading from our website)
    - → The Starter Pack which supports Windows Server 2019 is "S8.10-010.01" or later. Download it from Web site.

#### 3.2.3 Installation procedure

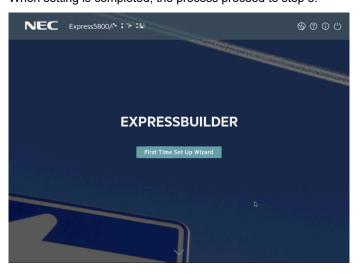
Note

Read the precautions in *Chapter 1 (3.1 Precautions of Windows Server 2019 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*.

3. The next screen is displayed, click **Rapid Setup**.

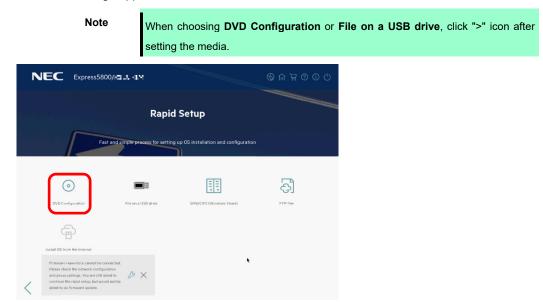
NEC Express5800/-1:14	(S) 命 戸 © ① (U)
EXPRESS	BUILDER
Rapid Setup	Perform Maintenance
	×

4. When the following window appears, click Skip.

$d^{\!$	an ai di Canton	×
Does your server need a wet proxy configuration below fi	b proxy server to access the Interne	et? Enter the web
Web Proxy Server *		Port
http://		8080
Web Proxy Server		Port
https://		8080
	Skip	connect
from the in		

#### 5. Select DVD Configuration.

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



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	Express5800/				
	ල <sup>ව</sup> DVD Config	uration		×	
	2 DVD-ROM I	Media			
0	۲	5	hp_DVD-ROM_DUDON /dev/sr0 Microsoft Windows Server *** *{Standard (Desktop Experience)		6]
	0		HPE DVDRW_GP70N /dev/sr1 not found		TP Site
Install OS from			k C	onnect	
<					

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

NEC	Express5800/HT TL 1	\$ A F O O U
RSS > Preparing Con	figuration	
Summary and Instal	1	
View/Edit Details:	Preparing a recommended RAID configuration .	
	С	
	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 the next screen is displayed, confirm the contents and proceed.

RSS > Preparing Configuration		
Summary and Install		
View/Edit Details:	Rapid Setup is not able to create a recommended array s the system found the detected RAID controller contain a	
OS Settings	logical drive.	
Storage Controllers	Click "Continue" and Rapid Setup will prepare the rest of configurations except a recommended array settings. All	
OS Volume Partitions	you can select to manually configure RAID from the Rap	
Firmware Update	Dashboard.	
	Click "Exit" if you wish to cancel the preparation and retu EXPRESSBUILDER.	im to
	Exit CONTINUE	
		•

7. 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.

	i800/ <b>F_1 \∔_I</b> -	\$ \$ \$ \$ 0 \$
RSS > Summary and Install		
Summary and Install		Accept Configuration
View/Edit Details: OS Settings Storage Controllers OS Volume Partitions Firmware Update	OS Settings 🖉	
	Media Source: DVD-ROM Media Operating System: Microsoft Windows Server 🔊 *Standard (Deskte	op Experience)
	Storage Controllers 🖉	
	Boot Controller: • I++San + Falk IX 3 3 • OS Drive • 1000 GB RAID1 (SATA HDD)	×
	OS Volume Partitions 🖉	
	Use Recommended Partition: Yes	
<	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.

Tips

When you connect multiple cage of hard disk drive, a part of information of box may not be displayed. This event does not affect system operation.

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 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.

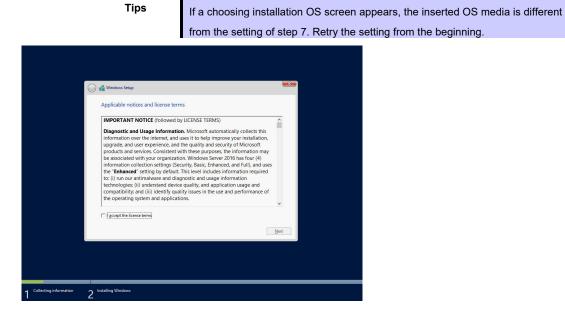
Firmware Update

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

b Viewer Server Status	*
Server Status	
Server Status	
${\mathcal Z}$ . Server has booted	
Job Status	
Express OS Install Copying (592KB / 20084 KB ) 75.1%	

9. Confirm the license terms.

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



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

	M Windows Setup	
	Status	
	Copying Windows (Bes 0%) Genting finite ready for installation Installing updates Finishing up	
1 Collecting information	2 Installing Windows	

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

### **Desktop Experience**

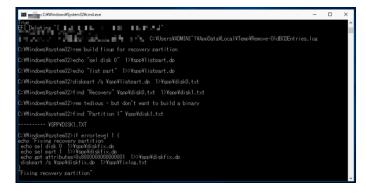
Type a password for the	built-in administrator ac	count that you can use	to sign in to this comp	uter.	
User name					
Password	1				
Reenter password					

Type a password and click **Finish**.

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

After signing in, installation automatically resumes.

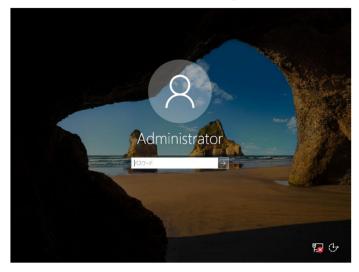
After installation is complete, the system automatically restarts.



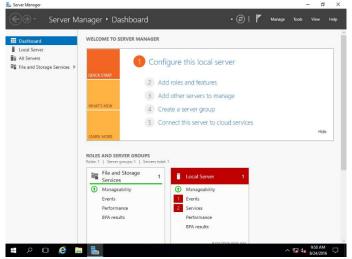
Press <Ctrl> + <Alt> + <Delete> key to unlock.



Enter the password and press <Enter> key.



Windows Server 2019 starts.

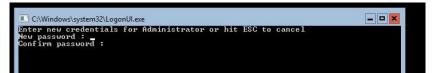


#### Server Core

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



Type a new password and press <Enter> key.



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

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

Windows Server 2019 starts.

Administrator: C:\Windows\system32\cmd.exe	
C:\Users\Administrator>	

11. 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. See Chapter 1 (3.5 Setting for collecting specific event log) to setup it.
- 14. Install drivers and specify detailed settings according to Chapter 1 (3.6 Setup of Device Drivers).
- 15. Confirm if Windows is activated according to Chapter 1 (3.7 License Authentication).
- 16. See Chapter 1 (3.8 Setup of Windows Server 2019 NIC Teaming (LBFO)) to setup a team as needed.
- 17. Install the applications as needed according to Chapter 1 (3.9 Installing Applications).
- 18. Set the other OS settings according to Chapter 1 (4. Setting up for Maintenance).
- 19. 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 2019 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

Start
3.1 Precautions of Windows Server 2019 Installation
3.3 Manual Installation
3.4 Standard Program Package Installation
3.5 Setting for collecting specific event logs
3.6 Setup of Device Drivers
3.7 License Authentication
3.8 Setup of Windows Server 2019 NIC Teaming(LBFO)
3.9 Installing Applications
4. Setting up for Maintenance
5. Backup of system information
End of Manual installation

## 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 2019 DVD-ROM)
- Starter Pack
  - Starter Pack DVD (Optional or downloading from our website)
    - $\rightarrow\,$  The Starter Pack which supports Windows Server 2019 is "S8.10-010.01" or later. 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 2019 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

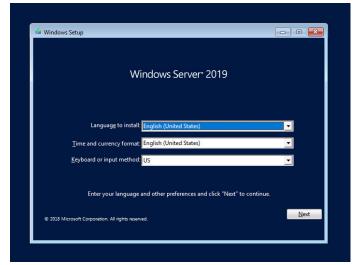
he message "Press any key to boot from CD or DVD..." is displayed on the upper of the screen. Press the <Enter> key to start from the media.



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.



5. Click Install now.

🖆 Windows Setup		- • ×
	Windows Server* 2019	
	Install now	
<u>R</u> epair your computer		
© 2018 Microsoft Corporation.	All rights reserved.	

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

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

ad driver	<u> </u>
	needs is missing. This could be a DVD, USB or Hard disk or USB flash drive with the driver on it, please insert it
Note: If the installation media t can safely remove it for this ste	for Windows is in the DVD drive or on a USB drive, you ep.

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 prod email you received after buying a digital Windows came in. The product key looks like this: X0000-X	Indows on this PC (or you're installing a different edition). Let key, Your product key yshould be in the continuation cogor di Windows on a leide inside the box that 2000r. X0000r. X0000r In't have a product key. Your copy of Windows will be
	<u>Privery statement</u>	don't have a product key. Next
$1^{^{Collecting information}}$	2 Installing Windows	
	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.

🚱 🔬 Windows Setup			
Select the operating system you want to install			
Operating system	Architecture	Date modified	
Windows Server 2019 Standard	x64	10/29/2018	
Windows Server 2019 Standard (Desktop Experience)	x64	10/29/2018	
Windows Server 2019 Datacenter Windows Server 2019 Datacenter (Desktop Experience)	x64 x64	10/29/2018 10/29/2018	
windows Server 2019 Datacenter (Desktop Experience)	XD4	10/29/2018	
Description: (Recommended) This option omits most of the Windows go command prompt and PowerShell, or remotely with Windo	aphical environmer ws Admin Center or	r other tools.	ext

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



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).

G	🔏 Windows Setup	3
	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 running on the computer.	
	Custom: Install Windows only (advanced) The files, settings, and applications aren't moved to Windows with this option. If you want to make changes to partitions and drives, start the compader using the installation dor. We recommend backing up your files before you continue.	
	Help me decide	

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

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

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

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

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

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

- 14. Select the following driver from the displayed list of drivers, and click Next.
  - Onboard RAID Controller : HPE Smart Array S100i SR Gen10 SW RAID
- 15. Click New.

-

Name	ocated Space	Total size 100.0 GB	Free space Type			
€ Befresh	Delete DEstend	€ormat	<mark>₩</mark> Ngw			
				Next		

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

	-	Name	vant to install Win		Total size 100.0 GB	Free space 100.0 GB	Туре	
	fa Br	fresh ad driver	X Delete	Size:	mat 102400	<mark>*</mark> №2₩ • MB	Apply Cen	
Collecting information	2 Installing	g Windows						



Windows 9	ietup 🔀
1	To ensure that all Windows features work correctly, Windows might create additional partitions for system files.
	OK Cancel

## Tips

When crea	iting a parti	tion, the OS	creates the	following p	partitions at	top of the	hard

- disk drive.
  - Recovery PartitionEFI System Partition (ESP)
  - Microsoft Reserved Partition (MSR)

17. Select the partition created in step 16, and then click Format.



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

Windows Setup         Where do you want to install Windows?         Name       Tatal size         Pres space       Type         Once 0 Paction 1: Recovery       490 M8       4120 M8         Once 0 Paction 1: Recovery       490 M8       4120 M8         Once 0 Paction 1: Recovery       490 M8       500 M8       System         Once 0 Paction 3       10.0 M8       MSR (Resover)         Once 0 Paction 4       99.4 G8       99.3 G8       Primary         Price 0 Paction 4       99.4 G8       99.3 G8       Primary         Price 0 Paction 4       99.4 G8       99.3 G8       Primary         Price 0 Paction 4       99.4 G8       99.4 G8       99.4 G8         One 0 Paction 4       99.4 G8       99.4 G8       99.4 G8         Primary       Primary       Primary       Primary	Windows Setup Where do you want to Install Windows? Name → Dinte B Pattion E: Recovery → Dinte B Pattion E: Recovery → Dinte B Pattion B: Recovery → Dinte B Pattion B: 160 MB → Dinte B Pattion B → Dinte B Patti						
Name         Total size         Free space         Type           Image: Drive 0 Partition 1: Recovery         499.9 M8         482.0 MB         Recovery           Image: Drive 0 Partition 2         100.0 M8         95.0 MB         System           Image: Drive 0 Partition 3         16.0 M8         16.0 MB         Meseved)           Image: Drive 0 Partition 4         99.4 GB         99.3 GB         Primary	Name     Total size     Free space     Type       Ohive 0 Pattion 1: Recovery     450 0 M8     452 0 M8     Recovery       Ohive 0 Pattion 3     150 M8     50 0 M8     Steerwed)       Ohive 0 Pattion 4     99 4 G8     99 3 G8     Pimary		🚱 🔬 Windows Setup				
			Where do you v	vant to install Wir	ndows?		
Inver B Partition 2         100.9 MB         950 MB         System           Drive D Partition 3         16.9 MB         156.9 MB         MSR (Pserved)           Drive D Partition 4         993 GB         993 GB         Primary	Drive D Particion 2 1000 MMS 500 MMS						
Drive 0 Partition 3     16.0 M8     16.0 M8     MSR (Reserved)     Drive 0 Partition 4     99.4 G8     99.3 G8     Primary      Partition     Partition     Partition     Partition     Partition     Partition			~				
fg fatrah X Delete ✔ Earnat ⊕ New	fe Bafredh X Date I format ⊕ Ngw @ Load driver ⊇ Egtend				16.0 MB		
	⊕ Load driver ⊇ Eptend		Drive 0 Part	ition 4	99.4 GB	99.3 GB P	rimary
	Not				🗬 Eormat	∦ Ngw	
		nformation	Installing Windows				
- Mattillian Mindows	- Institute Windows	Tormation	2				
2 Installing Windows	on 2 Installing Windows						
			Tips	The nu	mber of p	artitior	is disp

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.

	🖋 Windows Setup
	Installing Windows Seture Compare Number of the Certific files ready for installation (0%) Installing returns Installing optime Prenisting up
1 Collecting information	2 Installing Windows

The server will automatically restart after Windows Server 2019 is installed.

You will proceed to Windows setup after restart.

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

### **Desktop Experience**

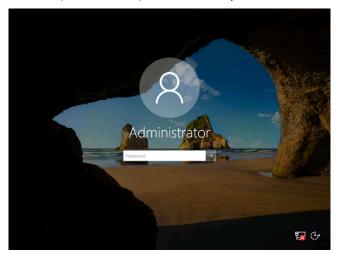
Type a password and click **Finish**.

Type a password for th	e settings ne built in administrator accou	nt that you can use to sign in to I	this computer	
User name	Administrator		and comparent	
Password				
Reenter password	•••••	Ŷ		
enter password	•••••	<u> </u>		

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



Enter the password and press <Enter> key.



#### Windows Server 2019 starts.

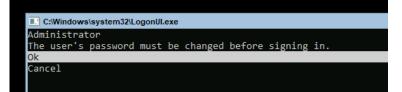
€)∋ - Ser	ver Manager + Dashboard	- 遼   🚩 Manage	Tools View Help
Dashboard	WELCOME TO SERVER MANAGER		
Local Server			
All Servers	🖾 Server Manager	×	
File and Storage Ser	Try managing servers with Windows Admin Center	ver	
	Windows Admin Center brings together new and familiar fe app. It runs on a server or a PC, and there's no additional o licenses.	ost beyond your Windows	
	Get more info at aka ms/WindowsAdminCenter	age	
	Don't show this message again	ud services	
	LEARN MORE		Hide
	Roles: 1   Server groups: 1   Servers total: File and Storage Services 1	Local Server 1	
	Manageability	Manageability	
	Events	Events	
	Performance	4 Services	
	BPA results	Performance	
		BPA results	
		11/20/2010 224 204	

#### Server Core

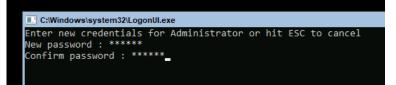
Press <Ctrl> + <Alt> + <Delete> keys to unlock.



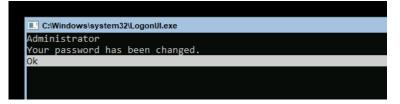
The password is needed to change. Choose OK and press <Enter> key.



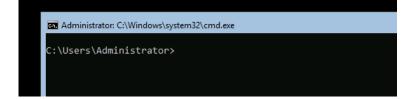
Enter a new password and press <Enter> key.



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



#### Windows Server 2019 starts.



- 20. See Chapter 1 (3.4 Standard Program Package Installation) to install SPP.
- 21. See Chapter 1 (3.5 Setting for collecting specific event logs) to set it.
- 22. Install drivers and specify detailed settings according to Chapter 1 (3.6 Setup of Device Drivers).
- 23. Confirm if Windows is activated according to Chapter 1 (3.7 License Authentication).
- 24. See Chapter 1 (3.8 Setup of Windows Server 2019 NIC Teaming (LBFO)) to setup a team as needed.
- 25. Install the applications as needed according to Chapter 1 (3.9 Installing Applications).
- 26. Set the other OS settings according to Chapter 1 (4. Setting up for Maintenance).
- 27. 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	<ul> <li>Make sure to update firmware by booting "Starter Pack DVD" before applying Standard Program Package. If you mistake procedure, the system may not start.</li> <li>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.</li> </ul>
	When the R120h-1M / R120h-1M (2nd-Gen) / R120h-2M / R120h-2M (2nd-Gen) / R110j-1 standard LAN adapter or N8104-171/178/179 is installed to the server
	Run <b>\packages\cp045019.exe</b> on the DVD. Although the message indicated that the latest version has already been installed may be displayed, proceed with the installation. After that, restart the server.
	When N8103-189/190/191/192/193/194/195/196/197/201/237/238 is installed to the server
	When the RAID controller is installed to the server, <b>\packages\cp047413.exe</b> on the DVD to install the driver. After that, restart the server.

## 3.4.1 Installing Standard Program Package on Desktop Experience

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

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

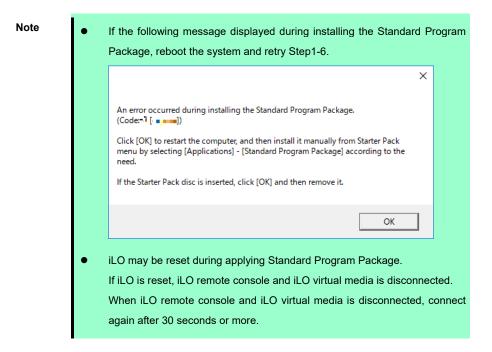
5. Choose Standard Program Package on the following screen, and then click Install.

Starter Pack			
Starter	Pack		NEC
	Integrated Installation		
	Install the following software. – Install Standard Program Package prior to ins – Uninstall the application prior to reinstalling t	stalling the application. the application.	
	<ul> <li>Standard Program Package</li> </ul>		
$\textcircled{\textbf{i}}$	Applications     INEC ESMPRO ServerAgentService	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
			Install

 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	



#### 7. Click OK.

Windows Script Host	×		
[SPP]Installing selected applic	ation was completed.		
	ОК		
Note	If the following message disp Package, click <b>No</b> to continue pr		he Standard Program
	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.
- 8. Windows Server 2019 restarts automatically.

Then, remove the Starter Pack DVD.



SPP installation is now complete.

## 3.4.2 Installing Standard Program Package on Server Core

- 1. Sign-in to the Windows with an Administrators privilege.
- 2. Set the Starter Pack DVD to the drive.
- 3. From the command prompt, type the following command.

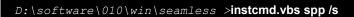
In the example below, the optical disk drive is the D drive.

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

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

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

instcmd.vbs spp /s

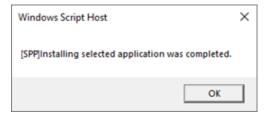


5. If you had updated firmware beforehand, click **OK** to start the installation of Standard Program Package.

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

	×
Starter Pack DVD, you co Package(SPP) by using t If you install the SPP be	fore updating the BIOS/FW included becomes failing to boot.
	OK Cancel
Note	<ul> <li>If the following message displayed during installing the Standard Program Package, reboot the system and retry Step1-5.</li> </ul>
	(SPP]Application setup failed.(Code:
	<ul> <li>iLO may be reset during applying Standard Program Package.</li> </ul>
	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.

#### 6. Click OK.



7. After removing the Starter Pack DVD, restart Windows Server 2019 manually.

SPP installation is now complete.

## **3.5** Setting for collecting specific event logs

Note

Run following (1) or (2) method, or Apply KB4490481 or later Cumulative Update. This symptom had been repaired by Windows Server 2019 Cumulative Update. Refer to Microsoft web site "Windows 10 and Windows Server 2019 update history" for latest Cumulative Update.

#### (1) Desktop Experience

Sign-in to the account with an Administrators privilege for following settings.

- 1. Press <Windows logo> + <R> key to start Run.
- 2. Type "gpedit.msc", and then press <Enter> key. Local Group Policy Editor is displayed.
- 3. Click Computer Configuration > Administrative Templates > System on the left pane.
- 4. Right-click Enable Persistent Time Stamp on the right pane, and then click Edit.
- 5. Check Enable on Enable Persistent Time Stamp screen.
- 6. Click Apply, and then confirm the contents and click OK.

The setting is now complete. Close Local Group Policy Editor.

#### (2) Server Core

Sign-in with the built-in Administrators privilege to Windows Server system which can recognize the Server Core Environment that have applied SPP by above procedure, for the following settings.

- 1. Press <Windows logo> + <R> key to start Run.
- 2. Type "mmc.exe", and then press <Enter> key. Console window is displayed.
- 3. Click Add/Remove Snap-in ... of File.
- 4. Select Group Policy Object Editor, and click Add.
- 5. Click Browse... of Select Group Policy Object window, and select Another Computer.
- 6. Input IP address or computer name, and click **OK**.
- 7. Click **OK** on Add or Remove Snap-ins window.
- Click <Server Core Environment> Policy > Computer Configuration > Administrative Templates
   System on the left pane of Console window.
- 9. Right-click Enable Persistent Time Stamp on the right pane, and then click Edit.
- 10. Check **Enabled** on Enable Persistent Time Stamp screen.
- 11. Click Apply, and then confirm the contents and click OK.

The setting is now complete.

Save settings as needed, and close Console window.

## **3.6** 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.

## 3.6.1 Installing the LAN drivers

## (1) LAN drivers

The drivers are installed by Standard Program Package.

Important	Wake On LAN (WOL) is supported by onboard network adapters and
	N8104-171/172/173/175/193/194/195/206/207/208 only. Wake On LAN is
	available after installing the LAN driver.
	For Wake On LAN of R120h-1E / R120h-2E / T120h onboard network
	adapters and N8104-172/175/193/194/195/206/208, when using Wake On LAN
	see Chapter 1 (3.6.2 Setting up LAN drivers - (3) Setting up Wake on LAN).
	BIOS settings, check Maintenance Guide.
Note	• To change the LAN driver settings, sign in to the system from a local console

• 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.
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
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
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.

### - Network adapters for the standard configuration

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)

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

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 F	Marvell FastLinQ Ethernet 10/25Gb 2-port SFP28 QL41232HLCU Adapter #xx(*1)			
N8104-212	Intel(R)	Ethernet Network Adapter E810-XXV-2 #xx(*1)			
*1: If there are adapters with the same name, a different identification number will be assigned					
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.			
Tips		The network adapter name displayed in the device manager may be different from the one listed above.			
		<ul> <li>In this case, the correct network adapter name can be displayed by following the procedure below.</li> <li>1. Start Device Manager.</li> <li>2. Open Network Adapters, right click on the relevant adapter, and select Uninstall Device.</li> <li>Do not check the Delete the driver software of this device checkbox</li> </ul>			
		Do not check the <b>Delete the driver software of this device</b> checkbox. 3 Select <b>Scan hardware change</b> from <b>Control</b>			

## 3.6.2 Setting up LAN drivers

## (1) Setting link speed

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

Tips

If you are using a network 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**.
- 2. Expand **Network Adapters**, and then double-click the name of the network adapter you want to configure.

The properties of the network adapter will be displayed.

3. On the Advanced tab, set the Speed & Duplex values to the same as those of the switching hub.

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. The default value of N8104-208/212 is disabled, so if Flow Control in the destination device is set as Enabled, enable the network adapter of N8104-208/212.

- 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 onboard 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 1 : Intel(R) Ethernet Network Adapter E810-XXV-2 for COP 3.0 xx:xx:xx:xx:xx:xx:xx
    - OCP Slot 10 Port 2 : Intel(R) Ethernet Network Adapter E810-XXV-2 for COP 3.0 xx: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.

### 3.6.3 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)*.

### 3.6.4 Using SAS Controller (N8103-184/E184)

The driver for SAS controller N8103-184/E184 is automatically installed by Windows Plug-and-Play.

## 3.6.5 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 Standard Program Package again according to *Chapter 1 (3.4 Standard Program Package Installation)*.

#### 3.6.6 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 Standard Program Package again according to *Chapter 1 (3.4 Standard Program Package Installation)*.

## 3.6.7 Using 480GB SSD Adapter for OS Boot (N8103-239)

The driver for the 480GB SSD Adapter for OS Boot (N8103-239) is automatically installed by Windows Plug-and-Play.

## 3.6.8 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)*.

## **3.7** License Authentication

To use Windows Server 2019, you need finish the license authentication procedure.

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

Note

To activate Windows Server 2019, enter the Product Key written on the COA (Certificate of Authenticity) label. The COA label of Windows Server 2019 is attached to the operating system media package. Windows Server 2019 Product Key: XX

## 3.7.1 Desktop Experience

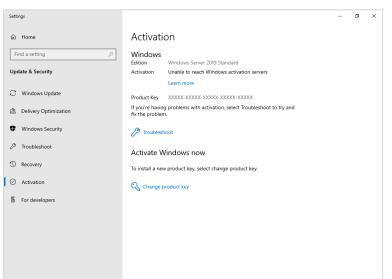
1. Right-click the lower left of the screen, and click **System** from the menu displayed.



2. Click Change product key or upgrade your edition of Windows.

Settings		-	0	×
û Home	About			
Find a setting $ ho$				
System	Windows specifications			
다 Display 데 Sound	Edition Windows Server 2019 Standard Version Installed on Studies			
Notifications & actions	Change product key or upgrade your edition of Windows Read the Microsoft Services Agreement that applies to our services			
	Read the Microsoft Software License Terms			
O Power & sleep				
📼 Storage				
B Tablet mode	Support			
H Multitasking	Website Online support			
✓ Remote Desktop	Related settings			
① About	System info			

#### 3. Perform license authentication.



## When connected to the Internet:

Click Change product key.

Complete license authentication process according to the message.

#### When not connected to the Internet:

Go to Step 4.

4. Perform the license authentication by phone.

Windows Server 2019 DVD-ROM:

Go to the appropriate step according to OS installation media you are using.

Backup DVD-ROM:

Go to Step 5.

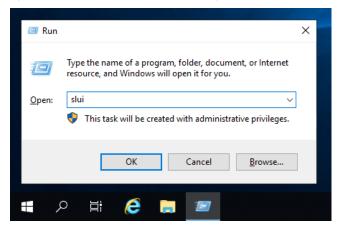
Product key is <u>already entered</u> :	Go to Step 8.
,	•

Product key is <u>not entered</u>: Go to Step 5.

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

<u>T</u> ask Manager		
Setti <u>n</u> gs		
File <u>E</u> xplorer		
<u>S</u> earch		
<u>R</u> un		
Sh <u>u</u> t down or sign out	>	
<u>D</u> esktop		

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



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

Enter a product key	
Enter a product key	
Your product key should be in an email from whoever sold or distri or on the box the Windows DVD or USB came in.	buted Windows to you,
Product key	
xxxxx-xxxxxx-xxxxxx	
	Next Cancel

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

<u>T</u> ask Manager	
Setti <u>n</u> gs	
File <u>E</u> xplorer	
<u>S</u> earch	
<u>R</u> un	
Sh <u>u</u> t down or sign out	
<u>D</u> esktop	

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

🖅 Run		×	
	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.		
<u>O</u> pen:	slui 4 ~		
	This task will be created with administrative privileges.		
	OK Cancel <u>B</u> rowse		
<b>.</b> <i>. . .</i>	o et 🤅 📜 🜌		

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

Get the installation ID required for license activation.

€	Call a	nd pr	ovide	your i	nstalla	tion	D				
	Call one of these numbers. The automated phone system will ask for your installation ID (IID). Some charges may be applied by local operators for toll-free numbers in certain countries or regions.										
	Toll free: 855-801-										
	<b>Toll:</b> not availa	able									
	Installati	on ID:									
	0000000	0000000	0000000	0000000	0000000	0000000	0000000	0000000	0000000		
							Enter co	onfirmatio	n ID	Cancel	

11. Call the Microsoft license activation hotline and then tell your installation ID.

Type the confirmation ID, and then click Activate Windows.

Enter your confirmation ID     The automated phone system will tell you what to enter.									
	A	В	С	D	E	F	G	н	
	-								
					[	Activate Wi	ndows	Cancel	]

The authentication is now complete.

## 3.7.2 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 2019 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 %systemroot%\system32\sppui\phone.inf 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.

## 3.8 Setup of Windows Server 2019 NIC Teaming (LBFO)

Set up the network adapter teaming feature as shown below.

### 3.8.1 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.

## *3.8.2* Creating a team

Create a team by using the NIC teaming setup tool.

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

#### Teaming mode

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

Load balancing mode

Address Has	Distributes the load based on IP addresses and port numbers.
Hyper-V Po	t Distributes the load to each of the virtual switch ports used by the virtual machines.
Dynami	• 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.

#### *3.8.3* Removing a team

Remove a team by using the NIC teaming setup tool.

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

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

- 2. In the Teams section, select the team to remove.
- 3. In the Teams section, under Tasks, select Delete.
- 4. The message box to confirm appears, then click Delete team.

### 3.8.4 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.
- When a team is removed, the following error message may be logged in the system event log.

You can safely ignore this error message.

Level	Error
Source	Microsoft-Windows-NDIS
Event ID	10317
Task Category	PnP
Message	Miniport Microsoft Network Adapter Multiplexor Driver, {xxxxxxx-xxxx-
	xxxx-xxxx-xxxxxxxxxxxx}, 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)

In a Windows Server Failover Cluster environment, heartbeat interruption or failover may occur if you
configure Active-Standby teaming. To avoid this, you should configure multiple NICs in Active Mode in a
team so that all the NICs do not fail simultaneously.

• In a Hyper-V environment, the following warning message may appear when a teaming adapter is bound to a virtual switch. There is no problem for the operation unless this message is output multiple times at one time.

Level	Warning
Source	Microsoft-Windows-MsLbfoSysEvtProvider
Event ID	16945
Message	MAC conflict: A port on the virtual switch has the same MAC as one of the
	underlying team members on Team Nic Microsoft Network Adapter Multiplexor
	Driver

Refer to the following website for the latest information.

https://www.58support.nec.co.jp/global/download/w2019/index.html

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

## **3.9** 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 **only available on Desktop Experience**.

System reboot is required after installing applications.

Tips

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

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	
i	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	Applications available for installation are chosen by default.			
	• If your system environment does not satisfy the prerequisite for an application,			
	you cannot install it. For details, see the on-screen information and the manual			
	of each applications.			
	<ul> <li>To collect product information using a device information collection utility,</li> </ul>			
	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 <b>No</b> 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

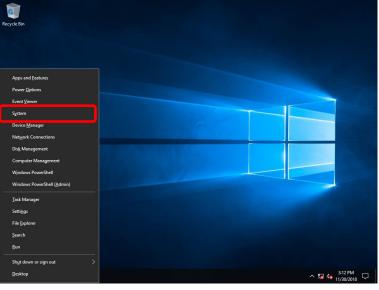
We recommend setting up the following features for maintenance.

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

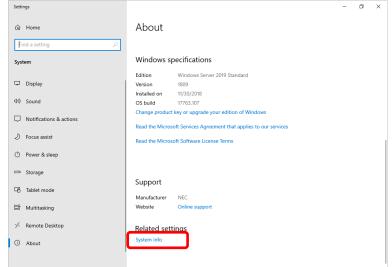
This section explains the procedures for collecting a memory dump (debug information) in the server.

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.

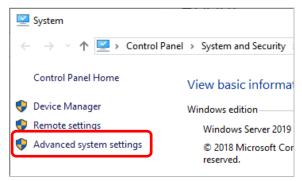
1. Right-click the left bottom of screen, and click System from the menu displayed.



#### 2. Click System info.



### 3. Click Advanced system settings.



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

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

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

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

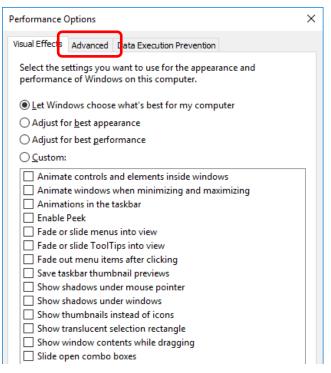
Note the following when specifying a dump file:

- We recommend specifying Kernel memory dump for Write debugging information.
- Specify a drive that has a free space of at least "the memory capacity mounted on the server 400 MB".
- The size of the debug information (memory dump) changes if DIMM is added. Make sure that the free space of the drive to store the debug information (memory dump) is sufficient.

### 6. In Performance, click Settings.

System Propertie	es					×
Computer Name	Hardware	Advanced	Remote			
You must be lo Performance Visual effects					2	i.
					<u>S</u> ettings	)
User Profiles Desktop setti	nce related t	o vour eign in				
Desktop setti	ngs related t	o your signan		_		
					S <u>e</u> ttings	
Startup and F	lecovery					
System startu	p, system fai	lure, and deb	ugging inf	ormation		
					Settings	
			[	Enviro <u>n</u> me	nt Variables	
		ОК		Cancel	<u>A</u> pply	

7. Click the Advanced tab on the Performance Options window.



8. In Virtual memory, click Change....

Performance (	Options			×	
Visual Effects	Advanced	Data Execution Pre	vention		
Choose h		ate processor resou	urces.		
Adjust fo	r best perfo	rmance of:			
⊖ <u>P</u> rogra	○ Programs				
were RAN	file is an an M.	ea on the hard disk for all drives:	that Windows uses as 8192 MB	_	

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

size.

Virtual Memory	×
<u>A</u> utomatically manage paging file size for all drives	
Paging file size for each drive	
Drive [Volume Label] Paging File Size (MB)	
C: System managed	
Selected drive: C:	
Space available: 366520 MB	
Custom size:	
initiai size (iviB):	
Ma <u>x</u> imum size (MB):	
○ System managed size	
○ No paging file Set	
Total paging file size for all drives	
Minimum allowed: 16 MB	
Recommended: 1889 MB	
Currently allocated: 8192 MB	
OK Cancel	

10. In **Paging file size for each drive**, enter the value equal or larger than the recommended value for **Initial size**, and the value larger than **Initial size** for **Maximum size**, and then click **Set**.

Virtual Memory	×
Automatically manage Paging file size for each o Drive [Volume Label]	e paging file size for all drives drive Paging File Size (MB) System managed
Selected drive: Space available:	C: 366520 MB
① <u>C</u> ustom size: <u>I</u> nitial size (MB): Maximum size (MB):	
<ul> <li>System managed size</li> <li><u>N</u>o paging file</li> </ul>	e <u>S</u> et
Total paging file size for	all drives
Minimum allowed:	16 MB
	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 + 1,100MB when the total size is 4 TB or more) is enough to store the dump file. Make sure to specify a sufficient paging file size.
- See "System Partition Size" in Chapter 1 (3.1 Precautions of Windows Server 2019 Installation) for recommended value.
- When DIMM is added, re-specify the paging file according to the increased memory size.
- If an error occurs in setting the paging file to a drive exceeding 2TB, close [Virtual memory] and [Performance Options], and then set in the following way.

ex. Setting the paging file in drive C with 4096 MB as Initial size, 8192MB as Maximum size.

- Start command prompt as Administrator and execute the following command. wmic computersystem set AutomaticManagedPagefile=false wmic pagefileset delete
- 2. Restart the Windows system.
- Start command prompt as Administrator and execute the following command. wmic pagefileset create name="C:\pagefile.sys"
  - wmic pagefileset set InitialSize=4096, MaximumSize=8192
- 4. Restart the Windows system.

#### 11. Click OK.

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

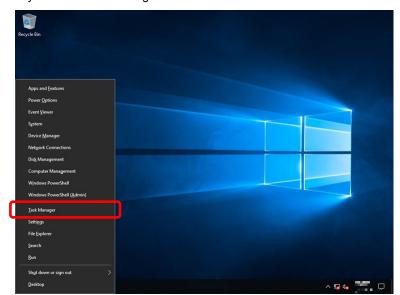
Specification of the memory dump settings is now complete.

## **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.



2. Click More details.

🕎 Task Manager	-		×
	There are no running apps		
⊘ More <u>d</u> etails		<u>E</u> nd	task

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

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

Tips	If the folder is not tab.	displayed, open Explorer	, select <b>Hidden items</b> i	n the <b>View</b>
	I     Image: Second state       File     Home	tor View		- □ × + 0
	Navigation Details pane	Extra large icons Large icons     Medium icons     Singli Icons     Elit     List     Exourt	Sort Hidden items	Hide selected items

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 system settings contained in system utility.
   See User's Guide (2. Description on System Utility) for details of system utility.
- 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.

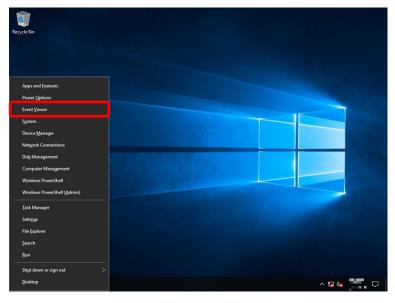
## **I.I** Collecting Event Logs

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.

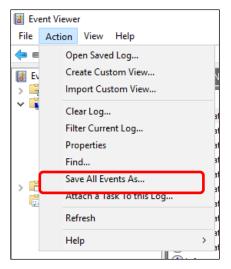
Application records events related to running applications.

Security records events related to security.

System records events that occur in Windows system components.

🛃 Event Viewer						-	٥	×
File Action View Help								
🗢 🔿 🙋 📰								
🛃 Event Viewer (Local)	Windows Logs				Actio	ins		
> 📑 Custom Views 🗸 👔 Windows Logs	Name	Туре	Number of Events	Size		lows Logs		•
Application	Application	Administrative	403	1.07 MB	<i>i</i>	Open Saved L	.og	
E Security	Security	Administrative	1,337	1.07 MB	7	Create Custo	m View	
Setup	Setup	Operational	0	68 KB	1	Import Custo	m View	
System	System Forwarded Events	Administrative	1,394	1.07 MB		View		•
> Porwarded Events > Porwarded Events > Porwarded Events		Operational	0	0 Bytes		Refresh		- ·
Subscriptions								
					?	Help		•
					Appl	ication		•
						Open		
						Properties		
					?	Help		

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



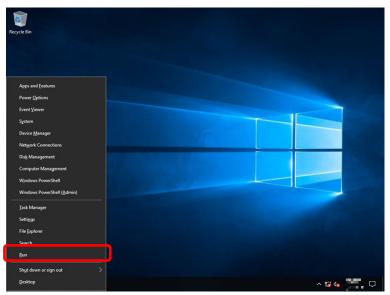
- 4. Type the file name of the archived log in **File name**.
- 5. Select the type of the log file you want to save in **Save as type**, and then click **Save**.

## **1.2** Collecting Configuration Information

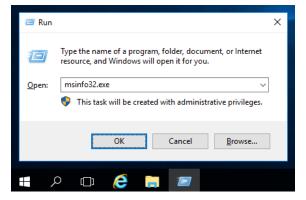
This section describes how to collect hardware information or configuration.

 
 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 **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 your document before sending it for repair. If an item in the checklist corresponds with a problem you are experiencing, follow the processing instructions. The other contents check Maintenance Guide.

## **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 (3.6 Setup of Device Drivers) and Chapter1 (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 2019

Note

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:

	following folder from Starter Pack DVD to a removable media in
advance.	

- 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 on-board RAID controller:

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

Tips	• When the server configures an on-board 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
	• The volume label for each drive can be checked from the display result of the
	dir command.
	Example: <b>dir C:</b> \

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 Logs

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

All Windows OS

"System Log"

1	VDS Basic Provider	Error	Unexpected failure. Error code : 32@01000004		
	At the time of a USB Device of	onnection	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)		
	When applying Standard Program Package		This event does not affect system operation.		
51	51 Cdrom Warning When installing an OS		Error detected on the device \Device\CdRom0 during the paging operation.		
51			This event may be registered in the event viewer, but this does not affect system operation.		
56	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.		

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

## All Windows OS "System Log"

56	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 XXXXXXXXXXXXXXXXXXX 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, startin applying Starter Pack	ig system, or	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)
129	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)
129	While the system is running		Even if the message is registered in the log, there is no problem because the OS has successfully completed the retry. You don't need any changes.
	Disk	Warning	Disk x is suddenly removed.
157	When creating a RAID		If you create new RAID on Windows, this event can be registered, but this does not affect the 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 : 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. $_{\circ}$

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 : 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.
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.
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, starting system, or applying Standard Program Package		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, 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 logge	d	Action

## All Windows OS "System Log"

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 P	ackage	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 logge	d	Action

4	l2nd	Warning	HPE Ethernet 10Gb 2-port 530SFP+ Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
4	l2nd	Warning	HPE Ethernet 10Gb 2-port 530T Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
4	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
4	l2nd	Warning	HPE FlexFabric 10Gb 2-port 533FLR-T Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
4	l2nd	Warning	QLogic BCM57810 10 Gigabit Ethernet (NDIS VBD Client) #xx: The network link is down. Check to make sure the network cable is properly connected.
	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
4	l2nd2	Warning	HPE Ethernet 10/25Gb 2-port 622FLR-SFP28 Converged Network Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
	When installing an OS, startir applying Standard Program Pa		This event does not affect system operation.
4	l2nd2	Warning	HPE Ethernet 10Gb 2-port 521T Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
4	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
4	l2nd2	Warning	HPE Ethernet 10/25Gb 2-port 621SFP28 Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
4	l2nd2	Warning	Marvell FastLinQ Ethernet 10Gb 2-port BaseT QL41132HQRJ OCP3 Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
4	l2nd2	Warning	Marvell FastLinQ Ethernet 10Gb 2-port BaseT QL41132HLRJ Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
	When installing an OS, 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 logge	d	Action

4	l2nd2	Warning	Marvell FastLinQ Ethernet 10/25Gb 2-port SFP28 QL41232HLCU Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
4	l2nd2	Warning	QLogic FastLinQ QL410000 Series Controller (VBD Client) #xx: The network link is down. Check to make sure the network cable is properly connected.
	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
	q57nd60a	Warning	HPE Ethernet 1Gb 2-port 332i Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
4	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
_	q57nd60a	Warning	HPE Ethernet 1Gb 2-port 332T Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
4	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
4	q57nd60a	Warning	HPE Ethernet 1Gb 4-port 331i Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
4	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
4	q57nd60a	Warning	HPE Ethernet 1Gb 4-port 331T Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
4	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
4	q57nd60a	Warning	HPE Ethernet 1Gb 4-port 331FLR Adapter #xx: The network link is down. Check to make sure the network cable is properly connected.
4	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 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:XX:XX:XX:XX:XX:
-	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
9	qefcoe	Warning	The SAN link is down for port WWN XX:XX:XX:XX:XX:XX:XX:XX:XX Check to make sure the network cable is properly connected. (X is any number)
-	When installing an OS, 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		Action

			HPE Ethernet 1Gb 2-port 361T Adapter #xx
07	e1rexpress	Warning	Network link is disconnected.
27	When installing an OS, starting applying Standard Program Pac	-	This event does not affect system operation.
	e1rexpress	Warning	HPE Ethernet 1Gb 4-port 366T Adapter #xx
27	enexpress	wanning	Network link is disconnected.
	When installing an OS, starting applying Standard Program Pac	•	This event does not affect system operation.
	e1rexpress	Warning	HPE Ethernet 1Gb 4-port 366FLR Adapter #xx
27	enexpress	Warning	Network link is disconnected.
	When installing an OS, starting applying Standard Program Pac		This event does not affect system operation.
			Intel(R) Ethernet Network Adapter I350[xx,xx,xx]
	e1rexpress	Warning	Network link is disconnected.
27			* "x" depends on the system environment.
	When installing an OS, starting applying Standard Program Pac		This event does not affect system operation.
			Intel(R) Ethernet Server Adapter I350-T4 #xx
27	e1rexpress Warning		Network link is disconnected.
21	When installing an OS, starting applying Standard Program Pac		This event does not affect system operation.
			Intel(R) I350 Gigabit Network Connection #xx
	e1iexpress	Warning	Network link is disconnected.
27	When installing an OS, starting applying Standard Program Pac		This event does not affect system operation.
		Warning	Intel(R) Ethernet Server Adapter I350-T4 #xx
	e1iexpress		Network link is disconnected.
27	When installing an OS, starting system applying Standard Program Package		This event does not affect system operation.
			Intel(R) Ethernet Server Adapter I350-T4 #xx
	e1iexpress	Warning	Network link is disconnected.
27	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
			HPE Ethernet 10Gb 2-port 562FLR-T Adapter #xx
	ixgbs	Warning	Network link is disconnected.
27	When installing an OS, starting applying Standard Program Pac		This event does not affect system operation.
			HPE Ethernet 10Gb 2-port 562T Adapter #xx
	ixgbs	Warning	Network link is disconnected.
27	When installing an OS, starting applying Standard Program Pag		This event does not affect system operation.
			Intel(R) Ethernet Controller X550 #xx
	ixgbi	Warning	Network link is disconnected.
27	When installing an OS, starting applying Standard Program Pac	system, or kage	This event does not affect system operation.

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

		<b>1</b>	
27	ixgbi	Warning	HPE Ethernet 10Gb 2-port 562T Adapter #xx Network link is disconnected.
21	When installing an OS starting system or		This event does not affect system operation.
	i40ea	Warning	HPE Ethernet 10Gb 2-port 562SFP+ Adapter #xx Network link is disconnected.
27	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
07	i40ea	Warning	HPE Ethernet 10Gb 562SFP+ Adapter #xx Network link is disconnected.
27	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
07	i40ea	Warning	HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter Network link is disconnected.
27	When installing an OS, startir applying Standard Program Pa		This event does not affect system operation.
07	i40eb	Warning	HPE Ethernet 1Gb 2-port 368i Adapter #xx Network link is disconnected.
27	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
07	i40eb	Warning	HPE Ethernet 1Gb 4-port 369i Adapter #xx Network link is disconnected.
27	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
07	i40eb	Warning	HPE Ethernet 1Gb 2-port 368FLR-MMT Adapter #xx Network link is disconnected.
27	When installing an OS, startir applying Standard Program Pa	• •	This event does not affect system operation.
07	i40eb	Warning	HPE Ethernet 10Gb 2-port 568FLR-MMSFP+ Adapter #xx Network link is disconnected.
27	When installing an OS, startir applying Standard Program Pa		This event does not affect system operation.
27	i40eb	Warning	HPE Ethernet 10Gb 2-port 568FLR-MMT Adapter #xx Network link is disconnected.
21	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
27	i40ei65	Warning	The description for Event ID 27 from source i40ei65 cannot be found Either the component that raises this event is not installed on you local computer or the installation is corrupted. You can install of 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

		Γ	
27	icea	Warning	Intel(R) Ethernet Network Adapter E810-XXV-2 for OC Network link is disconnected.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
	icea	Warning	Intel(R) Ethernet Network Adapter E810-XXV-2 #xx Network link is disconnected.
27	When installing an OS, startin applying Standard Program Pa		This event does not affect system operation.
38	l2nd2	Warning	HPE Ethernet xGb x-port xxxx Adapter : NDIS-Miniport is no compatible(older or newer) with bus driver. Hence only basic L functionality is available. * "x" depends on the system environment.
	When applying Standard Program Package		This event does not affect system operation.
38	l2nd2	Warning	QLogic FastLinQ QL410000 Series Controller (VBD Client) #xx NDISMiniport is not compatible (older or newer) with bus drive Hence only basic L2 functionality is available. * "x" depends on the system environment.
	When installing an OS, starting system, or applying Standard Program Package		This event does not affect system operation.
56	qebdrv	Warning	NTPNP_PCIxxxx: RDMA has been implicitly disabled due to RDM interface incompatibility between NDIS Miniport (ver x.xx.xx.x) an VBD (ver x.xx.x.x) drivers. VBD driver upgrade is required. * "x" depends on the system environment.
	When applying Standard Program Package	-	This event does not affect system operation.
57	qebdrv	Warning	NTPNP_PCIxxxx: RDMA has been implicitly disabled due to RDM interface incompatibility between NDIS Miniport (ver x.xx.xx.x) an VBD (ver x.xx.x.x) drivers. NDIS Miniport upgrade is required. * "x" depends on the system environment.
	When 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 imag than expected. Please install the most recent version of the networ 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 imag than expected. Please install the most recent version of the networ 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.

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

		1	
69	i40ei65	Warning	The description for Event ID 69 from source "i40ei65" 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.
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 applying Standard Program Pa		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.
129	SmartDQa	Warning	Reset was issued to the device \Device\RaidPort(x). (x is any number)
120	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)
129	While the system is running		Even if the message is registered in the log, there is no problem because the OS has successfully completed the retry. You don't need any changes.
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,0x1'. NtpClient will try again in 15 minutes and double the reattempt interval thereafter. The error was: No such host is known. (0x80072AF9)
	While the system is running		This event does not affect system operation if it is not recorded after connecting to the internet.
	Disk	Warning	Disk x is suddenly removed.
157	When creating a RAID		If you create new RAID on Windows, this event can be registered, but this does not affect the system operation.
			·

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

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.
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.
7000	Service Control Manager	Error	"xxxxxxx service terminated with the following error: A device attached to the system is not functioning."
7023	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.
	Service Control Manager	Error	The Spooler service terminated with the following error: Ran out of memory
7023	When installing an OS		<ol> <li>There is no problem when it occurs at following conditions.</li> <li>Occurs once during OS installation, and it does not register continuously.</li> <li>After sign-in to the system, the service started normally.</li> </ol>
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
	While the system is running		This event does not affect system operation.
	Microsoft-Windows- WinRM	Warning	The WinRM service is not listening for WS-Management requests.
10149	When restarting an OS		There is no problem to ignore it when WinRM event 10148 (The WinRM service is not listening for WS-Management requests.) is registered after soon.

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

## Windows Server 2019 "Application Event Log"

86	Microsoft-Windows-Certificate ServicesClient-CertEnroll	Error	SCEP Certificate enrollment initialization for XXXXXXX via https://STM-Keyld-1adb994ab58be57a0cc9b900e7851e1a43c0866 0.microsoftaik.azure.net/templates/Aik/scep
	When running an OS.		This event does not affect system operation. This event may be registered on the system that TPM is installed and has no connectivity to the internet.
1015	Microsoft-Windows- Security-SPP	Error	Detailed HRESULT. Returned hr=0xC004F022, Original hr=0x******
1013	When restarting an OS		This event does not affect system operation if it is not recorded repeatedly after activating the Windows.
3007	EvntAgnt	Warning	Error opening event log file Parameters. Log will not be processed. Return code from OpenEventLog is 87.
	When SNMP is effective		Every restarting it's registered, it's no problem.
3007	EvntAgnt	Warning	Error opening event log file State. Log will not be processed. Return code from OpenEventLog is 87.
	When SNMP is effective		Every restarting it's registered, it's no problem.
8198	Microsoft-Windows- Security-SPP	Error	License Activation (slui.exe) failed with the following error code: hr=0x****** Command-line arguments: RuleId=*******************
	When restarting an OS		This event does not affect system operation if it is not recorded repeatedly after activating the Windows.

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

## Windows Server 2019 "Applications and Services Logs"

	Microsoft-Windows-	Error	Witness Client initialization failed with error (The system cannot find
1	SMBWitnessClient		the file specified.)
	When installing an OS		This event does not affect system operation if it is recorded only on the first startup and not recorded repeatedly.
	Microsoft-Windows- AppModel-Runtime		Failed with 0x490 modifying AppModel Runtime status for package
69		Error	**************************************
69			status = 0x20).
	When running an OS for the firs	t time	This event does not affect system operation if it is recorded only on the first startup and not recorded repeatedly.
	Microsoft-Windows-	Warning	A connection to the Windows Update service could not be
200	DeviceSetupManager	Warning	established.
	While the system is running		This event does not affect system operation if it is not recorded after connecting to the internet.
	Microsoft-Windows-	Morning	A connection to the Windows Metadata and Internet Services
201	DeviceSetupManager	Warning	(WMIS) could not be established.
201	While the system is running		This event does not affect system operation if it is not recorded after connecting to the internet.
	Microsoft-Windows-		
202	DeviceSetupManager	Warning	The Network List Manager reports no connectivity to the internet.
202	While the system is running		This event does not affect system operation if it is not recorded after
	While the system is running		connecting to the internet.
			'ART:UserFirstLogon' failed for <user>.</user>
	AppReadiness	Error	Error:'Illegal operation attempted on a registry key that has been
215			marked for deletion.' (0 seconds)
	When installing an OS		This event does not affect system operation if it is not recorded repeatedly.
			Windows Hello for Business provisioning will not be launched.
			Device is AAD joined ( AADJ or DJ++ ): Not Tested
			User has logged on with AAD credentials: No Windows Hello for Business policy is enabled: Not Tested
	Microsoft-Windows-User		Windows Hello for Business post-logon provisioning is enabled: Not
	Device Registration	Warning	Tested
360			Local computer meets Windows hello for business hardware requirements: Not Tested
			User is not connected to the machine via Remote Desktop: Yes
			User certificate for on premise auth policy is enabled: Not Tested
			Machine is governed by none policy.
	When restarting an OS		There is no problem when it occurs at the environment that is not registered to Microsoft Azure AD.

## **Revision Record**

Document Number	Date	Notes
CBZ-002473-259-00	December 2021	The first edition