Express 5800





NEC Express Server Express5800 Series

Express5800/R320c-E4

Model Number: N8800-173F, EXP320P

Express5800/R320c-M4

Model Number: N8800-174F, EXP320Q

Installation Guide (VMware)

Chapter 1 Installing OS

Chapter 2 Installing Bundled Software

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Documents Provided with This Product

Documents for this product are provided as accompanying booklets (\square) and as electronic manuals (\blacksquare) stored within EXPRESSBUILDER DVD (\bigcirc).

\square	Precautions for Use	Describes points of caution to ensure the safe use of this server. <u>Read</u> these cautions before using this server.
\square	Getting Started	Describes how to use this server, from unpacking to operations. Refer to this guide as you begin for an overview of this server.
<u> </u>		
	Jser's Guide	
	Chapter 1: General Description	Overviews, names, and functions of the server's parts
	Chapter 2: Preparations	Installation of additional options, connection of peripheral devices, and ideal location for this server
	Chapter 3: Setup	System BIOS configurations and summary of EXPRESSBUILDER
	Chapter 4: Appendix	Specifications and other information
	nstallation Guide	
	Chapter 1: Installing OS	Installation of OS and drivers, and important information for installation
	Chapter 2: Installing Bundled Software	Installation of bundled software, such as NEC ESMPRO
	Maintenance Guide	
	Chapter 1: Maintenance	Server maintenance and troubleshooting
	Chapter 2 Configuring and Upgrading the System	Configure hardware and setup management tool associated with hardware
	Chapter 3: Useful Features	Useful features and the detail of system BIOS settings, SAS Configuration Utility, and EXPRESSBUILDER
	Other documents Provides the detail of NEC ES	SMPRO and the other features.

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Notations Used in This Document

Notations used in the text

In addition to safety-related symbols urging caution, 3 other types of notations are used in this document. These notations have the following meanings.

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

Optical disk drives

This server is equipped with one of the following drives, depending on the order at the time of purchase. These drives are referred to as *optical disk drives* in this document.

- DVD-ROM drive
- DVD Super MULTI drive

Hard disk drives

Unless otherwise stated, hard disk drives (HDD) described in this document refers to the following.

• Hard disk drives (HDD)

Removable media

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

- USB memory
- Flash FDD

POST

POST described in this document refers to the following.

• Power On Self-Test

BMC

BMC described in this document refers to the following.

• Baseboard Management Controller

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

Industry Canada Class A Emission Compliance Statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

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

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	매자 또는 사용자는 이	졈을 주의하시기 바라
2	며, 가정외의 지역에서 /	사용하는 것을 목적으
	로 합니다.	
	Registration NO.	: KCC-REM-NEC-EXP320Q
	Basic Model Number	: EXP320Q
	Trade Name or Registra	nt: NEC CORPORATION
	Equipment Name	: FT Server
	Manufacturer	: NEC CORPORATION

Turkish RoHS information relevant for Turkish market

EEE Yönetmeliğine Uygundur.



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Keep this document nearby so that you may refer to it as necessary.

Latest editions

This document was created based on the information available at the time of its creation. The screen images, messages and procedures <u>may differ from the actual screens, messages and procedures.</u> Substitute as appropriate when content has been modified.

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

http://www.nec.com/

NEC Express5800Series Express5800/R320c-E4, R320c-M4

Installing OS

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

- Setup Procedure
 Describes how to set up VMware.
- Procedures after Completion of Installation
 Describes how to confirm kernel version and ft control software version, and precautions when changing configuration after setup.

1. Setup Procedure

The flow-chart below illustrates the flow of the setup procedures for the server.



1.1 Requirements for Setup

The followings are required.

Components provided with the device:

- □ ft control software 5.0.1 for VMware vSphere5.1 Update1 Install DVD
- User's Guide
- □ Installation Guide (this manual)
- □ Maintenance Guide

VMware vSphere 5.1 Update1 Media:

Download the install image for VMware vSphere ESXi 5.1 Update1 (VMware's original) from the VMware's web site below.

https://my.vmware.com/web/vmware/details?productId=285&rPId=2769&downloadGroup=VCL-VSP 510-ESXI-51U1

This web site is subject to change or delete without notice.

- ESXi 5.1 Update 1 ISO image (Includes VMware Tools) VMware-VMvisor-Installer-5.1.0.update01-1065491.x86_64.iso
 - Important ft control software 5.0.1 is applicable to VMware vSphere ESXi 5.1 Update1 only. Do not install any other version of ESXi.

VMware vSphere Client:

This component is required to configure the VMware vSphere ESXi installed on ft server.

1.2 Preparations for Setup

Before SETUP, be sure to do the following.

IF YOU DO NOT PREPARE, SETUP CANNOT BE PERFORMED PROPERLY.

1.2.1 Prepare NEC Express5800/ft series

The components shown below are required for setup.



With the power of NEC Express5800/ft series off, follow the steps below:

Note Make sure that the System POWER LED on the front panel is unlit.

1. Prepare NEC Express5800/ft series.

Follow the instructions below to prepare.

<When installing or reinstalling ESXi to the internal disk>

- Disconnect all power cords from outlet.
- Install a hard disk drive in slot 0 of CPU/IO module 0. Do not install any hard disk drive in CPU/IO module 1.
- Remove all the optional PCI boards.
- Remove all the LAN cables.

 Installation must be performed on the device that is actually used. Do not use any hard disk drive of which system is installed on other device.

- Install only one hard disk drive in the slot specified here. If two or more hard disk
 drives are installed, the destination disk to install an OS cannot be identified.
- If the hard disk drive is not a new one, physically format it. Refer to *Chapter 3* (3. *SAS Configuration Utility*) in *Maintenance Guide* for physical formatting.

<When installing or reinstalling ESXi to the external storage>

- Disconnect all power cords from outlet.
- Remove all the internal hard disk drives.
- If the FC card is not mounted, insert the FC cards into the same slot of each CPU/IO module.
- Connect each FC card and external storage with FC cables.
- Remove all the optional PCI boards except FC card and peripheral equipments except external storage.
- Remove all the LAN cables.
- 2. Connect power cords in the following order to start the system from CPU/IO module 0.
 - (1) Connect a power cord to AC inlet connector A.
 - (2) Connect a power cord to AC inlet connector B.

Important	Make sure that the PRIMARY LED on CPU/IO module 0 is lit.			
Note	If you disconnect a power cord, wait for at least 30 seconds before connecting it again.			
Note	If you disconnect power cord (AC cable) and connect it again, wait for at least 30 seconds			
	before pressing the POWER switch (DC) to power on. Make sure that Module POWER LEDs on both CPU/IO modules 0 and 1 are blinking, then press the POWER switch.			

1.2.2 Prepare external storage device

Note the following when installing ESXi on the external storage device.

Disk size required for installation

Secure at least 25 GB area in boot LUN to install the ESXi host and the ft control system.

1.3 Enabling internal disk

The following procedure shows when installing or reinstalling ESXi to the internal disk. Go to "1.4 Enabling FC card" when installing or reinstalling ESXi to the external storage.

1. Turn on the display and the peripheral equipment connected to the NEC Express5800/ft series.

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

2. Detach the front bezel.

Note

3. Press the POWER switch that is located on the front side of the server.

Lift the acrylic cover, and press the POWER switch.



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

Tips While the "NEC" logo is displayed on the screen, NEC Express5800/ft series performs a power-on self test (POST) to check itself. For details, refer to *Chapter 3 (1.1 POST Check)* in *User's Guide*.

If the server finds errors during POST, it will interrupt POST and display the error message. Refer to *Chapter 1 (6.2 POST Error Message)* in *Maintenance Guide*.

POWER switch

4. Power on the server, and run POST.

After a while, the following message appears at lower left of the screen. Press <F2> SETUP, <F4> ROM Utility, <F12> Network

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

< Example > Aptio Setup Ut	ility – Copyright (C) 2012 Amer	ican Megatrends. Inc.
Main Advanced Security S	erver Boot Save & Exit	,,,,,,
BIOS Information		Set the Date. Use Tab to
BIOS Version	6.0:34	switch between Date elements.
Build Date	05/30/2012	
ACCESS LEVEI	Administrator	
Memory Information		
Total Memory	16384 MB	
System Date	[Inu 06/28/2012]	
System Time	[13:51:11]	
		F1: General Help
		F4: Save & Exit Setup
		ESU: EXIT
version 2.14.	1219N Copyright (C) 2012 Americ	an Megaurenus, Inc.

- **Tips** For [System Time], use Coordinated Universal Time (UTC). The specified UTC time is applied to the ESXi host to be installed later. In ftSys Management Appliance or other guest OS, set the time zone for each system.
- 5. When you move the cursor onto "Advanced", the Advanced menu appears. Choose "PCI Configuration" and press Enter.



6. Move the cursor onto "SAS Option ROM Scan" apd press Enter. Parameters will be displayed.

< Example > Aptio Setup Uti Advanced	llity – Copyright (C) 2012 Americ	an Megatrends, Inc.
SAS Option ROM Scan LAN1 Option ROM Scan LAN2 Option ROM Scan LAN3 Option ROM Scan LAN4 Option ROM Scan PCI Slot 1 Option ROM PCI Slot 2 Option ROM PCI Slot 3 Option ROM PCI Slot 4 Option ROM	[Disabled] [PXE Boot] [PXE Boot] [PXE Boot] [PXE Boot] [Disabled] [Disabled] SAS Option ROM Scan Disabled Enabled	Selects the Boot Option for SAS Devices.
		Fi: General Help F4: Save & Exit Setup ESC: Exit

- Among the parameters, choose "Enabled" and press Enter.
 The current display of the configuration for SAS Option ROM Scan will be changed to "Enabled".
- 8. Select an item other than SAS Option ROM Scan, and press Enter. Select Disabled from the parameters displayed, and press Enter. Repeat these steps for all items other than SAS Option ROM Scan.
- 9. Make sure that SAS Option ROM Scan shows Enabled, and all other items show Disabled. <Example>

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Advanced				
Advanced SAS Option ROM Scan LAN2 Option ROM Scan LAN2 Option ROM Scan LAN3 Option ROM Scan PCI Slot 1 Option ROM PCI Slot 2 Option ROM PCI Slot 3 Option ROM PCI Slot 4 Option ROM	[Enabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled]	Selects the Boot Option for SAS Devices. Fi: General Help F4: Save & Exit Setup ESC: Exit		
Version 2.14.1219n Copyright (C) 2012 American Megatrends, Inc.				

This is the end of steps for enabling internal disk.

Now the internal disks are enabled. Then, disable OS boot monitoring feature. Go to *"1.5 Disabling OS Boot Monitoring Function"* and continue setup.

1.4 Enabling FC card

The following procedure shows when installing or reinstalling ESXi to the external storage.

1. Turn on the display and the peripheral equipment connected to the NEC Express5800/ft series.

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

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

Lift the acrylic cover, and press the POWER switch.



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

Tips While the "NEC" logo is displayed on the screen, NEC Express5800/ft series performs a power-on self test (POST) to check itself. For details, refer to *Chapter 3 (1.1 POST Check)* in *User's Guide*.

Note If the server finds errors during POST, it will interrupt POST and display the error message. Refer to *Chapter 1 (6.2 POST Error Message)* in *Maintenance Guide*. 4. Power on the server, and run POST.

After a while, the following message appears at lower left of the screen. Press <F2> SETUP, <F4> ROM Utility, <F12> Network

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

BIOS Information		Set the Date. Use Tab to
BIOS Version	6.0:34	switch between Date elements
Build Date	05/30/2012	
Access Level	Administrator	
Memory Information		
Total Memory	16384 MB	
Sustem Date	[Thu 06/28/2012]	
System Time	[13:51:11]	
		E1: General Help
		F4: Save & Exit Setup
		ESC: Exit

- **Tips** For [System Time], use Coordinated Universal Time (UTC). The specified UTC time is applied to the ESXi host to be installed later. In ftSys Management Appliance or other guest OS, set the time zone for each system.
- 5. When you move the cursor onto "Advanced", the Advanced menu appears. Choose "PCI Configuration" and press Enter.



6. Move the cursor onto "PCI Slot x Option ROM" (x: the slot FC card is installed in) and press Enter. Parameters will be displayed.

	-		
1	Exam	nle	< (
•	E/GIII	P.C	

Aptio Setup Util Advanced	ity – Copyright (C) 2012 Am	erican Megatrends, Inc.
SAS Option ROM Scan LAN1 Option ROM Scan LAN2 Option ROM Scan LAN3 Option ROM Scan LAN4 Option ROM Scan PCI Slot 1 Option ROM PCI Slot 2 Option ROM PCI Slot 3 Option ROM PCI Slot 4 Option ROM	[Enabled] [PXE Boot] [PXE Boot] [PXE Boot] [PXE Boot] [Disabled] [Disabled] [Enabled] Disabled] Disabled Enabled Enabled	Disables/Enables device expansion ROM. F1: General Help F4: Save & Exit Setup ESC: Exit

- Among the parameters, choose "Enabled" and press Enter. The current display of the configuration for PCI Slotx Option ROM will be changed to "Enabled"
- 8. Select an item other than PCI Slot x Option ROM for the PCI slot in which FC card is installed, and press Enter. Select Disabled from the parameters displayed, and press Enter. Repeat these steps for all items other than PCI Slot x Option ROM for the PCI slot in which FC card is installed.
- Make sure that PCI Slot x Option ROM for the PCI slot in which FC card is installed shows Enabled, and all other items show Disabled.

Aptio Setup Uti. Advanced	lity – Copyright (C) 2012 A	merican Megatrends, Inc.
SAS Ontion ROM Scan	[Disabled]	Selects the Boot Ontion for
LAN1 Ontion ROM Scan	[Disabled]	SAS Devices
LAN2 Option ROM Scan	[Disabled]	
LANS Option ROM Scan	[Disabled]	
LAN4 Option ROM Scan	[Disabled]	
PCI Slot 1 Option ROM	[Disabled]	
PCI Slot 2 Option ROM	[Disabled]	
PCI Slot 3 Option ROM	[Enabled]	
PCI Slot 4 Option ROM	[Disabled]	
		F1: General Help F4: Save & Exit Setup
		ESU: EXIT
Version 2 14 1	219n Conuright (C) 2012 Ame	rican Megatrends Inc

This is the end of steps for enabling FC card.

Then, disable OS boot monitoring feature.

Go to "1.5 Disabling OS Boot Monitoring Function" and continue setup.

1.5 Disabling OS Boot Monitoring Function

Before starting system start up, the OS boot monitoring function needs to be disabled.

Important	Be sure to disable boot monitoring function before setting up the system.
	This server has a function to monitor the main unit at startup. (Enabled in the configuration at shipment)
	If this function is enabled, the system will be forcibly restarted while OS setup screen is shown and the setup will be unsuccessful. BIOS may repeat OS setup in an invalid manner.
	If setup fails, you must re-install the operating system.
Tips	For details of operations for BIOS Setup Utility and parameters for boot monitoring function, refer to <i>Chapter 3 (1. System BIOS)</i> in <i>Maintenance Guide</i> .

 When you move the cursor onto "Server", the Server menu appears. Move the cursor onto "OS Boot Monitoring" and press Enter. Parameters will be displayed.

Aptio Setup Utility – Main Advanced Security Server E	Copyright (C) 2012 American Boot Save & Exit	Megatrends, Inc.
 System Management Event Log Configuration FRB-2 Timer PCI Enumeration Monitoring PCI Enumeration Monitoring Option ROM Scan Monitoring Timeout Os Boot Monitoring Timeout POST Pause Monitoring Timeout Thermal Sensor POST Enror Pause AC-LINK 	[Enabled] [Enabled] 180 [Enabled] 300 [Enabled] 600 [Enabled] [Enabled] [Disabled] [Stay Off]	F1: General Help F4: Save & Exit Setup ESC: Exit
Version 2.14.1219n Co	opyright (C) 2012 American Me	gatrends, Inc.

 Among the parameters, choose "Disabled" and press Enter. The current display of the configuration for OS Boot Monitoring will be changed to "Disabled". 3. Move the cursor onto Save & Exit, the Save & Exit menu appears.



4. Select Save Changes and Exit.

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

Save configuration and exit?
Yes No

Now OS Boot Monitoring function is disabled.

System reboots when SETUP completes.

Tips

When installing ESXi, once power off the server for preparation of installation.

To continue with the setup procedure, proceed to "1.6 Setting HBA configuration by using *QLogic*" on the next page if the FC card is enabled, and to "1.7 Installing VMware ESXi" if the internal disk is enabled.

1.6 Setting HBA configuration by using QLogic



1-2 Select "Configuration Settings", and then press Enter.



1-3 Select "Adapter Settings", and then press **Enter**.



1-4 Select "Host Adapter BIOS", and then press **Enter** to change the setting to "Enabled". (The default is "Disabled".)

Selected Adapter	
QLE2560 C000 03 8F 00 0	
Adapter Settings	
BIOS Address: CE000	
BIOS Revision: 2.10	
Interrupt Level: 11	
Adapter Port Name: 21000024FF04EC51	
Host Adapter BIOS: <u>Enabled</u> Frame Size: 2048	
Loop Reset Delay: 5	
Adapter Hard Loop ID: Disabled	
Hard Loop ID: 0 Spinup Delau: Disabled	
Connection Options: 2	
Fibre Channel Tape Support:Enabled	

- QLogic Fast1UTIL Selected Adapter Adapter Type Address Slot Bus Device Function QLE2560 C000 03 BF 00 0 Configuration Settings Adapter Settings Selectable Boot Settings Restore Default Settings Restore Default Settings Raw Nyran Data Advanced Adapter Settings Raw Nyran Data Muanced Adapter Settings
- 1-5 Press **ESC** once to return to the Configuration Settings screen.

1-6 Select "Selectable Boot Settings", and then press Enter.



- Adapter Type QLE2560 Address C000 Slot Bus Device Function 03 8F 00 0 =Selectable Boot Settings Selectable Boot: (Primary) Boot Port Name,Lun: Boot Port Name,Lun: Boot Port Name,Lun: Enabled 0 0 0 000000000000000, Boot Port Name,Lun: 0 Boot Port Name,Lun: 0 0 Boot Port Name,Lun: Boot Port Name,Lun: Boot Port Name,Lun: 000000000000000, 0 Boot Port Name,Lun: 0000000000000000, 0 Press "C" to clear a Boot Port Name entry
- 1-7 Select "Selectable Boot", and then press **Enter** to change the setting to "Enabled". (The default is "Disabled".)

1-8 Select "(Primary) Boot Port Name, Lun:", and then press Enter.

Adapter Type	Address Slo	t Bus D	evice	Function	
QLE2560 (000 03	8F 0	0	0	
St	electable Boot	Settin	gs—		
0-14-11- D4-		The set			
(Primary) Boot Port	Name Tunt	Ena 000		0000000	0
Boot Port		000	000000		0
Boot Port	Name Lun'	000		00000000,	õ
Boot Port	Name Lunt	000	000000	000000000,	ő
Boot Port		000	000000	000000000,	ő
Poot Port	Name Lunt	000	00000	000000000,	6
Poot Port	Name Lunt	000	00000	000000000,	0
Boot Port		000	000000	000000000,	0
BOOU FUFU	name, Lun	000	00000		0
Phase "C"	to clean a Bo	ot Pont	Namo	entru	
IICas U	to crear a bo	00 1010	nanc	entry	

ID	Vendor	Product	Rev	Port Name	Port ID
1	NEC	DISK ARRAY	1000	210000255C3A05CD	0000B3
Ī 👘	No devi	ce present			
2	No devi	ce present			
3	No devi	ce present			
4	No devi	ce present			
5	No devi	ce present			
6	No devi	ce present			
7	No devi	ce present			
В	No devi	ce present			
9	No devi	ce present			
10	No devi	ce present			
11	No devi	ce present			
12	No devi	ce present			
13	No devi	ce present			
14	No devi	ce present			
15	No devi	ce present			

1-9 The storage devices that are recognized by the FC card are displayed in the "Select Fibre Channel Device" window. Select the storage device to boot, and then press **Enter**.

1-10 In the "Select LUN" window, select LUN to boot, and then press Enter.

Q	Logic	Fast!UTIL	
		Select LUN	
Selected	devid	e supports multiple units	
	LUN	Status	
r i i i i i i i i i i i i i i i i i i i			
	0	Supported	
	1	Supported	
	2	Supported	
	3	Not supported	
	4	Not supported	
	5	Not supported	
	6	Not supported	
	- 7	Not supported	
	8	Not supported	
	9	Not supported	
	10	Not supported	
	11	Not supported	
	12	Not supported	
	13	Not supported	
	14	Not supported	
	15	Not supported	
Use <pageup pag<="" td=""><td>(eDown)</td><td>keys to display more devices</td><td></td></pageup>	(eDown)	keys to display more devices	
Use <arrow keys=""> to move curs</arrow>	or, <	Enter> to select option, <esc> to</esc>	backup

QLE2560	Address C000	Slot Bus 03 8F	Device 00	Function 0	
		RARRARARARARAR	RARRARARARAR	RRAARRAARRAARRA	
	Selectable I	Boot Sett	ings===		
Selectable Boot:		F	nabled		
(Primaru) Boot Por	t Name.Lun:	2	1000025	5C3A05CD.	0
Boot Por	t Name.Lun:	0	0000000	000000000	Õ
Boot Por	t Name.Lun:	Ň	0000000	0000000000,	ň
Boot Por	t Name.Lun:	Ň	0000000	000000000,	õ
Boot For Boot Por	t Name.Lun:	õ	0000000	000000000,	õ
Boot For	t Name.Lun:	ň	0000000	000000000,	ŏ
Boot Por	t Name.Lun:	Ň	0000000	0000000000	ŏ
Boot Por	t Name,Lun:	Ő	0000000	00000000,	õ
Press "C	" to clear a	Boot Po	rt Name	entru	

1-11 The port name and LUN specified in steps 1-9 and 1-10 respectively are applied to "(Primary) Boot Port Name, Lun:".

Note

- The images shown in steps 1-9 through 1-11 are examples. The information displayed varies depending on the product name of external storage and settings such as logical disk settings.
- 1-12 Press **ESC** twice to display the confirmation window.

Select "Save changes", and then press Enter.





1-13 Select "Exit Fast!UTIL", and then press Enter.

1-14 Select "Reboot System", and then press Enter to reboot the system.

QLogic Fast!UTIL
Report Suntan
Return to Fast/UTIL
Use <arrow keys=""> to move cursor, <enter> to select option, <esc> to backup</esc></enter></arrow>

2. Configure CPU/IO module 1.

Press the POWER switch on front panel to turn off the server. Then, disconnect all the power cords from the server.

Note

Make sure that the System POWER LED on front panel is unlit.

- 3. Connect power cords in the following order to start the system from CPU/IO module 1.
 - (1) Connect a power cord to AC inlet connector B.
 - (2) Connect a power cord to AC inlet connector A.

Important	Make sure that the PRIMARY LED on CPU/IO module 1 is lit.
Note	If you disconnect a power cord, wait for at least 30 seconds before connecting it again.
Tips	See Chapter 1 (1.2 Preparations for Setup) for AC inlet connector.

- Press the POWER switch on front panel to start the system from the CPU/IO module 1, and perform Steps 1-1 to 1-14 in similar way.
- After configuring the settings for the CPU/IO module 1, set the CPU/IO module 0 as primary. Press the POWER switch on front panel to turn off the server. Then, disconnect all the power cords from the server.
- 6. Connect power cords in the following order to start the system from CPU/IO module 0.
 - (1) Connect a power cord to AC inlet connector A.
 - (2) Connect a power cord to AC inlet connector B.

Important Make sure that the PRIMARY LED on CPU/IO module 0 is lit.

1.7 Installing VMware ESXi

1.7.1 Installing VMware ESXi

- 1. Immediately after powering on the server, insert the ESXi 5.1 Update1 Install DVD into the DVD drive of the server.
- 2. If the Boot Menu screen appears after booting the server, select ESXi 5.1.0-xxxx standard installer and press Enter. The Installer will automatically starts in a few seconds, even if Enter is not pressed.



3. When an installation confirmation message appears, press Enter.

Welcome to the VMware ESXi 5.1.0 Installation		
VMware ESXi 5.1.0 installs on most systems but only systems on VMware's Compatibility Guide are supported.		
Consult the VMware Compatibility Guide at: http://www.vmware.com/resources/compatibility		
Select the operation to perform.		
(Esc) Cancel (Enter) Continue		

4. When the End User License Agreement (EULA) screen for ESXi appears, press F11.



 The disk selection screen [Select a Disk to Install or Upgrade] appears. Select the installation destination and take a note of its extent (the underlined part in the image shown below), and then, press Enter.

Note The storage device name you have written is to be used when selecting an installation destination for ftSys Management Appliance (see *Chapter 1 (1.8 Installing ftSys Management Appliance)*).

<When installing ESXi to the internal disk>

Select	t a Disk to Install or Upgra	de
* Contains a VMFS partin Storage Device	tion	Capacity
Local: (none) Renote: SEAGATE ST9146853SS	(naa.5000c500429010bf)	136.44 G18
(Esc) Cancel (F1)	Details (F5) Refresh	(Enter) Continue

 Tips
 The installer of ESXi recognizes MPM device as a remote disk. Thus, the inserted internal disk is placed under [Remote] category.

 Important
 Note the following when reinstalling ESXi:

 If any data is contained in the destination disk, the installer does not display a message to prompt you to save data because the installer of ESXi cannot recognize the Stratus MPM disk format. Therefore, make sure that the destination disk does not contain any data (or save the data, if any) before installing ESXi.

<When installing ESXi to the external storage>

		Select	a Disk to Install or Upgrade	
* Contain	s a VMFS	6 partit	ion	
Storage D	evice			Capacity
Local: (none) Remote: * NEC * NEC * NEC * NEC	DISK DISK DISK DISK	ARRA Y Arra y Arra y Arra y Arra y	(eui.00255c3a05cd0001) (eui.00255c3a05cd0002) (eui.00255c3a05cd0003) (eui.00255c3a05cd0003)	790.00 GiB 790.00 GiB 790.00 GiB 60.00 GiB
	Cance l	(F1)	Details (F5) Refresh (Ent	er) Continue

6. When reinstalling ESXi, an overwrite confirmation message appears. Move the cursor onto [Install], press the space bar to determine it, then press Enter.



7. When the keyboard layout selection screen appears, select your desired keyboard layout and press Enter.

Please select a keyboard layout
Finnish French German Greek Icelandic Italian Japanese
Use the arrow keys to scroll.
(Esc) Cancel (F9) Back (Enter) Continue

8. When the root password entry screen appears, enter the password and press Enter.



9. When the installation confirmation screen appears, press **F11** to start the installation.



10. In the [Installation Complete] screen, press **Enter**. The ESXi Install DVD is ejected and the server reboots.

Installation Complete	
ESXi 5.1.0 has been successfully installed.	
ESXi 5.1.0 uill operate in evaluation mode for 60 days. To use ESXi 5.1.0 after the evaluation period, you must register for a VMware product license. To administer your server, use the vSphere Client or the Direct Control User Interface.	
Remove the installation disc before rebooting.	
Reboot the server to start using ESXi 5.1.0.	
(Enter) Reboot	

1.7.2 Configuring ESXi

When LAN cables of the CPU/IO module 0 and 1 are removed, connect both of them.

Connect LAN cables to Port #1 connectors (1Gigabit) on CPU/IO modules 0 and 1. (At installation, the standard switch (vSwitch0) is created on this connector.)

<R320c-E4 Model>





When the installed ESXi boots, press F2 and log in to the system as a root user.

On the System Customization menu, configure each item as shown below.

System Customization	Configure Management Network
Configure Password Configure Lockdown Node Configure Lockdown Node Configure Management Network Restart Management Network Test Management Network Network Restore Options Configure Keyboard Troubleshooting Options View System Logs View System Logs View Support Information Reset System Configuration	Hostname: localhost IP Address: 169.254.64.168 IPv6 Addresses: fe80::225:5cff:fedd:766c/64 To view or modify this host's management network settings in detail, press <enter>.</enter>

- Set the IP address.

Note	Set a static IP address instead of using DHCP.
Important	Both the ESXi host and the ftSys Management Appliance must exist on the same network.

- 1. Select [Configure Management Network] and press Enter.
- 2. Select [IP Configuration] and press Enter.
- 3. Select [Set static IP address and network configuration] and press the space bar.
- 4. Enter [IP Address], [Subnet Mask] and [Default Gateway], and press Enter.
- In the [Configure Management Network] screen, press ESC to display the confirmation screen. Press
 Y to enable the network settings and return to the main menu.

Note

If the IP address is changed after installation, perform steps described in *Chapter 1 (2.3.1 If the ESXi Host Network Configuration has been Changed)*.

- Follow the steps below when specifying the DNS server.

Important	Specify the DNS server from which you can obtain a correct hostname and IP address. If an inappropriate DNS server is specified, installation may fail.
Note	You can configure the DNS server after completion of installation. If the host name is changed, perform steps described in <i>Chapter 1 (2.3.1 If the ESXi Host Network Configuration has been Changed)</i> .

- 1. Select [Configure Management Network] and press Enter.
- 2. Select [DNS Configuration] and press Enter.
- 3. Enter [Primary DNS Server], [Alternate DNS Server] and [Hostname], and press Enter.
- In the [Configure Management Network] screen, press ESC to display the confirmation screen. Press
 Y to enable the network settings and return to the main menu.

- Follow the steps below when configuring the settings for searching the DNS domain.

- 1. Select [Configure Management Network] and press Enter.
- 2. Select [Custom DNS Suffixes] and press Enter.
- 3. In the [Custom DNS Suffixes] dialog box, enter one or more DNS suffixes and press Enter.
- In the [Configure Management Network] screen, press ESC to display the confirmation screen. Press
 Y to enable the network settings and return to the main menu.


- Follow the steps below when enabling an SSH connection to the ESXi host.

- 1. Select [Troubleshooting Options] and press Enter.
- 2. Select [Enable SSH] and press Enter to change the setting from [SSH is Disabled] to [SSH is Enabled].
- 3. Press ESC to return to the [System Customization] menu.

Press ESC to log out.

Note	Set [Configuration Management Network] and [Troubleshooting Options] according to your environment.
Tips	If Ipv6 is disabled in Configure Management Network, the system reboots automatically. (Reboot confirmation message will not appear.)

1.7.3 Configuring the Firewall for the ESXi Host from the vSphere Client

Connect to the ESXi host from vSphere Client to configure.

Connect to the ESXi host (ft server) from vSphere Client. In the [Configuration] tab, select [Software]
 → [Security Profile] → [Firewall] to open [Properties].

🗉 📋 esxiserver	cygnus31.ftteam.nec.com VMware ESXi, 5.1.0, 838463 Evaluation (54 days remaining)								
- Antonio and a state of the	Summary Virtual Machines Resource	Allocation Performance Config	uration Local Users & Groups Even	ts Permissio	is.				
	Hardware	Security Profile							
	Health Status Processors Memory Stanage Adapters Network Adapters Network Adapters Advanced Settings Prever Macagement	Services J/O Redirector (Active Dire somp d Network Login Server (Acti Ibtd vpxa ESG Shell xorg Local Security Authenticati NTP Daemon vpxhed	Refresh	Proper bes					
	Software Ucensed Features Time Configuration	SSH Direct Console U1 CDM Server Firewall		Refresh	Properbes				
	DeS and Routing Authentications Services Verbal Machine Starburg/Shutdown vs. unterlanding Sweeffle Location Sourty Profile Sourty Profile System Resource Alacation Agent: VM Settings	DHCP Client DHCP Client NFC vSphere Web Access CIM Secure Server vMotion SSH Server Fault Tolerance DNS Client CIM SLP	68 (UDP) 902 (TCP) 80 (TCP) 5989 (TCP) 2000 (TCP) 22 (TCP) 53 (UDP) 53 (UDP) 427 (UDP)TCP) 90 427 (UDP)	All All All All All All All All					

2. On the [Firewall Properties] screen, select the [syslog] checkbox and click [OK].

Firewall Properties							
Ren	iote Access						
By default, remote dents are prevented from accessing services on this host, and local dients are prevented from accessing services on remote hosts. Select a check box to provide access to a service or client. Daemons will start automatically when their ports are							
open	ed and stop when all of t	heir ports are o	losed, or as configure	d. ,			
	Label		Incoming Ports	Outgoing Ports	Protocols	Daemon	
	NTP Client			123	UDP	Stopped	
$\mathbf{\nabla}$	Fault Tolerance		8100,8200,8300	80,8100,8200,8300	TCP,UDP	N/A	
	DVFilter		2222		TCP	N/A	
~	NFC		902	902	TCP	N/A	
~	CIM Secure Server		5989		TCP	Running	
~	HBR			31031,44046	TCP	N/A	
~	WOL			9	UDP	N/A	
7	syslog			514,1514	UDP,TCP	N/A	
	DVSSync		8301,8302	8302,8301	UDP	N/A	
	CIM Server		5988		TCP	Running	- 1
•							E!
Ser	vice Properties						
S	ervice:	SSH Server					
P	ackage Information:						
Fin	ewall Settings						
A	lowed IP Addresses:	All					
				Fin	ewall	Options,.,	
				OK	Cancel		lelp

With this step, the ESXi installation has been completed.

1.8 Installing ftSys Management Appliance

Connect to the ESXi host from vSphere Client to install.

1.8.1 Checking the Installation Destination Disk

Note

ftSys Management Appliance must be installed on the disk where the ESXi host exists. If several disks are contained in your system, perform the steps below in advance.

1. Select the ESXi Host in vSphere Client, select a storage from the list of [Storage] in the [Summary] tab to display the properties.

🛃 esxiserver – vSp	ohere Client						١×	
File Edit View Inve	entory Administration Plug-ins Hel	p						
🕞 🕞 🔥 H	iome 🕨 💦 Inventory 🕨 🗊 Inve	ntory						
+ esxiserver	curanus21 ftteam nas com VMuua		tion (E4 day	re nom pining)				
	Cygnuss1.itteani.iec.com vriwa	TE ESKI, 5.1.0, 656405 Evalua	cion (34 day	s remaining)			4.5	
Setung started summary Virtual machines Resource Allocation Performance Configuration Local Users & Groups Events Performance								
Configuration Issues								
	SSH for the host has been enabled							
	General		Resource	5			1	
	Manufacturer:	NEC	CPU usage: 300 MHz Capacity					
	Model:	Express5800/R320c-M4 [N8	1	8 x 2.6 GHz				
	CPU Cores:	8 CPUs x 2.6 GHz	Memory u	sage: 2531.00 MB	Capacity			
	Processor Type:	Intel(R) Xeon(R) CPU E5-2670 0 @ 2.60GHz			16368.43 MB			
	License:	Evaluation Mode -	Storage	 Drive Type 	Capacity	1		
	Processor Sockets:	1		Browse Datastore	136.25 GE 838.00 GE	3 782		
	Cores per Socket:	8	8	Rename	131.50 GE	3 120		
	Logical Processors:	16	•	Unmount	_	F		
	Hyperthreading:	Active 12	Natu	Delete				
	State:	Connected		Defeet	un			
	Virtual Machines and Templates:	3		Refresh				
	vMotion Enabled:	N/A		Properties				
	VMware EVC Mode:	Disabled	Fault	Copy to Clipboard Ctrl+C			•	
Recent Tasks			Name, Tar	get or Status contains: 🗸 🗌		Clear	×	
🚰 Tasks				Evaluation Mo	ode: 54 days remain	ing roo	at ,	

2. Confirm that the selected storage has the same extent value as the disk selected at installation of the ESXi host.

<Example when installed to internal disk>

olume Propertie	-5		Farmat			
Datastore Name:	datastore1	Rename	File System:	VMFS 5.58		
			Maximum File Size:	2.00 TB		
otal Capacity:	131.50 GB	Increase	Block Size:	1 MB		
ctents VMFS file system c itents, to create a	:an span multiple hard d ı single logical volume.	lisk partitions, or	Extent Device The extent selected on the disk described below.	ne left resides on	the LUN or physic	cal
ctents VMFS file system o tents, to create a xtent	an span multiple hard d single logical volume.	lisk partitions, or	Extent Device The extent selected on the disk described below.	ne left resides on	the LUN or physic Capacity	cal
ctents VMFS file system c tents, to create a xtent EAGATE Serial Att	an span multiple hard c i single logical volume. ached SCSI Disk (naa.	lisk partitions, or 5000c500429010bf):3	Extent Device The extent selected on th disk described below. Device SEAGATE Serial Attac	ne left resides on	Capacity 136.44 GB	cal
t tents VMFS file system c tents, to create a xtent EAGATE Serial Att	can span multiple hard c i single logical volume. tached SCSI Disk (naa.	disk partitions, or	Extent Device The extent selected on the disk described below.	he left resides on	Capacity 136.44 GB Capacity	cal
t tents VMFS file system c tents, to create a xtent EAGATE Serial Att	can span multiple hard c single logical volume. tached SCSI Disk (naa.	lisk partitions, or 5000c500429010bf):3	Extent Device The extent selected on the disk described below. Device SEAGATE Serial Attain Primary Partitions 1. Legacy MBR	the left resides on	Capacity 136.44 GB Capacity 4.00 MB	cal
t tents VMFS file system c tents, to create a xtent EAGATE Serial Att	can span multiple hard c single logical volume. tached SCSI Disk (naa.	lisk partitions, or 5000c500429010bf):3	Extent Device The extent selected on the disk described below. Device SEAGATE Serial Attact Primary Partitions 1. Legacy MBR 2. Legacy MBR	he left resides on	Capacity 136.44 GB Capacity 4.00 MB 250.00 MB	cal
ctents VMFS file system c itents, to create a xitent ÆAGATE Serial Att	can span multiple hard c single logical volume. tached SCSIDisk (naa.	lisk partitions, or 5000c500429010bf):3	Extent Device The extent selected on the disk described below. Device SEAGATE Serial Attact Primary Partitions 1. Legacy MBR 2. Legacy MBR 3. Legacy MBR	he left resides on	Capacity 136.44 GB Capacity 4.00 MB 250.00 MB 250.00 MB	cal
<pre>ctents VMFS file system c ttents, to create a ixtent EAGATE Serial Att</pre>	can span multiple hard c single logical volume. tached SCSIDisk (naa.	lisk partitions, or 5000c500429010bf):3	Extent Device The extent selected on the disk described below. Device SEAGATE Serial Attact Primary Partitions 1. Legacy MBR 2. Legacy MBR 3. Legacy MBR 4. VMware Diagnostic	c eleft resides on	the LUN or physic Capacity 136.44 GB Capacity 4.00 MB 250.00 MB 250.00 MB 110.00 MB	
ctents VMFS file system (tents, to create a xtent EAGATE Serial Att	can span multiple hard c single logical volume. tached SCSIDisk (naa.	lisk partitions, or 5000c500429010bf):3	Extent Device The extent selected on the disk described below. Device SEAGATE Serial Attain Primary Partitions 1. Legacy MBR 2. Legacy MBR 4. VMware Diagnosti 5. Legacy MBR	the left resides on	the LUN or physic Capacity 136,44 GB Capacity 4,00 MB 250,00 MB 110,00 MB 286,00 MB	cal

<Example when installed to external storage>

olume Properties General	Format
Datastore Name: istorage_ftsys Rename	File System: VMFS 5.58
Total Capacity: 55.00 GB Increase	Maximum File Size: 2.00 TB
	Block Size: 1 MB
VMES file system can span multiple bard disk partitions, or	EXTERT DEVICE The extent selected on the left resides on the LUN or physical
VMPS file system can span multiple hard disk partitions, or xtents, to create a single logical volume. Extent VEC Fibre Channel Disk (eui.00255c3a05cd0004):3	Extent Device The extent selected on the left resides on the LUN or physical disk described below. Device Capacity NEC Fibre Channel Disk (eui 60.00 GB
VMFS file system can span multiple hard disk partitions, or xtents, to create a single logical volume. Extent NEC Fibre Channel Disk (eui.00255c3a05cd0004):3	Extent Device The extent selected on the left resides on the LUN or physical disk described below. Device Capacity NEC Fibre Channel Disk (eui 60.00 GB Primary Partitions Capacity
VMFS file system can span multiple hard disk partitions, or ktents, to create a single logical volume. Extent NEC Fibre Channel Disk (eui.00255c3a05cd0004):3	Extent Device The extent selected on the left resides on the LUN or physical disk described below. Device Capacity NEC Fibre Channel Disk (eui 60.00 GB Primary Partitions Capacity 1. Legacy MBR 4.00 MB
VMPS file system can span multiple hard disk partitions, or xtents, to create a single logical volume. Extent VEC Fibre Channel Disk (eui.00255c3a05cd0004):3	Extent Device The extent selected on the left resides on the LUN or physical disk described below. Device Capacity NEC Fibre Channel Disk (eui 60.00 GB Primary Partitions Capacity 1. Legacy MBR 4.00 MB 2. Legacy MBR 250.00 MB
VMPS file system can span multiple hard disk partitions, or ttents, to create a single logical volume. Extent VEC Fibre Channel Disk (eui.00255c3a05cd0004):3	Extent Device Capacity disk described below. Device Capacity NEC Fibre Channel Disk (eui 60,00 GB Primary Partitions Capacity 1. Legacy MBR 4,00 MB 2. Legacy MBR 250,00 MB 3. Legacy MBR 250,00 MB
VMFS file system can span multiple hard disk partitions, or xtents, to create a single logical volume. Extent VEC Fibre Channel Disk (eui.00255c3a05cd0004):3	
VMFS file system can span multiple hard disk partitions, or xtents, to create a single logical volume. Extent VEC Fibre Channel Disk (eui.00255c3a05cd0004):3	Extent Device Capacity disk described below. Device Capacity NEC Fibre Channel Disk (eui 60.00 GB Primary Partitions Capacity 1. Legacy MBR 4.00 MB 2. Legacy MBR 250.00 MB 3. Legacy MBR 250.00 MB 5. Legacy MBR 286.00 MB

Note

Tips

Make sure the storage has the same name as that you have written down in *Chapter 1 (1.7 Installing VMware ESXi)*.

On the Storage screen displayed in *Chapter 1 (1.8.2 Installing ftSys Management Appliance)*, you cannot confirm the property of storage. You need to confirm it in advance by performing steps described here.

1.8.2 Installing ftSys Management Appliance

- 1. Insert the ft control software Install DVD into the DVD drive of the machine on which the vSphere Client is installed.
- 2. Start vSphere Client and connect to the ESXi host.
- 3. On the vSphere Client, select [File] \rightarrow [Deploy OVF Template...].
- 4. Click [Browse...] in the screen to open the appliance folder of the DVD, select the .ova file, and click [Next].

🛃 Deploy OVF Template		_ 🗆 🗙
Source Select the source location.		
Source OVF Template Details Name and Location Disk Format Ready to Complete	Deploy from a file or URL F:WapplanceVftSydMgt-5.0.1-225_OVF10.ova Browse Enter a URL to download and install the OVF package from the Internet, or spectral olocation accessible from your computer, such as a local hard drive, a network share, or a CD/DVD drive.	
Help	<u>≤</u> Back Next ≥	Cancel

5. In the [OVF Template Details] screen, click [Next].

🛃 Deploy OVF Template				- 🗆 🗵
OVF Template Details Verify OVF template details				
Source OVF Template Details End User License Agreement Name and Location Disk Format Ready to Complete	Product: Version: Vendor: Publisher: Download size: Size on disk: Description:	ffSysMgt 5.0.225.0 NEC Corporation No certificate present 552.2 MB 1.4 GB (thin provisioned) 10.0 GB (thick provisioned) ftSys System Management Applance		
Help		<u> </u>	ck Next ≥	Cancel

6. In the [End User License Agreement] screen, click [Accept] for each part of the license agreement displayed. After clicking [Accept] for the whole part, click [Next].

🚱 Deploy OVF Template		
End User License Agreement Accept the end user license a	greements.	
Source OVE Template Details End User License Agreeme Name and Location Disk Format Ready to Complete	Accept license 1 of 4. NEC Software License Agreement 1. License NEC Corporation (hereinafter referred to as "NEC") grants you a personal and non-exclusive license to use the provided software (the "Software") only on one machine at any one time, and only in the country where you acquired the Software. In: Software is in "Software") only on one machine at any one time, and only in the country where you acquired the Software. In: Software is in "Software is in "Software". 1. Disaded into temporary memory (J.e. RAH) or installed into permanent memory (J.e. hard disk or other storage device) of that machine. You Johan no license other than those expressly granted you under this Agreement. 2. Period 2. Period 3. This Agreement comes into effect on the day when you received the Software. 3. Note Cand the owners of the copyright or any other intellectual property rights to the Software is in "Software in the Software". 4. Upon termination of the license, you must destroy or dispose of the Software. 3. Intellectual Property Rights including patent and copyright All of the intellectual Property Rights including patent and copyright All of the intellectual Property Rights including patent and copyright All of the intellectual Property Rights can be protected as a matter of Japan, U.S.A., or any other applicable laws and regulations. 4. Copying, modification (1) You may make only one copy of the Software solely for a backup purpose, provided with you and recovaries the Software instaled property Rights include to you here applicable laws and regulations.	*
	Accept	
Help	_≤Back Next≥	Cancel

7. In the [Name and Location] screen, enter the name of ftSys Management Appliance and click [Next].

Deploy OVF Template		<u> </u>
Name and Location Specify a name and locatio	n for the deployed template	
Source	Name:	
End User License Agreement	ftSysMgt-Cygnus31	_
Name and Location	The name can contain up to 80 characters and it must be unique within the inventory folder.	
Disk Format Ready to Complete		
Ready to complete		
Help	≤ Back Next ≥	Cancel

mmended to create a consistent naming convention in the light of the system operations management. (The character string "ftSysMgt" is a prefix automatically added by Installer.)

Ex.) "ftSysMgt-[ESXi host name]"

8. When the [Storage] screen appears, select the storage you have selected at installation of the ESXi host, and click [Next].

🛃 Deploy OVF Template								
Storage								
Where do you want to stor	e the vi	rtual machine files?						
Source	Select a destination storage for the virtual machine files:							
OVF Template Details End User License Agreement	Nam	e	Drive Type	Capacity	Provisioned	Free	Туре	Thin Prov
Name and Location		istorage_ftsys	Non-SSD	55.00 GB	971.00 MB	54.05 GB	VMFS5	Supporte
Storage	8	Cygnus_Sys2	Non-SSD	28.00 GB	10.94 GB	17.06 GB	VMFS5	Supporte
Disk Format		datastor4b	Non-SSD	327.75 GB	147.80 GB	184.42 GB	VMFS5	Supporte
Ready to Complete								
	•							•
				machine				
		iooole o cologe o la						
	Selec	t a datastore:	,		,			
	Nam	e	Drive Type	Capacity Pr	ovisioned	Free	Туре	Thin Provi
	1							•
Help					< Pack	Next		Cancol
Teh						Next		Cancel

Important ftSys Management Appliance must be installed on the disk where the ESXi host exists.

Accordingly, you need to select a disk you have selected at installation of ESXi.

- 9. On the [Disk Format] screen, the following items are displayed:
 - Thick Provision Lazy Zeroed
 - Thick Provision Eager Zeroed
 - Thin Provision

Select the [Thick Provision Lazy Zeroed] and click [Next].

🛃 Deploy OVF Template				
Disk Format In which format do you wa	nt to store the virtual disks?			
Source OVF Template Details End User License Agreement Name and Location Disk Format Ready to Complete	Datastore: Available space (GB): Thick Provision Lazy Zeroe Thick Provision Eager Zero Thin Provision	datastore 1 130.6 ed bed	l	
Help		Γ	≤ Back Next ≥	Cancel

10. On the [Ready to Complete] screen, select the [Power on after deployment] checkbox and click [Finish].

🛃 Deploy OVF Template			_ 🗆 ×
Ready to Complete			
Are these the options you	want to use?		
Source OVF Template Details	When you click Finish, the deploymen	it task will be started.	
End User License Agreement	Deployment settings:		
Name and Location	OVF file:	E:\appliance\ftSysMgt-5.0.1-225_OVF10.ova	
Disk Format	Download size:	552.2 MB	
Ready to Complete	Size on disk:	10.0 GB	
	Name:	ftSysMgt-Cygnus31	
	Host/Cluster:	Cygnus31.ftteam.nec.com	
	Datastore:	datastore1	
	Disk provisioning:	Thick Provision Lazy Zeroed	
	Network Mapping:	"Network 1" to "VM Network"	
	1		
	Power on after deployment		
Help		<u>≤</u> Back Finish	Cancel

11. When the deployment is completed, make sure that ftSys Management Appliance is added to the ESXi host and power is turned on.

🛃 esxiserver - vSphere Cli	ent		
File Edit View Inventory Ad	ministration Plug-ins He	lp	
🔁 🗈 🏠 Home 🕨 🛔	🗿 Inventory 🕨 🗊 Inve	entory	
esxiserver ftSysMgt-Cygnus31	ftSysMgt-Cygnus31 Getting Started Summ	ary Resource Allocation Performance	Events Console Permissions
	General		Resources
	Guest OS: VM Version: CPU: Memory: Memory Overhead:	CentOS 4/5/6 (64-bit) 7 1 vCPU 1024 MB 23.27 MB	Consumed Host CPU: Consumed Host Memory: Active Guest Memory: Provisioned Storane:
	VMware Tools: IP Addresses:	Running (3rd-party/Independent) 192.168.1.201 View all	Not-shared Storage: Used Storage:
	DNS Name:	localhost	datastore1
	State: Host:	Powered On Cygnus31.ftteam.nec.com	Network
	vSphere HA Protection:	② N/A ₽	👰 VM Network

12. To perform the following and the subsequent steps, open the console of ftSys Management Appliance, and use the main menu (blue screen) to configure.

🛃 esxiserver – vSphere	Client	
File Edit View Inventory	Administration Plug-ins Help	
🖸 🗈 🏠 Home	▶ 👸 Inventory ▷ 🗊 Inventory	
🔲 III 🕨 🌑 (
esxiserver	RSysMgt-Cygnus31 Summary ResourceAllocation Performance Events Console Permissions	
	ftSysMgt - 5.0.225.0	_
	To manage this VM browse to https://192.168.1.246:5480∕	
	*Login Use Arrow Keys to navigate Configure Network and (ENTER) to select your choice.	
T	I	
Recent Tasks	Name, Target or Status contains: +	lear X
Name	Taroet	
Tasks	Evaluation Mode: 60 days remaining	s root //

Important Specify the DNS server from which you can obtain a correct hostname and IP address. If an inappropriate DNS server is specified, installation may fail.

You can configure the DNS server after completion of installation.

13. To use a static IP address

Tips

From the main menu of ftSys Management Appliance, select [Configure Network]. Press **6** following the prompt "Enter a menu Number [0]" to specify the IP address. Then, press **1** to return to the main menu of ftSys Management Appliance.



- 14. To specify a time zone From the main menu of ftSys Management Appliance, select [Set Timezone] and select your area.
- **15.** To change the initial password From the main menu of ftSys Management Appliance, select [Login] and log in as a root user with the password "ftServer". Use the following command to change the password as necessary.
 - # passwd root

1.9 Installing ft control software

Connect to the ESXi host from vSphere Client to configure.

1. To install ft control software on the internal disks, insert a disk in slot 0 of the CPU/IO module 1.



- 2. Set the ft control software Install DVD to the DVD drive of the machine where vSphere Client is installed.
- 3. Click the CD/DVD button on toolbar of vSphere Client to mount the ft control software Install DVD.
- 4. Log in to ftSys Management Appliance as a root user. The initial password is "ftServer."
- 5. Run the following command on ftSys Management Appliance.
 - # /opt/ft/sbin/ft-install /dev/cdrom
- 6. When the IP address entry screen of the ESXi host appears, enter the IP address of the ESXi host, and press Enter.

Name or IP Address of the host machine[]: _

7. Enter the root user password of the ESXi host and press Enter.

Administrative password for xxx.xxx.xxx.xxx: _

8. When the confirmation message appears, press y.

Please refer to your system documentation before proceeding. Do you want to continue [Y/n]: _

9. When the confirmation message appears several times, press y.

Do you want to continue [Y/n]: _

10. The message as shown below appears, and the installation starts.

```
Installing to host xxx.xxx.xxx. Please wait...
Updating the host's system software...
```

11. When the reboot confirmation message appears at the end of the installation, press y. Confirm that the ESXi host is shutdown, and then, remove the ft control software Install DVD.

```
A host reboot is required to place these updates into service. Do you want to reboot now [Y/n]: _
```

12. The system reboots twice, and the ft module registration and disk duplication are performed. These processes take several tens of minutes.

Note

The time required for completing the duplication vaires depending on the disk space.

13. After the system reboot, confirm that the System FT LED at the front of the server lights.



TipsWhen installing ft control software to an internal disk, the primary LED of the CPU/IO
module switches from #0 to #1. However, there is no problem continuing with the setup.When installing ft control software to an external storage, switching of the primary LED of
the CPU/IO module does not occur.

Tips

If the ft control software is installed in internal disk, the storage name of internal disk (datastore1) is changed to datastore2 after the system restart. However, it does not affect the system operation.



olume Properties			
General	1	Format	
Datastore Name: datastore2	Rename	File System: VMFS 5	.58
Total Capacity: 131.50 GB	Increase	Maximum File Size: 2.00 TE	3
		Block Size: 1 MB	
xtents VMFS file system can span multiple hard dis	sk partitions, or	Extent Device The extent selected on the left resid	es on the LUN or physical
xtents . VMFS file system can span multiple hard di . xtents, to create a single logical volume.	sk partitions, or	Extent Device The extent selected on the left resid disk described below.	es on the LUN or physical
xtents VMFS file system can span multiple hard di xtents, to create a single logical volume. Extent Local STRATUS Disk (mpm0):3	sk partitions, or Capacity 131.56 GB	Extent Device The extent selected on the left resid disk described below. Device Local STRATUS Disk (mpm0)	es on the LUN or physical Capacity 136.44 GB
xtents VMFS file system can span multiple hard dia xtents, to create a single logical volume. Extent Local STRATUS Disk (mpm0):3	sk partitions, or Capacity 131.56 GB	Extent Device The extent selected on the left resid disk described below. Device Local STRATUS Disk (mpm0) Primary Partitions	es on the LUN or physical Capacity 136.44 GB
xtents VMFS file system can span multiple hard di xtents, to create a single logical volume. Extent Local STRATUS Disk (mpm0):3	sk partitions, or Capacity 131.56 GB	Extent Device The extent selected on the left resid disk described below. Device Local STRATUS Disk (mpm0) Primary Partitions 1. Leager MBP	es on the LUN or physical Capacity 136.44 GB Capacity 4.00 MB
xtents VMFS file system can span multiple hard di xtents, to create a single logical volume. Extent Local STRATUSDisk (mpm0):3	sk partitions, or Capacity 131.56 GB	Extent Device The extent selected on the left resid disk described below. Device Local STRATUS Disk (mpm0) Primary Partitions 1. Legacy MBR 2. Legacy MBR	es on the LUN or physical Capacity 136.44 GB Capacity 4.00 MB 250.00 MB
xtents .VMFS file system can span multiple hard di xtents, to create a single logical volume. Extent Local STRATUS Disk (mpm0):3	sk partitions, or Capacity	Extent Device The extent selected on the left resid disk described below. Device Local STRATUS Disk (mpm0) Primary Partitions 1. Legacy MBR 2. Legacy MBR 3. Legacy MBR	es on the LUN or physical Capacity 136,44 GB Capacity 4.00 MB 250.00 MB 250.00 MB
xtents VMFS file system can span multiple hard di xtents, to create a single logical volume. Extent Local STRATUS Disk (mpm0):3	sk partitions, or Capacity (131,56 GB	Extent Device The extent selected on the left resid disk described below. Device Local STRATUS Disk (mpm0) Primary Partitions 1. Legacy MBR 2. Legacy MBR 3. Legacy MBR 4. WMware Diagnostic	capacity Capacity 136.44 GB Capacity 4.00 MB 250.00 MB 250.00 MB 110.00 MB
xtents VMFS file system can span multiple hard di xtents, to create a single logical volume. Extent Local STRATUS Disk (mpm0):3	sk partitions, or Capacity 131.56 GB	Extent Device The extent selected on the left resid disk described below. Device Local STRATUS Disk (mpm0) Primary Partitions 1. Legacy MBR 2. Legacy MBR 3. Legacy MBR 4. VMware Diagnostic 5. Legacy MBR	es on the LUN or physical Capadity 136.44 GB Capadity 4.00 MB 250.00 MB 250.00 MB 10.00 MB 266.00 MB

Note

The time synchronization by ntp is unavailable in ftSys Management Appliance.

By default, ftSys Management Appliance is configured to perform time synchronization with the ESXi host. Performing time synchronization by ntp on the ESXi host makes the time of ftSys Management Appliance is also synchronized.

Tips

The time synchronization with the ESXi host is configured when ft control software is installed.

The [Summary] tab of ftSys Management Appliance, [Options] tab in properties of virtual machine that is displayed from [Edit Settings], and [Synchronize guest time with host] checkbox displayed by selecting [VMware Tools] \rightarrow [Advanced] is enabled.

🗿 ftSysMgt-Cygnus31 – Virtu	al Machine Properties	
Hardware Options Resources		Virtual Machine Version: 7
Settings	Summary	Power Controls
General Options	ftSysMgt-Cygnus31	Shut Down Guest
VMware Tools	Shut Down	
Power Management	Standby	Suspend 💌
Advanced		Power on / Resume virtual machine
General	Normal	Restart Cuest
CPUID Mask	Expose Nx flag to	Kestart übest
Memory/CPU Hotplug	Disabled/Disabled	
Boot Options	Normal Boot	
FIDre Channel NPIV	None	After powering on
Swapfile Location	Automatic Line default cettings	
Swaphie Location	Ose deraurt settings	M After resuming
		₩ Before suspending
		Before shutting down Guest
		Adversed
		Advanced
		Check and upgrade Tools during power cycling
		Synchronize guest time with host
[
Help		OK Cancel
Toh		

1.10 Setup after installing ft control software

1.10.1 Log Server

ESXi 5.0 or later version does not include a service console. Therefore, this model achieves the syslog reporting by forwarding the logs generated by ESXi to the log server on which NEC ESMPRO Agent is installed.

To use ftSys Management Appliance as the log server, no additional steps are required after following the steps in *Chapter 1 (1.10.2 Installing Additional Packages - When ftSys Management Appliance is set as the log server)* and *Chapter 2 (1.1 NEC ESMPRO Agent)*) of this document, because the log server will be automatically configured and forwarding the logs generated by the ESXi becomes available.

Note

To use any other server than ftSys Management Appliance as the log server, you need to prepare a Linux server separately. See *Chapter 2 (3. Steps for Configuring the Log Server)* of this manual for how to configure the Linux server.

The case of using ftSys Management Appliance as the Log Server.







1.10.2 Installing Additional Packages

Connect to the ESXi host from vSphere Client to configure.

- 1. Set the ft control software Install DVD to the DVD drive of the machine where vSphere Client is installed.
- 2. Click the CD/DVD button on toolbar of vSphere Client to mount the ft control software Install DVD.
- 3. Log in to ftSys Management Appliance as a root user.
- 4. Mount the ft control software Install DVD. When /mnt/cdrom directory exists, the making of the directory is unnecessary by mkdir command.

mkdir /mnt/cdrom
mount /dev/cdrom /mnt/cdrom

- 5. Run the installer of additional package.
 - When ftSys Management Appliance is set as the log server

/mnt/cdrom/NEC/install.sh

- When a separate Linux server is set as the log server
 - # /mnt/cdrom/NEC/install.sh -a
- 6. Select a keyboard layout ("us" for English 101 or "jp" for Japanese 106), and press Enter.
 Please choose a keyboard layout: [us(101) | jp(106)]
- 7. Select a language (English or Japanese) for NEC ESMPRO report table and enter "E" or "J".

Please choose a language for ESMPRO alert messages: [E(nglish) | J(apanese)]

Note	If using a separate Linux server as the log server, this message will not appear.
Tips	The NEC ESMPRO Report Table installed in this step is used by NEC ESMPRO Agent. See <i>Chapter 2 (1.1 NEC ESMPRO Agent)</i> for detail of NEC ESMPRO Agent.

8. The IP address of the ESXi host is displayed.

Make sure that the IP address shown is correct, enter the root password for the ESXi host, and press **Enter**.

```
ESXi host: xxx.xxx.xxx.xxx
Enter the root password:
```

9. The message prompting you to configure the log server appears. Enter the IP address of log server or the machine name, and press **Enter**. You can skip this step and set it later. (In that case, see Setp 2 in (3.4 Starting Transferring Logs) in Chapter 2.

Note The message does not appear when ftSys Management Appliance is configured as the log server.

10. When the message below appears, enter "yes" to restart the system. The ESXi host restarts.

A host reboot is required to place these updates into service. Enter 'yes' to reboot now or 'no' to allow a manual reboot later: [yes]

11. After making sure that the ESXi host is shutdown, take the ft control software Install DVD out from the drive.

1.10.3 Checking status of ft server

1. After the ftSys Management Appliance restarts, check the duplication status. Confirm that the System FT LED on the front of the server lights.



2. Run the following command to confirm if the system is running normally. # /opt/ft/sbin/ft-verify

The results list for each of the configuration is output. If all items show [PASS], it indicates that the installation has been completed successfully.

Output example:

ftSys Management Appliance hosted by xxx.xxx.xxx.xxx	[PASS]
Host is configured with enough memory	[PASS]
ftSys installed on host	[PASS]
Host software version matches appliance (5.0.1-225)	[PASS]
ftSys Management Appliance firewall settings	[PASS]
ftSys Management Appliance installed on boot volume	[PASS]
Multiple paths to storage	[PASS]
Network Configuration	[PASS]
Host ftSys service started	[PASS]
Host logs available after reboot	[PASS]
Host BIOS up to date - requires 6.2:52, or better	[PASS]
Host BMC up to date - requires Runtime=03.07, or better	[PASS]

3. If the following error is detected while running ft-verify command, update the BMC firmware.

Error message:

```
Host BMC up to date - requires Runtime=03.07, or better [FAIL]
BMC 10/120 - Runtime=03.07 Boot=00.09 Sdr=01.13
BMC 11/120 - Runtime=03.07 Boot=00.09 Sdr=01.13
```

Procedure for updating BMC firmware:

- 1) Log in to ftSys Management Appliance as a root user.
- 2) Run the following command to update BMC firmware. (Updating takes approximately 20 minutes.)
 - # /opt/ft/bin/ftsmaint burnBmcs /opt/ft/firmware/bmc/FT320FE/062*.bin
- 4. When updataing of BMC firmware completes, repeat steps of ft-verify command. If all items show [PASS], the system is running normally.

1.11 Connecting and Configuring Options

If there is any optional PCI board or peripheral equipment to connect to NEC Express5800/ft series, turn off the power to NEC Express5800/ft series, and connect it according to *Chapter 2 (5.7 PCI Card)* in *Maintenance Guide* and the device's instruction.

For how to install and use hard disk drive, see Chapter 2 (2. Disk Operations) in Maintenance Guide.

Immediately after the installation completes, network configuration for a port is duplicated. When you change the network configuration or configure the duplication setting by adding a LAN card, it is necessary to configure the settings from vSphere Client.

For detailed procedures, refer to the *User's Guide* and Vmware vSphere documents packaged with this guide from the following Website by selecting "Release5.1"

http://www.vmware.com/support/pubs/vsphere-esxi-vcenter-server-pubs.html

* The contents of the Website above may be changed or deleted without notice.

For how to configure the duplicated network, see Chapter 2 (3. Duplex LAN Configuration) in Maintenance Guide.

To have enough time to initialize Fibre Channel disk and Fibre Channel switch and so on, adjust [Server] - [Power On Delay Time] by setting System BIOS configuration Utility.

1.12 Enabling OS Boot Monitoring Function

Enables OS Boot Monitoring feature.

Set OS Boot Monitoring feature to Enabled on BIOS SETUP according to *Chapter 1 (1.5 Disabling OS Boot Monitoring Function)*. Then, specify the timeout time for OS Boot Monitoring Timeout parameter appropriately.

Main Advance	Aptio Setup Utility – ed Security Server I	Copyright (C) 2012 A Boot Save & Exit	merican Megatrends, Inc.	
System Manage Event Log Con FRB-2 Timer PCI Enumerati PCI Enumerati Dption ROM Sc OS Boot Monit OS Boot Monit POST Pause Moi POST Pause Moi POST Pause Moi POST Pause Moi POST Error Pau AC-LINK	ment figuration on Monitoring an Monitoring Timeout an Monitoring Timeout oring oring Timeout nitoring nitoring Timeout r use	[Enabled] [Enabled] 180 [Enabled] 300 [Enabled] 600 [Enabled] [Enabled] [Disabled] [Stay Off]		
			F1: General Help F4: Save & Exit Setup ESC: Exit	

1.13 Backing up System Information

We recommend you to back up the system information after setting up the system.

With backup for system information, the information and settings that are specific to your server can be restored after the server is repaired. Follow the steps below to dictate the system information:

1.13.1 BIOS SETUP

 Power on the server, and run POST. After a while, the following message appears at lower left of the screen. Press <F2> SETUP, <F4> ROM Utility, <F12> Network

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

- 2. Move the cursor onto "Advanced", "Security", "Server" and "Boot". Dictate BIOS setting.
 - < Example >

"Advanced"-"PCI Configuration"-"SAS Option ROM Scan" "Advanced"-"PCI Configuration"-"PCI Slot x Option ROM" "Security" "Server"-"OS Boot Monitoring" "Server"-"AC-LINK" "Server"-"Power On Delay Time" "Boot"-"Boot Option Priorities"

3. Select Save changes and Exit. On the confirmation window shown below, select [Yes] to save parameters and exit SETUP.

1.13.2 System information

- 1. Power on the server, and run POST.
 - After a while, the following message appears at lower left of the screen. Press <F2> SETUP, <F4> ROM Utility, <F12> Network

If you press **F4**, ROM Utility will start after POST, and the Main menu appears. (You can also start ROM Utility by pressing **F4** while expanding option ROM.)

Off-line TOOL MENU
Maintenance Utility BMC Configuration Exit

- 2. Choose "Maintenance Utility"-"Sytem Information Viewer"-"Display System Information"-"System Information". Dictate the below System information.
 - "Product Name" "FR Number" "Serial Number"
- 3. Press ESC several times to display the Main menu.

Off-line TOOL MENU
Maintenance Utility BMC Configuration Exit

1.13.3 BMC Configuration

- Choose "BMC Configuration"-"BMC Configuration". Dictate BMC Configurations that have changed.
 < Example >
 - "Network : CPU/IO module0"-"Property" "Network : CPU/IO module1"-"Property" "User Management"-"User Account"
- 2. Press ESC some times to display the Main menu.

Off-line TOOL MENU
Maintenance Utility BMC Configuration Exit

3. Choose "Exit" to exit.

The setup is now completed.

1.14 Setup Procedures upon Installing Guest OS

For the setup procedures upon installing guest OS, see the "vSphere Virtual Machine Administration Guide" of VMware vSphere. For the network configuration, refer to the "vSphere Networking Guide" packaged with this guide and the ESXi Configuration Guide of VMware vSphere.

Note

Guest OS cannot use the optical disk drive on the ESXi host during operation. To use the optical disk drive, select [Client Device] for properties setting of the guest OS.

2. Procedures after Completion of Installation

2.1 Confirmation of the Kernel Version

Explain how to check the kernel version of ftSys Management Appliance and a version of ESXi. Check the version following the steps below.

ESXi

1. Run the following command on the ftSys Management Appliance.

```
# esxcli -s <ESXi |Paddress> system version get
Product: VMware ESXi
Version: 5.1.0
Build: Releasebuild-1065491
Update: 1
```

Make sure that Version, Build, and Update are exactly same as those shown above.

ftSys Management Appliance

1. Run the following command on the ftSys Management Appliance.

```
# uname -a
Linux ftsysMgt-Cygnus 2.6.18-274.el5 #1 SMP Fri Jul 22
04:43:29 EDT 2011 x86_64 x86_64 x86_64 GNU/Linux
```

" 2.6.18-274.e15" indicates version of kernel, and "#1 SMP Fri Jul 22 04:43:29 EDT 2011" indicates release information of kernel.

Make sure that the version of kernel is correct.

This completes version confirmation.

2.2 Confirmation of the ft control software Version

The following describes how to check the version of ft control software. Perform the procedure when you need to check the ft control software version of the current system such as before adding units or attachment to NEC Express5800/ft series.

Confirm the version following the steps below:

Note

Running the following command may fail if the necessary process does not run immediately after the system startup. In this case, wait for a while (several minutes or so), and try again.

1. Run the following command on the ftSys Management Appliance.

```
# /opt/ft/bin/ftsmaint -v
ftsys-ftsmaint version 5.0.1-225
```

The version of the ft control software in operation is displayed.

Make sure that the version is exactly same as that shown above.

This completes the version confirmation.

2.3 Precautions for Changing the Configuration after Setup

If the network configuration has been changed after completing the setup, run appropriate commands.

Important Should be changed after setup is complete it can cause unexpected behavior and make configuration changes on the way up.

2.3.1 If the ESXi Host Network Configuration has been Changed

If the ESXi host network configuration has been changed, run the following commands on ftSys Management Appliance.

/opt/ft/sbin/configure-appliance

shutdown -r now

ftSys Management Appliance reboots after running the commands.

2.3.2 If the IP Address of Log Server or Host Name has been Changed

If the IP address of log server or host name has been changed, run the following command on ftSys Management Appliance. The new IP address or the host name is recognized as the log server.

```
# /opt/ft/sbin/build-loghost update -1 <IP address of log server or machine
name>
```

Run the build-loghost command with no option specified to make sure that the new IP address or host name is properly recognized as the log server.

Note

For the log server, see Chapter 2 (3. Steps for Configuring the Log Server) of this manual.

2.3.3 Changing the Firewall Rules on ftSys Management Appliance

Default Firewall Rules

The default firewall rules after the setup are as follows.

Input/Output	Destination Port	Source Port	Protocol	Service
Input	514	67-68	udp	syslogd *1
Input	22	*	tcp	ssh
Input	67-68	67-68	udp	bootp
Input	80	*	tcp	http
Input	161	*	*	SNMP
Input	443	*	tcp	https
Input	3052	*	*	APC
Input	5480	*	tcp	VAMI
Input	6547	*	tcp	APC
Input	8089	*	tcp	Apache/ftWeb
Input	8090	*	tcp	OSM
				CIM-Indications
Output	22	*	tcp	ssh
Output	23	*	tcp	telnet
Output	53	1024-65535	*	DNS
Output	67-68	67-68	udp	bootp
Output	80	*	tcp	http
Output	162	*	*	snmp-trap
Output	443	*	tcp	https
Output	5989	*	tcp	sfcbd/https
Output	*	3052	*	APC

*1. When the log server is configured on ftSys Management Appliance

Use the report method except the Manager Report (SNMP), change the setting of the firewall. NEC ESMPRO Agent (in the table referred to as Agent) list of port to use when the report is the following.

"Direction" in the table include the bi-directional arrows in the top row is at the starting time of the communication, and the lower shows the communication of return.

Function	in (Agent)	Direction	Out (default)	Note
Manager Report (SNMP)	Auto	\rightarrow	162/udp	Port opening (default)
Manager Report (TCP/IP)	Auto	\rightarrow \downarrow	31134/tcp	
Via the Manager Report Service Express	Auto	\rightarrow \downarrow	31136/tcp	
HTTPS (Via the Manager) Report Service Express	Auto	${\rightarrow} \qquad \downarrow$	31138/tcp	
Report Service Express (Internet email)	Auto	${\rightarrow} \qquad \qquad$	25/tcp	smtp
		${\rightarrow} \qquad \qquad$	110/tcp	рорЗ
Report Service Express (HTTPS)	Auto	\uparrow \downarrow	443/tcp	https Release port (default)

Adding New Firewall Rules

Note



To enable the firewall rules on ftSys Management Appliance, rebooting ftSys Management Appliance is required. Rebooting the ESXi host is not required.

- 1. Open the firewall configuration file (/etc/sysconfig/iptables) on ftSys Management Appliance.
 - # vi /etc/sysconfig/iptables
- 2. Change the firewall rules and save the file.
- Reboot ftSys Management Appliance to enable the rules.
 Reboot the guest OS from the vSphere Client or run the following command on the console.
 - # shutdown -r now
- 4. After rebooting ftSys Management Appliance, run the following command to make sure that the system is running successfully.
 - # /opt/ft/sbin/ft-verify
- 5. If successful, [PASS] appears in the output.

ftSys Management Appliance hosted by xxx.xxx.xxx.xxx	[PASS]
Host is configured with enough memory	[PASS]
ftSys installed on host	[PASS]
Host software version matches appliance (5.0.1-225)	[PASS]
ftSys Management Appliance firewall settings	[PASS]
ftSys Management Appliance installed on boot volume	[PASS]
Multiple paths to storage	
Network Configuration	
Host ftSys service started	[PASS]
Host logs available after reboot	[PASS]
Host BIOS up to date - requires 6.2:52, or better	[PASS]
Host BMC up to date - requires Runtime=03.07, or better	[PASS]

If it is found out that the system is not running successfully when checking the firewall behavior, review the rules or revert the rules to default by following the steps provided below.

Reverting the Firewall Rules to Default

- 1. Delete the firewall configuration file (/etc/sysconfig/iptables) on ftSys Management Appliance.
 - # rm /etc/sysconfig/iptables
- 2. Copy the default firewall configuration file.
 - # cp /etc/opt/ft/firewall.templ /etc/sysconfig/iptables
- Reboot ftSys Management Appliance to enable the configuration. Reboot the guest OS from the vSphere Client or run the following command on the console.
 - # shutdown -r now



NEC Express5800 Series Express5800 /R320c-E4, R320c-M4

Installing Bundled Software

This chapter provides brief explanation of bundled software and how to install them.

1. Bundled Software for the Server

Describes the bundled software to be installed in the server system.

2. Bundled Software for Management PC

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

3. Steps for Configuring the Log Server

Describes forwarding the logs generated by ESXi to the log server.

1. Bundled Software for the Server

The provided "NEC EXPRESSBUILDER" DVD contains "NEC ESMPRO Manager" for managing the NEC Express5800/ft series. This utility monitors the status of Express5800/ft server.

1.1 NEC ESMPRO Agent

NEC ESMPRO Agent is a utility to monitor the operating status, the configuration information, the failure occurrence status of hardware and software on the NEC Express5800/ft series. When it detects some problems, it sends messages to the computer in which the NEC ESMPRO Manager is installed.

NEC ESMPRO Agent is required to be installed on the log server by users.

In order for NEC ESMPRO Agent to operate, it is necessary to configure the settings according to your environment. See the *User's Guide* (NEC/esmpro-sa/doc/lnx_esm_users_e.pdf) included in the ft control software Install DVD.

NEC ESMPRO Agent is stored in the ft control software Install DVD.

Described below are procedures to configure the ft Management Appliance as the log server. If you use any other server as the log server, see *Chapter 2 (3. Steps for Configuring the Log Server)* for the log server.

Note	See Chapter 1 (1.10.1. Log Server) for the log server.
Note	Be sure to install NEC ESMPRO Agent on log server.
	If the status of ft server changes due to failure, NEC ESMPRO Agent notifies of it.
	NEC ESMPRO Agent notifies server status change only. It does not notify of hardware
	failure of ESXi host nor events related to VMware.
	You can use ftsmaint command to confirm detailed status of ft server.
	Refer to Chapter 1 (4.3 ftsmaint Examples) in Maintenance Guide (separate volume) for
	details of ftsmaint command.

1.1.1 Preinclination

SNMP is used for reporting to NEC ESMPRO Manager. Provide settings for SNMP as shown below.

- 1. Log in to ftSys Management Appliance as a root user.
- Edit the /etc/snmp/snmpd.conf. Change the /etc/snmp/snmpd.conf, and, for ESMPRO MIB (.1.3.6.1.4.1.119.2.2.4.4), set a right of the community in "READ WRITE".

In the example below, "READ WRITE" authority is given to all MIB (.1 subordinates) of default community (public).

Example

#### # Third, create a view for us to let the group have rights t # name incl/excl subtree mask(optic	co: onal)
<pre>#view systemview included .1.3.6.1.2.1.1 #view systemview included .1.3.6.1.2.1.25.1.1 view all included .1 80</pre>	 Modify these lines. Comment out the existing description. Add new descriptions.
<pre># Finally, grant the group read-only access to the systemvie # group context sec.model sec.level prefix read #access notConfigGroup "" any noauth exact systemv access notConfigGroup "" any noauth exact all</pre>	ew view. write norif iew none none all none

Note

Refer to Help of snmpd.conf for detailed procedure. Run man command to open Help of snmpd.conf.

- 3. Check the runlevel 3 and 5 of snmpd is on.
 - # /sbin/chkconfig --list snmpd



- In the case of on, restart snmpd.
 - # /etc/init.d/snmpd restart
- In the case of off, change setting of snmpd, and start snmpd.
 - # /sbin/chkconfig --level 35 snmpd on
 - # /etc/init.d/snmpd start
- 4. Check the runlevel 3 and 5 of portmap is on.
 - # /sbin/chkconfig --list portmap

portmap 0:off 1:off 2:off 3:on 4:off 5:on 6:off

- In the case of on, it is not necessary to change setting of portmap.
- In the case of off, change setting of portmap, and start portmap.
 - # /sbin/chkconfig --level 35 portmap on
 - # /etc/init.d/portmap start

1.1.2 Install NEC ESMPRO Agent

Connect to the ESXi host from vSphere Client to configure.

- 1. Set the ft control software Install DVD to the DVD drive of the machine where vSphere Client is installed.
- 2. Click the CD/DVD button on toolbar of vSphere Client to mount the ft control software Install DVD.
- 3. Log in to ftSys Management Appliance as a root user.
- 4. Mount the ft control software Install DVD. When /mnt/cdrom directory exists, the making of the directory is unnecessary by mkdir command.
 - # mkdir /mnt/cdrom
 - # mount /dev/cdrom /mnt/cdrom
- 5. Run the following command to change the directory that contains NEC ESMPRO Agent.

```
# cd /mnt/cdrom/NEC/esmpro-sa/
```

6. Run the following command to install the NEC ESMPRO Agent.

rpm -ivh Esmpro-*

- 7. Run the following command to change setting of ESMstrg.
 - # /sbin/chkconfig ESMstrg off
- 8. Running the following command displays the messages as shown below.

```
# cd /opt/nec/esmpro_sa/tools
# ./sethwinf
```

Enter the number and set the system information.

- 1. Product Name: Other
- Product Manufacturer: Other
 Chassis Type: Other
- s. Save and quit
- q. Quit without save

Please input your selection (1 to 3, s, q):

Examples)

- 1. Product Name: NEC Express5800/R320c-M4
- 2. Product Manufacturer: NEC
- 3. Chassis Type: Rack
- 9. Change directory, and unmount the ft control software Install DVD.
 - # cd /
 - # umount /mnt/cdrom
- Press the Ctrl+Alt keys to release the mouse, click the CD/DVD button on toolbar on the console of vSphere Client to unmount ft control software Install DVD, and then take the ft control software Install DVD out from DVD drive.
- **11.** Restart the ftSys Management Appliance.

reboot

- 12. Perform a basic configuration of the Manager Report (SNMP).
 - 1. Start the ESMamsadm, see "Chapter 3 Report Features" "1. Report Setting" "Method of starting the Control Panel (ESMamsadm)" of NEC ESMPRO Agent User's Guide.
 - 2. Set a trap notification destination IP, see "Chapter 3 Report Features" "2.1.1. Base Setting of Manager (SNMP)" of NEC ESMPRO Agent User's Guide.
- 13. Perform the automatic discovery of servers in NEC ESMPRO Manager. Perform the automatic discovery of servers according to NEC ESMPRO Server Management Guide. You can download the NEC ESMPRO Server Management Guide from the following URL: <u>http://www.58support.nec.co.jp/global/download/index.html</u> [ESMPRO] tab NEC ESMPRO Server Management Guide [ZIP]

2. Bundled Software for Management PC

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

2.1 NEC ESMPRO Manager

NEC ESMPRO Manager remotely controls and monitors the server hardware. Install NEC ESMPRO Manager on management PC.

To use these features, install the bundled software such as NEC ESMPRO Agent on the server.

For details about the system requirements of NEC ESMPRO Manager and how to install it, refer to "*NEC ESMPRO Manager Installation Guide*" (xxx\doc\jp\pdf\sg_es_sm_j.pdf, where xxx represents 3-digit numeric) in EXPRESSBUILDER.

3. Steps for Configuring the Log Server

To use a log server separately, prepare a Linux server. To configure the server to be used for log server, install NEC ESMPRO Agent on it, and provide various settings (e.g., editing snmpd.conf, opening of port, and others). Refer to the manual that comes with NEC ESMPRO Agent.

After configuring the server as described above, provide the following settings.

3.1 Setting Firewall for Log Server

To forward logs from the ESXi server, use the 514/upd port. In the case of setting the firewall on the log server side, set it to receive logs from the 514/upd port.

Examples

- Add below to /etc/sysconfig/iptables.
 -A INPUT -p udp -dport 514 -j ACCEPT
- Restart iptables.
 # service iptables restart

3.2 Setting Syslog for Log Server

Set the 514/udp port in waiting state on the log server side. Additionally, the configuration to output transferred logs to /var/log/messages needs to be set as well.

Examples of setting an environment to use syslog

1. To set the 514/udp port in waiting state, edit /etc/sysconfig/syslog.

```
<Before the change>
SYSLOGD_OPTIONS="-m 0"
<After the change>
SYSLOGD_OPTIONS="-m 0 -r"
```

2. To output transferred logs to /var/log/messages, edit /etc/syslog.conf.

<Before the change> *.info;mail.none;authpriv.none;cron.none /var/log/messages <After the change> *.info;mail.none;authpriv.none;cron.none;local4.none;local6.notice /var/log/messages

- 3. Restart syslog.
 - # service syslog restart

Examples of setting an environment to use rsyslog

1. To set the 514/udp port in waiting state, edit /etc/sysconfig/rsyslog.

<Before the change> # Provides UDP syslog reception #\$ModLoad imudp.so #\$UDPServerRun 514 <After the change> # Provides UDP syslog reception \$ModLoad imudp.so \$UDPServerRun 514

2. To output transferred logs to /var/log/messages, edit /etc/rsyslog.conf.

<Before the change>

*.info;mail.none;authpriv.none;cron.none /var/log/messages

*.info;mail.none;authpriv.none;cron.none;local4.none;local6.notice /var/log/messages

- 3. Restart rsyslog.
 - # service rsyslog restart

Note

The setting method may be changed depending on the package version. For the setting method, refer to Help, etc. for .conf files. For example, Help for rsyslog.conf can be checked by running the man command as below. # man rsyslog.conf

3.3 Installing Reporting Function onto Log Server

Install the report table of NEC ESMPRO onto the log server so that the ESMPRO Agent can send the ft server-specific messages transferred to the log server to NEC ESMPRO Manager.

Connect to the ESXi host from vSphere Client to configure.

- 1. Set the ft control software Install DVD to the DVD drive of the machine where vSphere Client is installed.
- 2. Click the CD/DVD button on toolbar of vSphere Client to mount the ft control software Install DVD.
- 3. Log in to the log server as a root user.
- 4. Mount the ft control software Install DVD. When /mnt/cdrom directory exists, the making of the directory is unnecessary by mkdir command.
 - # mkdir /mnt/cdrom
 # mount /dev/cdrom /mnt/cdrom
- 5. Run the command below to install the ESMPRO report table onto the log server.
 - # /mnt/cdrom/NEC/install.sh -e
- 6. Select a language for the report table. For English, select "E", and for Japanese, select "J."

```
Please choose a language for ESMPRO alert messages: [E(nglish) | J(apanese)].
```

Note

If you want to change from the previously selected language to other language in the language selection for the report table, you need to uninstall the package installed before running the installer. # rpm -qa | grep ftexp-report-table ftexp-report-table.[languate ID]-[version] # rpm -e ftexp-report-table.[languate ID]

- 7. Change directory, and unmouont ft control software Install DVD.
 - # cd /
 - # umount /mnt/cdrom
- Press the Ctrl+Alt keys to release the mouse, click the CD/DVD button on toolbar on the console of vSphere Client to unmount ft control software Install DVD, and then take the ft control software Install DVD out from DVD drive.
- 9. Restart the NEC ESMPRO Agent on the log server.
 - # /opt/nec/esmpro_sa/bin/ESMRestart

3.4 Starting Transferring Logs

Perform operations required to start transferring logs. The method to change the log host is also described.

- 1. Log in to the ftSys Management Appliance as a root user.
- 2. When you did not specify the IP address of log server or machine name in Step 9 in *Chapter 1 (1.10.2 Installing Additional Packages)* or want to change the log server, specify the log server using build-loghost command.

```
# /opt/ft/sbin/build-loghost update -1 <IP address of log server or machine
name>
```

lote	When running the build-loghost command without option, the currently-set IP address
	of log server or machine name will be displayed.
	Examples of when running the command in the case that the IP address of log server is
	192.168.0.7:
	# /opt/ft/sbin/build-loghost
	Default Rotation Size: 1024
	Default Rotations: 8
	Log Output: /scratch/log
	Logto Unique Subdirectory: false
	Remote Host: 192.168.0.7

3. Reload syslog daemon.

Tips

N

esxcli -s <IP address of the ESXi server or machine name> system syslog reload

 Important
 When rebooting the log server, log transfer will be momentarily stopped. In this case, to resume log transfer, it is required to run the esscli system syslog reload command again on the ftSys Management Appliance after the log server has rebooted.

Log transfer also stops if the log server side is not ready for receiving logs when the log server is changed by the build-loghost command. After completing the configuration required on the log server side, run the esxcli system syslog reload command.

When a separate log server is installed, some of the logs related with the internal disks are not reported. These logs can also be reported by installing NEC ESMPRO Agent and the report table on ftSys Management Appliance and configuring the reporting settings, because these logs are generated in the syslog of ftSys Management Appliance. Even without following the instructions above, logs indicating that one of a pair of mirrored internal disks is isolated and the other internal disk runs without the counterpart will be reported.