



N8800-155F, EXP320L

NEC Express5800/R320a-E4

N8800-154F, EXP320M

NEC Express5800/R320b-M4

User's Guide (Setup)

2nd Edition

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Keep this User's Guide handy for quick reference when necessary.

Safety Indications




To use NEC Express5800 series safely, follow the instructions in this User's Guide.

This guide explains components that pose a danger, types of dangers caused by failing to follow the instructions, and actions taken to prevent them; such components are labeled warning.

This guide and warning labels use "WARNING" and "CAUTION" to indicate a danger depending on the degree. These terms are defined as follows:

 WARNING	Indicates a danger that could lead to a death or serious injury.
 CAUTION	Indicates a danger that could lead to a burn, other injuries or damage to physical assets.



This guide uses the following three types of symbols to give indications and precautions against a danger. They are defined as follows:

	Indicates that there is a risk of a danger. Each image symbolizes a particular type of danger. (Attention)
	Indicates what you must not do. Each image symbolizes a particular type of prohibition. (Prohibited actions)
	Indicates what you must do. Each image symbolizes a particular type of action necessary to avoid a danger. (Mandatory actions)

(Example)

Symbol to draw attention

Term indicating a degree of danger









 CAUTION	
	<p>High temperature. Immediately after the power-off, system components such as hard disk are very hot. Wait the server to cool down completely before adding/removing some component.</p>

Symbol indicating a prohibited action (may not always be indicated)







Description of a danger

Symbols and its descriptions used in this User's Guide and warning labels are as follows:




Attention

	Indicates a risk of an electric shock.
	Indicates a risk of a personal injury due to heat.
	Indicates a risk of catching your fingers.
	Indicates a risk of a fire or smoke.
	Indicates a general precaution or warning that is not defined herein.
	Indicates a risk of losing eyesight due to laser beam.
	Indicates a risk of a personal injury due to explosion.
	Indicates a risk of a personal injury.

Prohibited actions

	Indicates a general prohibition that is not defined herein.
	Do not touch the indicated area. There is a risk of an electric shock or fire.
	Do not touch with wet hands. There is a risk of an electric shock.
	Keep from flame. There is a risk of a fire.
	Avoid using water or liquid nearby. If it spills on the equipment, there is a risk of an electric shock or fire.
	Do not disassemble, repair, or modify the equipment. There is a risk of an electric shock or fire.

Mandatory actions

	Unplug the server. There is a risk of an electric shock or fire.
	Indicates a general action to take that is not defined herein. Make sure to follow the instructions.
	Be sure to provide earthing. Otherwise, an electric shock or fire may be caused.

For detailed notes to set up the machine safely, refer to “NOTES FOR SAFE HANDLING” on page 1-2.

NOTE: 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.

BSMI Statement

警告使用者：

此為甲類資訊技術設備，於居住環境中使用時，可能會造成射頻擾動，在此種情況下，使用者會被要求採取某些適當的對策。

CCC Statement

声 明

此为A级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

KCC Statement

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가정외의 지역에서 사용하는 것을 목적으로 합니다.

CE Statement

Australia EMI:

Warning: 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.

Canada EMI:

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.



This system is classified as a CLASS 1 LASER PRODUCT. This label is located on the internal DVD-ROM installed in your system.

- NOTE: This product provides resistance against hardware faults with its redundant hardware modules. However, this does not mean complete fault-tolerance is assured. For example, there is a risk of system down when:
- A fatal fault occurs in software.
 - Both modules within a redundant hardware pair break down.
 - A fatal fault occurs in a non-redundant component, such as the clock generator circuitry or the interconnect backplane.
 - The entire system is cut off from AC power.

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Windows Server 2008 is the abbreviation for Microsoft Windows Server 2008 Standard operating system and Microsoft Windows Server 2008 Enterprise operating system. Microsoft Windows Server 2003 R2 Standard x64 Edition operating system and Microsoft Windows Server 2003 R2 Enterprise x64 Edition operating system or Microsoft Windows Server 2003 Enterprise x64 Edition operating system are called Windows Server 2003 x64 Edition for short. Microsoft Windows Server 2003 R2 32-bit Standard Edition operating system, Microsoft Windows Server 2003 R2 32-bit Enterprise Edition operating system, Microsoft Windows Server 2003 Standard Edition operating system and Microsoft Windows Server 2003 Enterprise Edition operating system are called Windows Server 2003 for short. Microsoft Windows 2000 Server operating system, Microsoft Windows 2000 Advanced Server operating system and Microsoft Windows 2000 Professional operating system are called Windows 2000 for short. Windows 7 stands for Microsoft(R) Windows(R) 7 Professional operating system. Microsoft Windows Vista Business operating system is called Windows Vista for short. Microsoft Windows XP Professional x64 Edition operating system is called Windows XP x64 Edition for short. Microsoft Windows XP Home Edition operating system and Microsoft Windows XP Professional operating system are called Windows XP for short. Microsoft Windows NT Server network operating system version

3.51/4.0 and Microsoft Windows NT Workstation operating system version 3.51/4.0 are called Windows NT for short.

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The patent numbers for the DVC technology of Avocent US.

US Patent Number: 5,732,212/5,937,176/6,633,905/6,681,250/6,701,380 (others patents pending)

Taiwanese Patent Number: 173784

European Patent Number: 0 740 811

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Preface

Welcome to the NEC Express5800/ft series.

NEC Express5800/ft series is a “fault-tolerant (ft)” server focusing on “high reliability” in terms of fault-tolerance, in addition to “high performance,” “scalability,” and “general versatility” provided by NEC Express5800 series. In the event of trouble, its dual configuration will allow the system to isolate instantaneously the failed parts to assure non-stop running; operation will be moved smoothly from one module to the other, minimizing damage to it. You can use NEC Express5800/ft series in a mission-critical system where high availability is required. By the use of Windows Server 2003 operating system, it also provides outstanding openness for general-purpose applications, etc.

To make the best use of these features, read this User's Guide thoroughly to understand how to operate NEC Express5800/ft series.

About This User's Guide

This User's Guide helps a user to properly setup and use the product. Consult this guide when you set up the product.

Keep this manual and the separate volume of User's Guide handy.

This User's Guide is intended for users who have a good knowledge on the basic use of Windows operating systems and general I/O devices such as a keyboard and mouse.

How to Use This User's Guide

This guide explains the procedures you should perform before you begin system operation after you purchased the product. Read the guide in order from Chapter 1. If you perform procedures according to this guide, you will set up the product properly.

Chapter 4 describes how to install the operating system. Chapter 5 describes post-installation procedures. Chapter 6 explains how to troubleshoot if you cannot set up the product properly. Refer to "TROUBLESHOOTING" on page 6-2 if you feel you failed to set up the product.

See this User's Guide for details of this product's operation, and functions and operations of the hardware and the system.

Additional Symbols

The following symbols are used throughout this User's Guide in addition to the caution symbols described at the beginning.

IMPORTANT:	Important points or instructions to keep in mind when using the server or software
CHECK:	Something you need to make sure when using the server or software
TIPS:	Helpful information, something useful to know

About our Web Service

Information on NEC Express5800/ft series including modification modules is also available on our web site, NEC Global Site:

<http://www.nec.com/>

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Chapter 1

Before Using

This chapter includes information necessary for proper and safe operation of the server, the main unit and its accessories. Go through this chapter before you start setup of the product.

NOTES FOR SAFE HANDLING

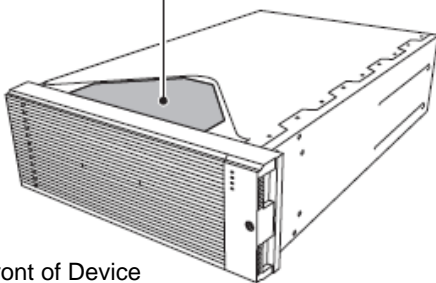
The following section describes necessary information to use the product properly and safely.

Warning Label

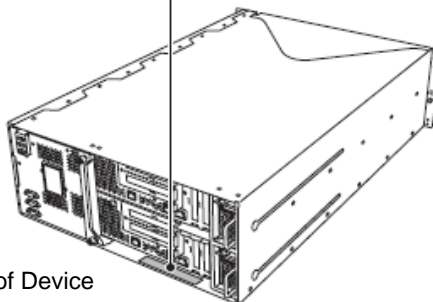
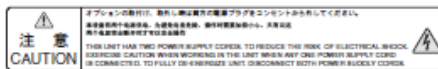
Warning label is placed in the certain part of the system so that the user stays alert to possible risks. Do not remove or damage the label.

If this label is missing, about to peel off, or illegible, contact your sales agent.

The figures below show the location of this label on the server.



Front of Device













Back of Device

PRECAUTIONS FOR SAFETY

This section provides precautions for using the server safely. Read this section carefully to ensure proper and safe use of the server. For symbol meanings, see “Safety Indications” described in the previous section.

General

 WARNING	
	<p>Do not use the equipment in an operation where human lives are involved or high reliability is required.</p> <p>This equipment is not intended for use and control in facilities/systems where human lives are involved or high reliability is required, including medical devices, nuclear facilities, aerospace equipments, transportation facilities or traffic control facilities. NEC assumes no liability for any accidents or damage to physical assets resulting from the use of this equipment in such systems or facilities.</p>
 	<p>Do not continue to use the equipment if you detect smoke, odor, or noise.</p> <p>If the equipment emits smoke, odor, or noise, immediately flip off the POWER switch, unplug the cord, and contact your sales agent. There is a risk of a fire if you continue to use the equipment.</p>
 	<p>Do not insert a wire or metal object.</p> <p>Do not insert a wire or metal objects into a vent or disk drive slot. There is a risk of an electric shock.</p>

 CAUTION	
 	<p>Prevent water or foreign objects from getting into the equipment.</p>
	<p>Do not let water or foreign objects (e.g., pins or paper clips) enter the equipment. There is a risk of a fire, electric shock, and breakdown. When such things accidentally enter the equipment, immediately turn off the power and unplug the cord. Contact your sales agent without trying to disassemble it yourself.</p>

Use of Power Supply and Power Cord

WARNING



Do not handle a power plug with a wet hand.

Do not plug/unplug a power cord with a wet hand.
There is a risk of an electric shock.



Do not connect the ground wire to a gas pipe.

Never connect the ground wire to a gas pipe.
There is a risk of a gas explosion.

CAUTION



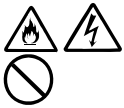
Do not plug the attached cord in a nonconforming outlet.

Use a wall outlet with specified voltage and power type.
There is a risk of a fire or electricity leakage if you use a nonconforming outlet.
Avoid installing the equipment where you may need an extension cord. If the cord that does not meet the power specifications, there is a risk of overheating that could lead to a fire.



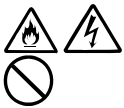
Do not plug multiple cords in a single outlet.

If the current exceeds the rating, there is a risk of overheating that could lead to a fire.



Do not plug the cord insecurely.

Insert the plug firmly into an outlet. There is a risk of heat or fire due to poor contact when you insert the plug insecurely. If dust settles on the slots and it absorbs moisture, there is also a risk of heat or fire.



Do not use nonconforming power cords.

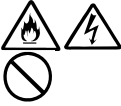
Do not use any AC cord other than the enclosed one. There is a risk of fire when the current exceeds the rating on the cord.
You also have to observe the following prohibitions about handling and connecting interface cables.

- Do not pull on the cord.
- Do not pinch the cord.
- Do not bend the cord.
- Keep chemicals away from the cord.
- Do not twist the cord.
- Do not place any object on the cord.
- Do not step on the cable.
- Do not use cords as bundled.
- Do not alter, modify, or repair the cord.
- Do not staple the cord.
- Do not use any damaged cord. (Replace it with a new one of the same specifications. For replacement procedures, contact your sales agent.)

⚠ CAUTION

Do not use other than 3-prong plug outlet.

This equipment encloses a power cord with 3-prong plug that has the third pin (an earth pin). This plug can be used only on the outlet for the 3-prong. There is a risk of an electric shock if you use other type of outlet.



Do not use the enclosed power cord to other devices or purposes.

The enclosed power cord is designated to connect to this equipment and use with the equipment. Never connect the cord to other devices or purposes. There is a risk of a fire or electric shock.

Installation, Relocation, Storage and Connection

CAUTION



Do not install or store the equipment in an unsuitable place.

Install or store the equipment in such a place as specified in this User's Guide. There is a risk of a fire if you place the server in a place such as follows.

- a dusty place
- a humid place located near a boiler, etc
- a place exposed to direct sunlight
- an unstable place



Do not use or store this product under corrosive gas environment.

Avoid the usage or storage of this product in an environment which may be exposed to corrosive gases, such as those including but not limited to: sulfur dioxide, hydrogen sulfide, nitrogen dioxide, chlorine, ammonia and/or ozone.

Avoid installing this product in a dusty environment or one that may be exposed to corrosive materials such as sodium chloride and/or sulfur.

Avoid installing this product in an environment which may have excessive metal flakes or conductive particles in the air.

Such environments may cause corrosion or short circuits of the printed board within this product, resulting in not only damage to this product, but may even lead to be a fire hazard.

If there are any concerns regarding the environment at the planned site of installation or storage, please contact your sales agent.



Do not use any non-designated interface cable.

Use only interface cables designated by NEC; identify which component or connector to attach beforehand. If you use an inappropriate cable or make a wrong connection, there is a risk of short-circuit that could lead to a fire.

You also have to observe the following prohibitions about handling and connecting interface cables:






- Do not use any damaged cable connector.
- Do not step on the cable.
- Do not place any object on the cable.
- Do not use the equipment with loose cable connections.
- Do not use any damaged cable.



Do not disable the lock mechanism.

Do not use this product with the lock mechanism being removed or disabled. Doing so may cause personal injury if this product drops.

Cleaning and Handling of Internal Devices

 WARNING	
	<p>Do not disassemble, repair, or alter the server.</p> <p>Unless described herein, never attempt to disassemble, repair, or alter the equipment. There is a risk of an electric shock or fire as well as malfunction.</p>
	<p>Do not look into the optical disk drive.</p> <p>The optical disk drive uses a laser beam. Do not look or insert a mirror inside while the system is on. A laser beam is invisible; if your eyes are exposed to the laser beam, there is a risk of losing eyesight.</p>
	<p>Do not remove the lithium and NiMH (or Li-Ion) batteries.</p> <p>Your server contains the lithium and NiMH (or Li-Ion) batteries. Do not remove the battery. Danger of explosion if the battery is incorrectly replaced. Placing the battery close to a fire or in the water may cause an explosion.</p> <p>When the server does not operate appropriately due to the dead lithium and NiMH (or Li-Ion) batteries, contact your service representative to replace only with the same or equivalent type recommended by NEC. Do not disassemble the server to replace or recharge the battery by yourself.</p>
	<p>Caution for electric shock.</p> <p>You can replace internal, optional devices while the equipment is powered-on. However, carefully follow the instructions on this guide when you do so. If you touch the internal devices other than the ones described in this guide, there is a risk of electrical shock.</p> <p>Make sure to power off the equipment and disconnect the power plug from a power outlet before cleaning. Touching any internal device of the equipment with its power cord connected to a power source may cause an electric shock even if the server is off-powered.</p> <p>Disconnect the power plug from the outlet occasionally and clean the plug with a dry cloth. Heat will be generated if condensation is formed on a dusty plug, which may cause a fire.</p>

⚠ CAUTION



High temperature

Immediately after powering off the system, system components such as hard disk drive may be very hot. Wait for the server to cool down completely before adding/removing components.



Make sure to complete installation.

Firmly install all power cords, interface cables and/or boards. An incompletely installed component may cause a contact failure, resulting in fire and/or smoke.



Protect the unused connectors with the protective cap.

The unused power cord connectors are covered with the protective cap to prevent short circuits and electrical hazards. Attach the protective cap to the unused connector. Failure to follow this warning may cause a fire or an electric shock.

During Operation

⚠ CAUTION

Keep animals away.



Animal's waste or hair may get inside the equipment to cause a fire or electric shock.



Do not place any object on top of the server.

The object may fall off to cause injuries, damage to hardware and/or a fire.



Do not leave the optical disk drive's tray ejected.

Dust may get in the equipment to cause malfunction. The ejected tray may also become a cause of injuries.



Do not touch the equipment when it thunders.

Unplug the equipment when it begins to thunder. If it starts to thunder before you unplug the equipment, do not touch the equipment and cables. And do not install or remove the equipment. There is a risk of a electric shock.

Rack-mount Model (R320a-E4/R320b-M4)

 **WARNING**



Do not install the equipment on a nonconforming rack.

Install the equipment on a 19-inch rack conforming to the EIA standard. Do not use the equipment without a rack or install it on a nonconforming rack. The equipment may not function properly, and there is a risk of damage to physical assets or injuries. For suitable racks, contact your sales agent.



Do not use in the spot other than the designated one.

Install this equipment in the spot where it satisfies the conditions of installation. Installing this equipment in an undesirable spot causes negative effects on the equipment itself and other systems. There is also a risk of a fire as well as an injury caused by the rack that falls. Refer to the description that is attached the rack, or contact your maintenance service agent for the detailed accounts of the installation spot or a seismic construction.

⚠ CAUTION

Be careful not to hurt your fingers.

Exercise great care not to hurt your fingers on the rail when you mount/dismount the server into/from the rack.



Do not attempt to install the server yourself.

Transport and install the rack with three and more people. Doing so with two or less people could cause the falling of the rack and damaging the surroundings. High rack such as 44U rack is unstable if it is not fixed with stabilizers or other materials. Make sure to support transport and install it with three or more people.



Do not install the equipment in such a manner that its weight is imposed on a single place.

To distribute the weight, attach stabilizers or combine two or more racks. There is a risk of falling down to cause injuries.



Do not assemble parts alone. Check the pins on hinges.

Mount doors and trays to a rack with two or more people. Make sure that the pins on hinges on the top and the bottom of the door when you install it. Neglecting this check could lead to dropping some parts and cause a breakage of them or could result in injuries.



Do not pull a equipment out of the rack if it is unstable.

Before pulling out a equipment, make sure that the rack is fixed (by stabilizers or quake-resistant engineering). It may fall down to cause injuries.



Do not leave two or more equipments pulled out from the rack.

If you pull out two or more equipments, it may fall down to cause injuries. You can only pull out one equipment at a time.



Do not install excessive wiring.



To prevent burns, fires, and damage to the equipment, make sure that the rated load of the power branch circuit is not exceeded. For more information on installation and wiring of power-related facilities, contact your electrician or local power company.



Do not pull out a equipment from the rack during operation.

Do not pull out a equipment while it works. There is a risk of malfunction and injuries.

UNPACKAGING

This product and various accessories are in the special shipping box. Take them out from the box and check the individual items. Store the box and unused accessories in a safe place.

Accessories

This product is shipped with various accessories. See the packing list to make sure everything is included and check the individual items. If any component is missing or damaged, contact your sales agent.

- Keep the accessories in a safe place. You will need them when you perform setup, addition of options, or replacement of failed components.
- To check NEC EXPRESSBUILDER components, see the attached list.
- Be sure to fill out and mail the software registration card that is shipped with the operating system.
- Make backup copies of included floppy disks or Flash FDD, if any. Keep the original disks as the master disks; use these copies in operation.
- Improper use of an included floppy disk, Flash FDD, or DVD may alter your system environment. If you find something unclear, stop using them and contact your sales agent.

Transporting Device

This unit and options use lithium-metal battery or lithium-ion battery. Contact your local reseller for transporting the unit by air or shipping since the regulation is applied to air and maritime transportation of lithium battery.

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Chapter 2

About Operating System

This chapter gives essential information on the Windows system supported by the server and how to install it.

INSTALLING Windows Server 2008 R2

For installing an operating system on NEC Express5800/ft series, refer to the below description.

IMPORTANT:

The NEC Express5800/ft series is a precision instrument. You should ask maintenance personnel to install it.

Before performing the NEC EXPRESS5800/ft series setup, contact your sales agent about the latest release of ft Server Control Software.

About OS Installation

Read the notes here carefully before installing the operating system.

Operating System Supported by the NEC Express5800/ft series

The operating system that NEC Express5800/ft series supports is as follows:

- **Microsoft® Windows Server® 2008 R2 Enterprise**, hereafter called “Windows Server 2008 R2.”

For more information on how to install Windows OS, refer to “Express Setup.”

NEC Express5800/ft series does not support any operating systems other than the above (e.g., Windows Server 2008, Windows Server 2003 R2 Standard x64 Edition, Windows Server 2003 Standard/Enterprise Edition, Windows 2000 or Windows NT 4.0).

About Windows Server 2008 R2

Use the Express Setup program to install Windows Server 2008 R2. Note the following at installation:

IMPORTANT:

- Complete all the setups such as the memory expansion and the BIOS setting before installing Windows Server 2008 R2.
 - NEC software package, which is to be purchased separately, is also provided with the documentation for installation. However, see this User's Guide for installation into this server.
 - After completing the Express Setup program, make settings for failure management (e.g., memory dump (debug information) setting) according to Chapter 4.
 - Both Express Setup and “Manual Setup” are applicable to Windows Server 2008 R2. “Manual Setup” allows you to manually and individually install Windows Server 2008 R2, disk drivers and other utilities.
-

About Auto Installation of Utilities

The Express Setup installs the following utilities automatically.

- Drivers and services for achieving duplicated operation
- NEC ESMPRO Agent

The Express Setup program is exclusively used for the NEC Express5800/ft series. To execute the setup program, simply select the item [Express Setup] from the menu displayed when starting the system through the provided “NEC EXPRESSBUILDER.” The setup program automatically performs the complete setups from hardware internal parameter/status settings to installation of the operating system (Windows Server 2008R2) and various utilities.

Use the NEC Express5800/ft series setup program for the first installation and reinstallation of the operating system. This program accomplishes complicate setups.

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Chapter 3

Installing Server

This chapter describes requirements for using the product properly and safely, the setup procedures to make NEC Express5800/ft series ready for use, and how to connect peripherals.

INSTALLATION

This section describes installation of NEC Express5800/ft series.

Rack-mount Model

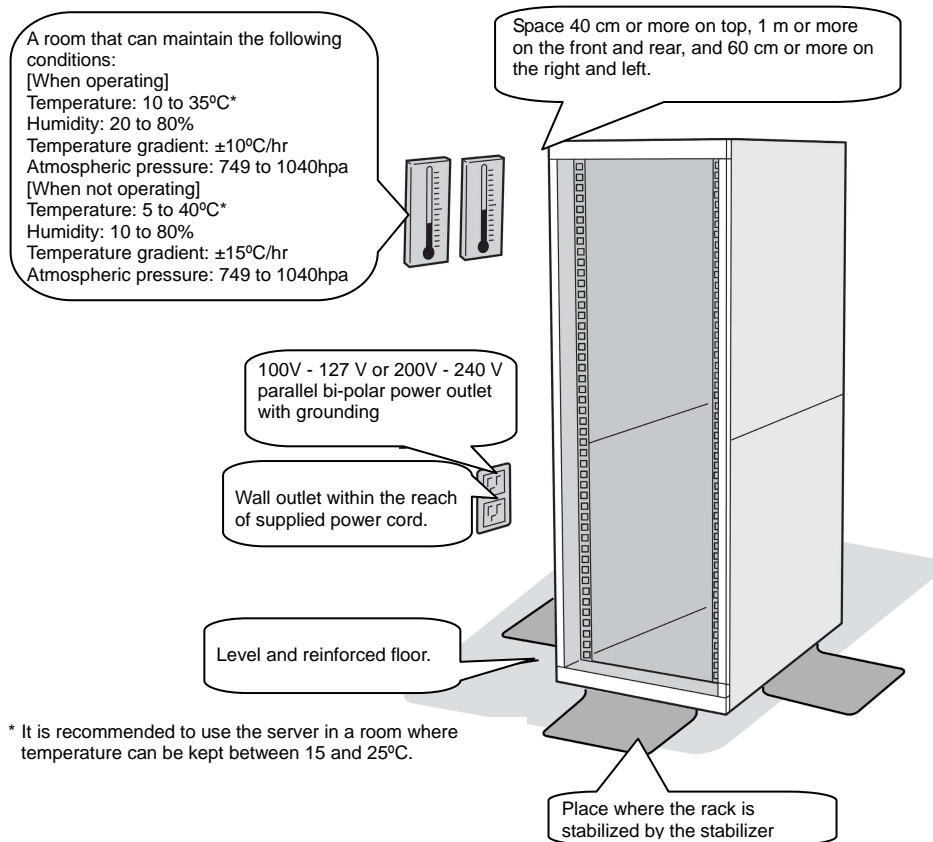
You can mount NEC Express5800/ft series on a rack that conforms to the EIA standards.

IMPORTANT:

NEC Express5800/ft series is a precision instrument. You should ask maintenance personnel to install it.

Installing a rack

To install a rack, see the instruction that comes with the rack, or contact your sales agent or maintenance personnel.



⚠ WARNING

Observe the following precautions to use the server safely. There is a risk of a death or serious injury. For details, see “Notes for Safe Handling” in Chapter 1.

- Do not install the server in non-designated places.
- Do not connect the ground wire to a gas pipe.

⚠ CAUTION

Observe the following precautions to use the server safely. There is a risk of a burn, personal injury, or damage to physical assets. For details, see “Notes for Safe Handling” in Chapter 1.

- Do not carry or install a rack alone.
- Do not install a rack in such a manner that its weight is imposed on a single place.
- Do not assemble or disassemble parts alone.
- Do not pull a device out of the rack if the rack is unstable.
- Do not leave more than one device pulled out from the rack.
- Do not install excessive wiring.

Do not install NEC Express5800/ft series in such places as listed below. If you locate racks or install the server in such places, the server may malfunction.

- Place where you cannot pull out the components fully.
- Place that cannot sustain the total weight of the rack and its components.
- Place where you cannot use stabilizers or where you cannot perform installation without quake-resistant engineering.
- Place whose floor is uneven or inclined.
- Place where temperatures change widely (near a heater, an air conditioner, or a refrigerator).
- Place that is subject to intense vibration.
- Place where corrosive gas (sodium chloride, sulfur dioxide, hydrogen sulfide, nitrogen dioxide, or ozone) is generated, or a place that is close to chemicals or exposed to chemicals.
- Place whose floor is covered with non-antistatic carpet.
- Place that may be subject to falling objects.
- Place that is close to some equipment that generates intense magnetic field (e.g., TV set, radio, broadcasting/communications antenna, power transmission wire, and electromagnetic crane). (If unavoidable, contact your sales agent to request proper shield construction.)
- Place where the power cords of the server must be connected to outlets that share the outlet of another device with large power consumption.
- Place that is close to some equipment that causes power noises (e.g., sparks caused by power-on/off using a relay). If you must install the server close to such equipment, request your sales agent for separate power cabling or noise filter installation.

Installing the device to the rack (N8140-74/92/93/94/98/99)

Install this device to the rack.

Installing the device to our company's racks (N8140-74/92/93/94/98/99) or to other company's racks is explained in this section.

WARNING



Observe the following precautions to use the server safely.
There is a risk of a death or serious injury. For details, see "Notes for Safe Handling" in Chapter 1.

- Do not use the product with the unspecified rack.
- Do not use the product at non-designated places.

CAUTION



Observe the following precautions to use the server safely.
There is a risk of a burn, personal injury, or damage to physical assets.
For details, see "Notes for Safe Handling" in Chapter 1.

- Remove all CPU/IO modules before moving the rack.
- Do not assemble or disassemble parts alone.
- Do not install the server with the cover removed.
- Do not squeeze your fingers in the product.

IMPORTANT:

Temperature increase inside the rack and airflow

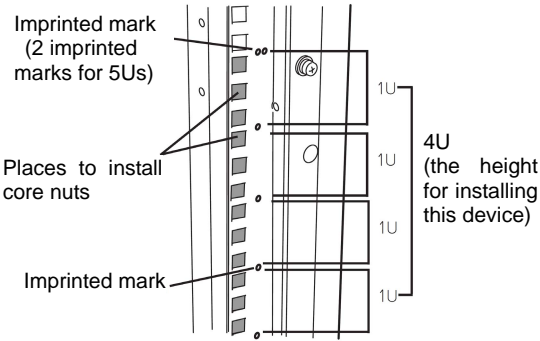
If you install several components or the ventilation isn't good inside the rack, the internal temperature may increase due to heat emitted from the components. When the operating temperatures of NEC Express5800/ft series (10 to 35°C) are exceeded, there is a risk of malfunction. You must take adequate precautions and measures for airflow inside the rack as well as in the room so that the internal temperature can be kept within this range during operation.

● Required tool

To install the device to the rack, a Phillips-head screw drive is required.

● Checking the place to install

Decide the place (height) to install.
To keep balance, install it as low as you can on the rack.
To install the rack, the height for 4U is required.



IMPORTANT:

To install this device to the rack, the space for 1U is required for installing the USB-compatible floppy disk drive, in addition to the space for 4U.

Next to the square hole of the rack, an imprinted mark is placed for 1U (This is the unit to show the height of the rack). This device is as high as 4U (about 176 mm), so install it between the imprinted marks that indicate the height of 4U.

● Installing this device

Follow the steps below to set the 4U chassis to the rack.

IMPORTANT:

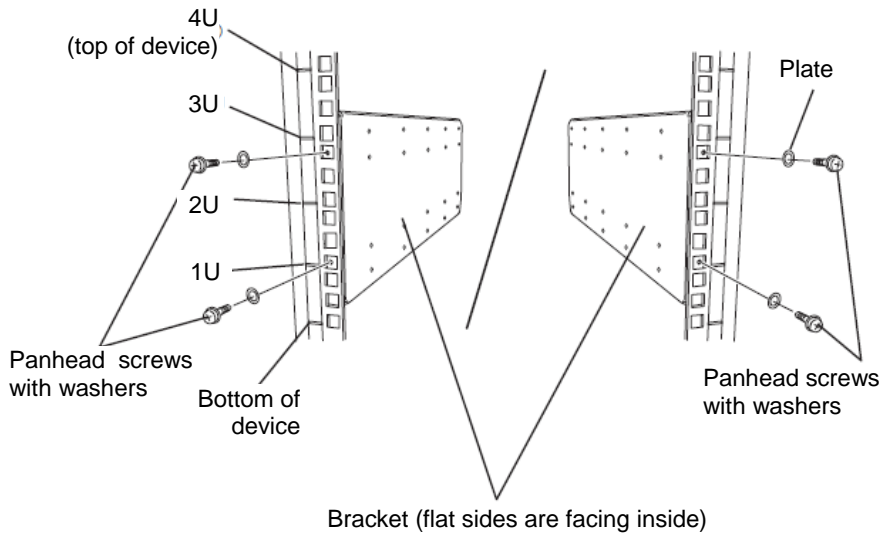
- 4U chassis weighs about 10 Kg. To mount, remove or replace it, be sure to hold it with two or more people.
- The following are the required accessories. Check if you have them all.

- Tool Name	Qty
- Bracket	2
- Washer for panhead screw	4
- Plate screw	8
- Panhead screw	8

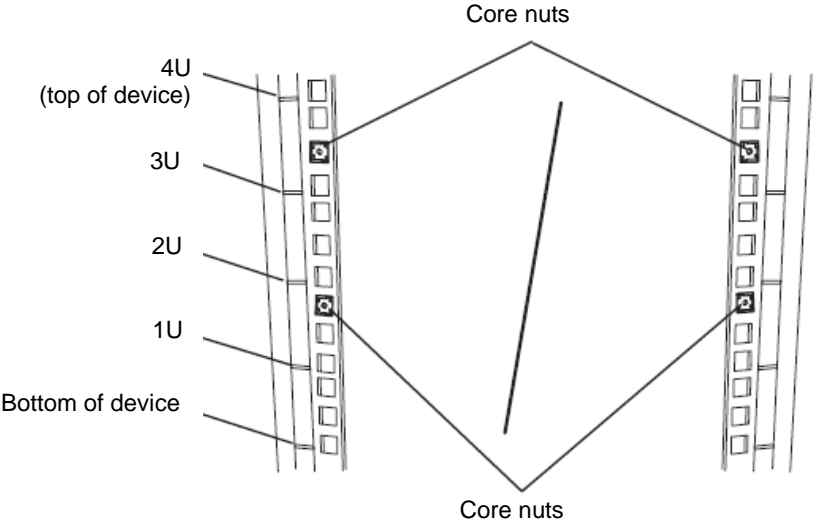
TIPS:

Core nuts (4 pieces) are not included. Use the core nuts that are attached to the rack.

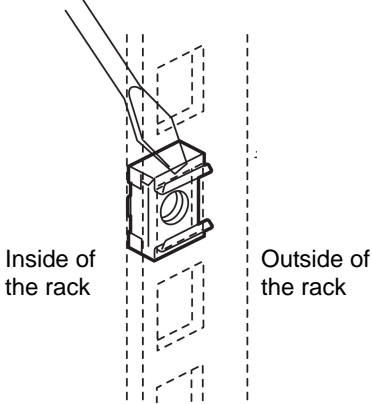
1. If the rack has front and rear doors, read the instruction that comes with the rack, and open them.
2. Install the brackets from the rear side of the rack. Install the brackets with its flat side facing inside. Place them with the round screws with washers that come with the device symmetrically (total: 4). Fasten the screws tentatively not tightly.



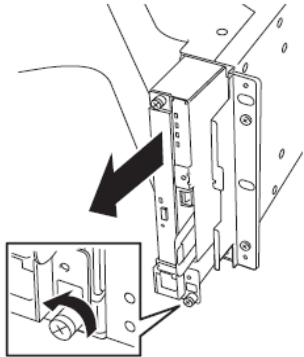
- 3. Fix the core nuts to the front side of the rack. Attach them symmetrically (total: 4 core nuts).



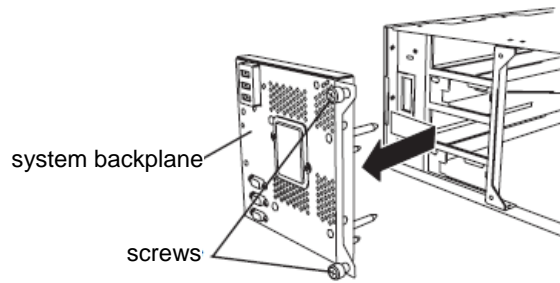
Fix a core nut from inside of the rack. Hook either of the clips of the core nut to a square hole of the rack, and hook the other clip to a hole by a flat-blade screwdriver.



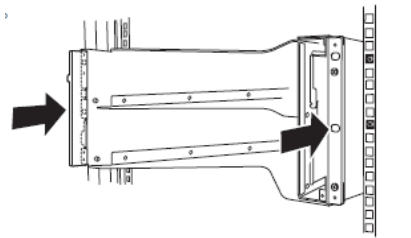
- 4. Remove two CPU/IO modules from the 4U chassis.
- 5. Remove the DVD drive unit from the 4U chassis.



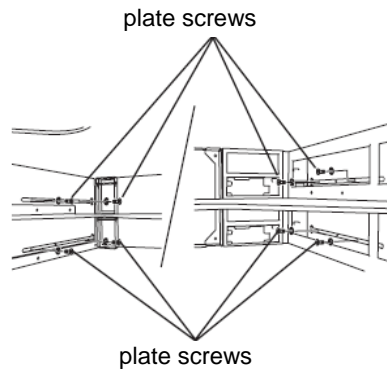
- 6. Remove the system Backplane from the 4U chassis.



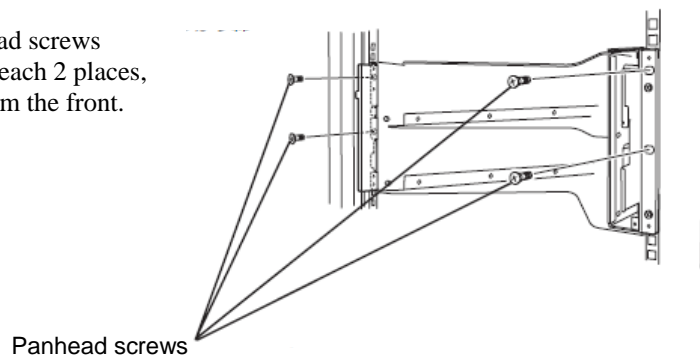
- 7. Insert the 4U chassis from the front side of the rack.



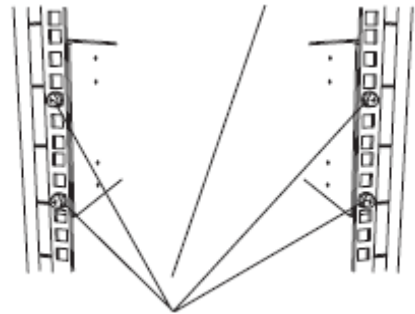
- 8. Tentatively fasten the plate screws attached to the device to the 4 places at the top and the bottom on front, and back sides (total: 8) from the rear.



- 9. Fasten tightly the pan-head screws attached to the device to each 2 places, right and left (total 4) from the front.



10. Fasten tightly the 4 round screws on the back side and the 8 plate screws on the side panels (which you fastened tentatively).



Panhead screws on the side panels

Plate screws on the side panels

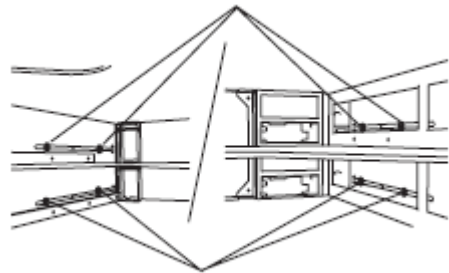
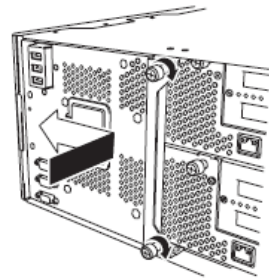


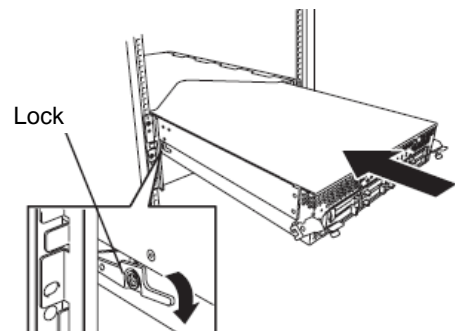
Plate screws on the side panels

11. Mount the System Backplane and fasten screws.

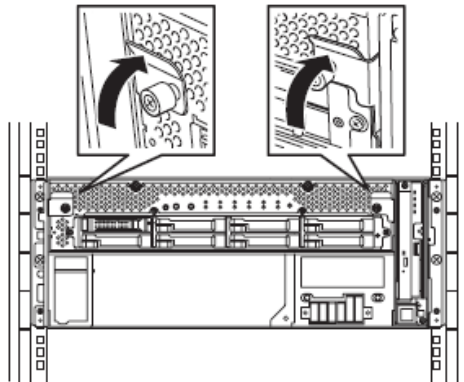


12. Mount the DVD drive unit and fasten screws.

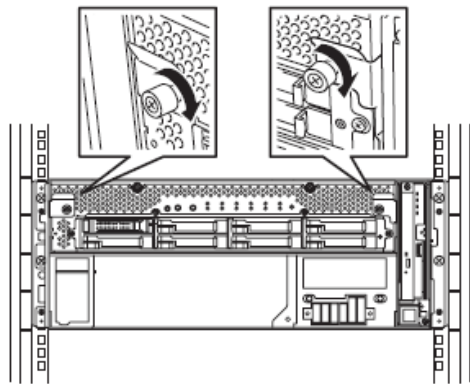
13. Mount the CPU/IO module 0.
Mount the module while lowering the lock so the module stacks on the way.



- 14.** Fasten the levers on the left and right sides with screws.








- 15.** Fasten the screws on the left and right side.



- 16.** Mount the CPU/IO module 1 in the same way.

Unmounting the device from the rack (N8140-74/92/93/94/98/99)

Follow the steps below and unmount the device from the rack.

 CAUTION	
   	<p>Observe the following precautions to use the server safely. There is a risk of a burn, personal injury, or damage to physical assets. For details, see “Notes for Safe Handling” in Chapter 1.</p> <ul style="list-style-type: none">■ Do not carry or install a rack alone.■ Do not squeeze your fingers in the product■ Do not impose a weight on the device when it is pulled out from the rack.■ Do not pull a device out of the rack if the rack is unstable.■ Do not leave more than one device pulled out from the rack.■ Do not pull the device from the rack while it is operating.

1. Check that the device is powered off, and remove all the power cords and interface cables that are connected to the device.
2. Remove the front bezel.
3. Loosen the screws on the left and right sides of the front panel of the CPU/IO module and release the lock by pulling the ejector toward you.
4. Pull out the CPU/IO module gently from the rack.

IMPORTANT:

- When you pull out the device, do not load anything on its top. It is dangerous, since the device becomes unstable and it may fall.
- Do not hold the handle on the front side or the convex part on the back side. To move the device, hold the bottom.
- Since the device is locked and can not be pulled out, pull it out after releasing the lock by lowering the lock on the side of the CPU/IO module.

-
5. Hold tightly when you unmount 4U chassis from the rack,.

To remove the mechanical parts of the rack, see the installation procedure.

INSTALLING the Tower Conversion Kit (N8843-003)


This section describes how to install the rack-mount model of NEC Express5800/ft series without using the dedicated rack.

IMPORTANT:

NEC Express5800/ft series is a precision instrument. You should ask maintenance personnel to install it.

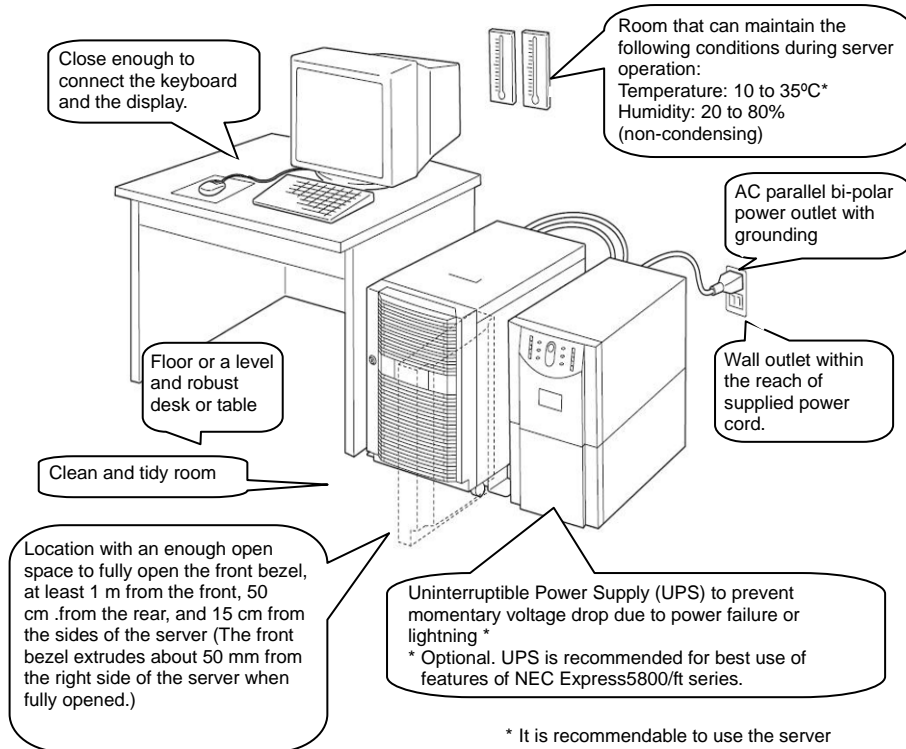
Select a suitable site for tower model.

⚠ CAUTION



Observe the following precautions to use the equipment safely. There are risks of a burn, injury, or damage to physical assets. For details, see “Notes for Safe Handling” in Chapter 1.

- Remove all the CPU/IO modules of the server before moving the equipment.
- Do not install the equipment in non-designated places.



* It is recommendable to use the server in a room where temperature can be kept between 15 and 25°C.

Do not install NEC Express5800/ft series in such places as listed below. Otherwise, the server may malfunction.

- Place where temperatures change widely (near a heater, air conditioner, or refrigerator).
- Place that is subject to intense vibration.
- Place where corrosive gas (sodium chloride, sulfur dioxide, hydrogen sulfide, nitrogen dioxide, or ozone) is generated, or a place that is close to chemicals or exposed to chemicals.
- Place whose floor is covered with non-antistatic carpet.
- Place that may be subject to falling objects.
- Place where you may step or trip on the power cords or interface cables.
- Place that is close to some equipment that generates intense magnetic field (e.g., TV set, radio, broadcasting/communications antenna, power transmission wire, and electromagnetic crane). (If unavoidable, contact your sales agent to request proper shield construction.)
- Place where the power cord of the server must be connected to an AC outlet that shares the outlet of another device with large power consumption.
- Place that is close to some equipment that causes power noises (e.g., sparks caused by power-on/off using a relay). If you must install the server close to such equipment, request your sales agent for separate power cabling or noise filter installation.

It takes at least three people to carry the server; hold it firmly by its bottom and place it slowly on the selected site.

IMPORTANT:

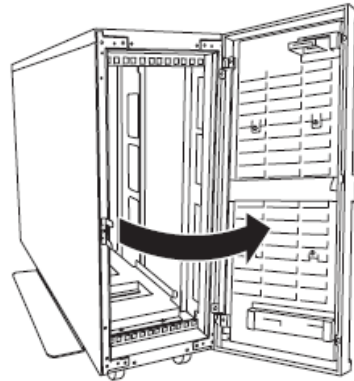
Do not hold the front bezel to lift it, or it may detach, fall down, and break the server.

After placing the main cabinet, lock its two rear wheels out of four.

Steps to Install the Rack-mount Model to the Tower Conversion Kit

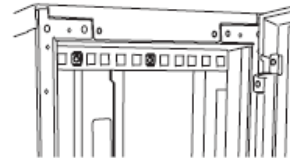
Follow the procedure below to install the devices to the tower conversion kit.

1. Open the front door of the tower conversion kit.
If the door is locked, use the server-accessory key to unlock.

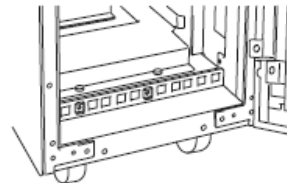


2. Confirm the spots to fix 4 core nuts on the front of the chassis.
See the figure on the right for where to fix the core nuts
(2 on the front top and 2 on the front bottom.)

4 core nuts have been installed on the front of the chassis.

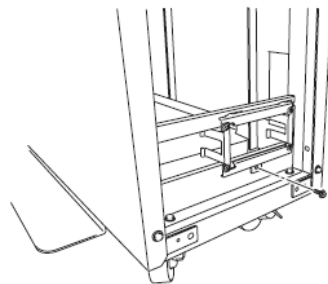


Tower conversion kit (on the front top)

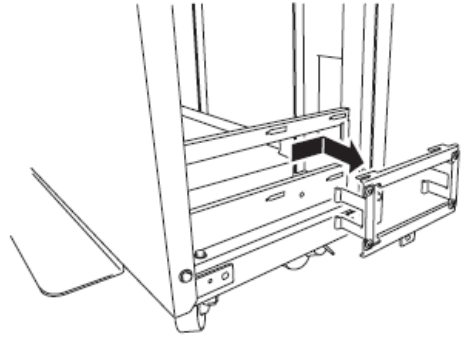


Tower conversion kit (on the front bottom)

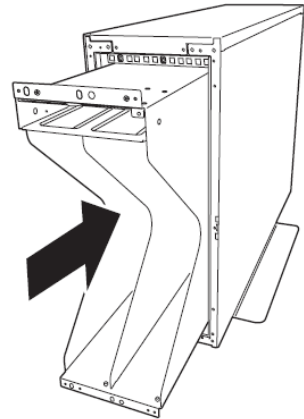
3. Remove one screw that fixes the AC lock bracket on the rear of the tower conversion kit.



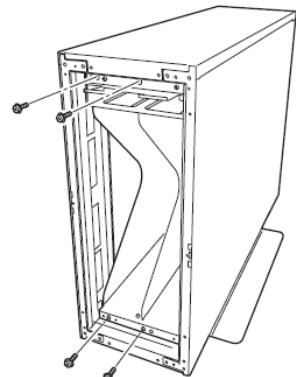
4. Remove the AC lock bracket.



5. Remove two CPU/IO modules from the 4U chassis.
6. Remove the DVD drive unit from the 4U chassis.
7. When the system is installed to TOWER CONVERSION KIT, HANDLE equipped in front of the system must have been removed. If you do not remove, you cannot close front bezel.
8. Insert and securely tuck the 4U chassis from the front side of the tower conversion kit.

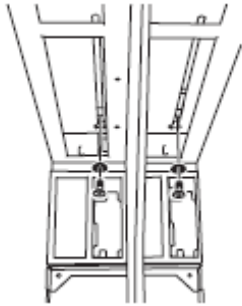


9. Fix each 2 places, top and bottom on the front side (total: 4) with 4 pan-head screws attached to the device.



10. Fix the 4U chassis to the tower conversion kit with 4 plate screws.

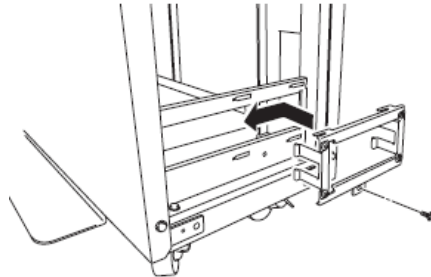
Top (toward the backside)



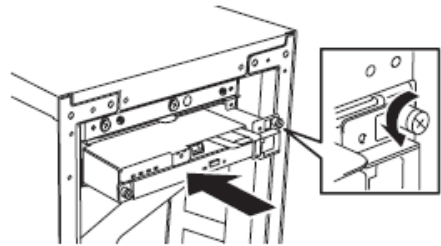
Bottom (toward the backside)



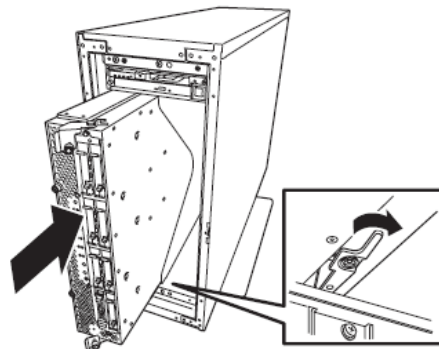
11. Install AC rock bracket and fasten the screws.



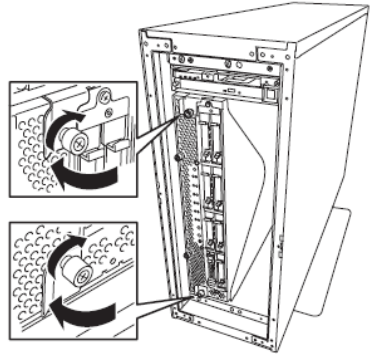
12. Insert the DVD drive unit to the 4U chassis and fasten with screws.



13. Slowly and carefully insert the CPU/IO module #0 into the 4U chassis. Keep pressing down the lock lever to keep it unlocked when the insertion is locked.



- 14.** Close the levers on the top and the bottom and fix the CPU/IO module with the screws.



- 15.** Fix the CPU/IO module #1 to the 4U chassis with the same procedures.

Connect peripheral devices to NEC Express5800/ft series

The server provides connectors for a wide variety of peripheral devices on its front and rear. The figure on the next page illustrates available peripheral devices for the server in the standard configuration, and locations of the connectors for the devices. After connecting the peripheral devices, connect the provided power cords with the server, and then plug the power cords into the power outlet.

WARNING



Observe the following precautions to use the server safely. There is a risk of a death or serious injury. For details, see "Notes for Safe Handling" in Chapter 1.

- Do not hold the power plug with a wet hand.
- Do not connect the ground wire to a gas pipe.

CAUTION



Observe the following precautions instructions for the safe use of the equipment. There is a risk of a burn, personal injury, or damage to physical assets. For details, see "Notes for Safe Handling" in Chapter 1.

- Do not plug the power cord in a nonconforming outlet.
- Do not plug too many cords in a single outlet.
- Do not plug the cord insecurely.
- Do not use nonconforming power cords.

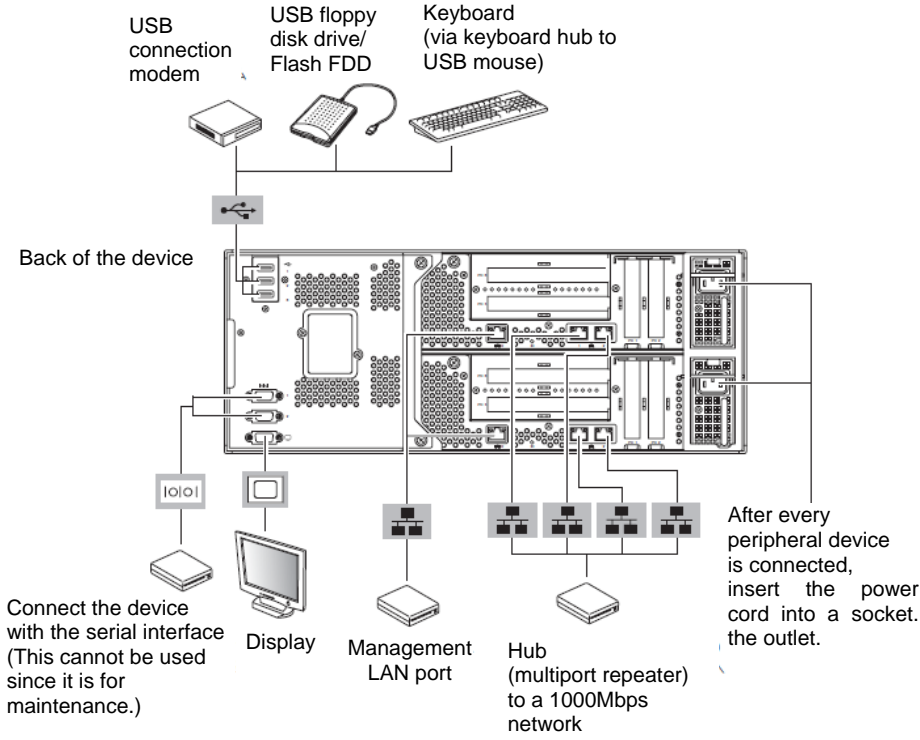
IMPORTANT:

- Power off the server before connecting peripheral devices, with the exception of peripherals with USB interface. Connecting a powered peripheral device to the powered server will cause malfunctions and failures. USB devices supported by the server are a USB floppy disk drive, Flash FDD, keyboard (including a mouse), and SSU (server switch unit) designated by NEC. Connecting USB devices other than the above will cause malfunctions and failures.
 - To connect a third-party peripheral device or interface cable to the server, check with your sales agent to see if they are compatible with NEC Express5800/ft series. Some third-party devices may not be used with the server.
 - The total cable length of SCSI device connections is up to 6 m, including the internal SCSI cables.
 - The serial port connectors are reserved for maintenance.
 - Place the USB floppy disk drive on the server. Space of 1U is needed to put it on the server.
-

IMPORTANT:

Connection of optional devices

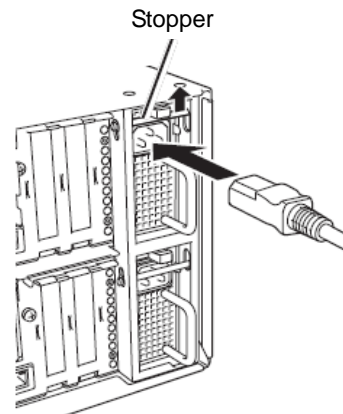
- In the case of standard configuration, you need to complete setup of the operating system before mounting optional PCI cards or hard disks that you purchased separately.



Insert the power cords to the AC inlets of the power unit.

Connect the plug at the other end of the power cord to a wall outlet with parallel double-pole grounds provided or to an uninterruptible power supply (UPS).

To use the functions of the server, you should connect the server to the UPS.



IMPORTANT:

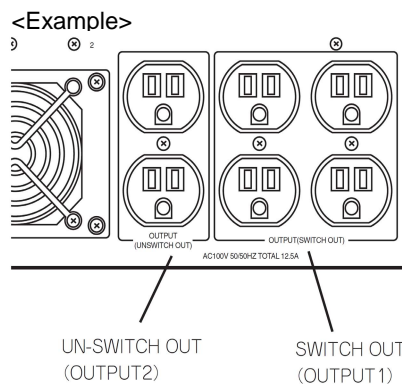
- Ensure to use both of the power cords to make the server fault-tolerant.
- After connecting the power cords, wait at least 30 seconds before pressing the power switch.
- By pressing the power switch, the power switch’s fans starts to rotate.

To connect the power cords from the server to an uninterruptible power supply (UPS), use service outlets on the rear of the UPS.

The UPS service outlets are categorized into two groups: SWITCH OUT and UN-SWITCH OUT. (They may be called “OUTPUT1“ and “OUTPUT2“.)

To restrict the power supply from ESM/PRO/AutomaticRunningController, connect the power cable to SWITCH OUT.

For constant power supply, connect the power cords to a UN-SWITCH OUT outlet. (Connect the modem that is in service for 24 hours to this outlet.)



When the power cords from the server are connected to a UPS, change the BIOS setup of the server to link with power supply from the UPS.

Select [AC-LINK] from [Server] on the BIOS setup utility and change parameters. See the separate volume of User’s Guide for details.

Chapter 4

Windows Setup

This chapter describes procedures such as configuring OS Boot Monitoring function, setting duplex LAN configuration, and setting dual disk configuration.

Before Starting Setup

Read this section before starting setup.
This chapter describes two types of setup.

Procedures to Install and Reinstall the Windows OS

Installing Windows Server 2008 R2

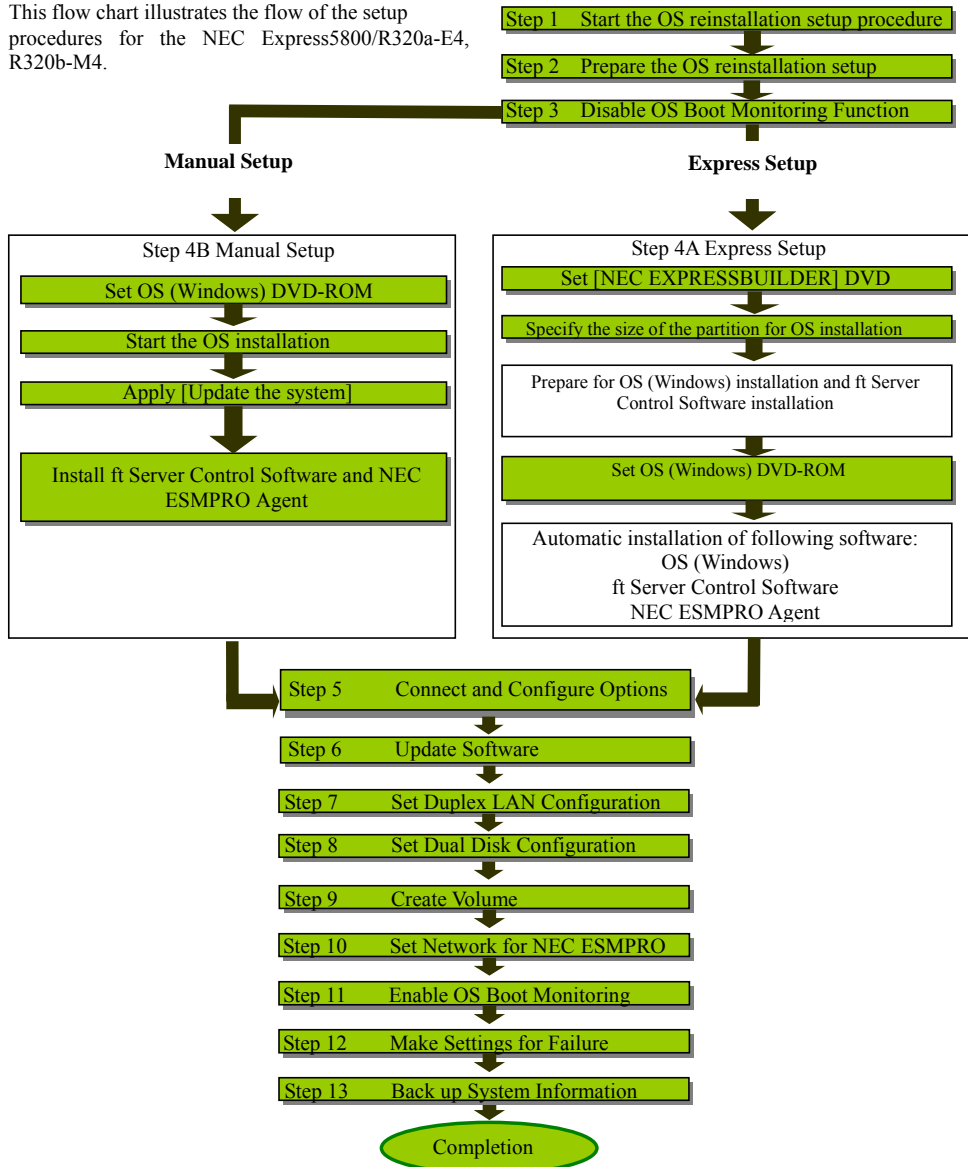
Use NEC EXPRESSBUILDER to install/reinstall Windows Server 2008 R2.

“Express Setup” is the setup program that is specific to NEC Express5800/ft series. NEC EXPRESSBUILDER DVD, a server accessory, runs this setup program. Express Setup enables automatic install of Windows Server 2008 R2/Windows Server 2008/Windows Server 2003 and other various utilities.

Refer to “Procedure to Install and Reinstall OS.” Use this setup step if you want to reinstall OS or use the HDD with a partition setting that is different from the default partition setting.

SETUP FLOW

This flow chart illustrates the flow of the setup procedures for the NEC Express5800/R320a-E4, R320b-M4.



: Entered or selected by the user

: Proceeds automatically

Step 1: Procedure to Install and Reinstall OS

The following explains OS install and reinstall:

IMPORTANT:

- “Express Setup” deletes all data on the disk used for installation/reinstallation, as “Express Setup” formats the entire disk. If there is any data partition other than the system partition containing OS for reinstallation, you must back up the important data in the data partition first and then start “Express Setup.”
 - Do not apply service packs to NEC Express5800/ft series based on your judgment. If you want to apply service packs, contact your sales agent for the latest application and apply service packs to NEC Express5800/ft series.
-

Following steps and items are required for install/reinstall:

IMPORTANT:

The Scalable Networking Pack (SNP) function is disabled in the system that installed by Express Setup. The setting of SNP function may affect the system performance, so please refer to the attention of SNP detail in the following site before setting it.

<http://www.nec.com/global/prod/express/>

- NEC EXPRESSBUILDER (DVD)
- ft Server Control Software UPDATE Disc (CD-ROM or DVD-ROM)
This Disc is used to update ft Server Control Software; it may not be shipped with the equipment. (Not included if “NEC EXPRESSBUILDER” DVD contains the latest version of software programs at the time of shipment.)
- NEC OS install media (x64) (hereafter, “Backup DVD-ROM”)
- User’s Guide (Setup) (this manual)
- User’s Guide

Before starting the setup, decide the size of the partition for the operating system.

Size of the Partition to be Created

The system partition size can be calculated from the following formula.

Required partition size = size required to install OS + paging file size + dump file size + application size

Size required to install OS = 8,000MB

Paging file size (recommended) = Installed memory size *1.5

Dump file size = Installed memory size + 300MB

Application size = Required size

IMPORTANT:

- The above-mentioned partition size is the minimum partition size required for system installation. Ensure sufficient partition size for system operation.

Following numbers are the recommended size.

– Full Installation: 32,768MB (32GB) or more

*1GB = 1,024MB

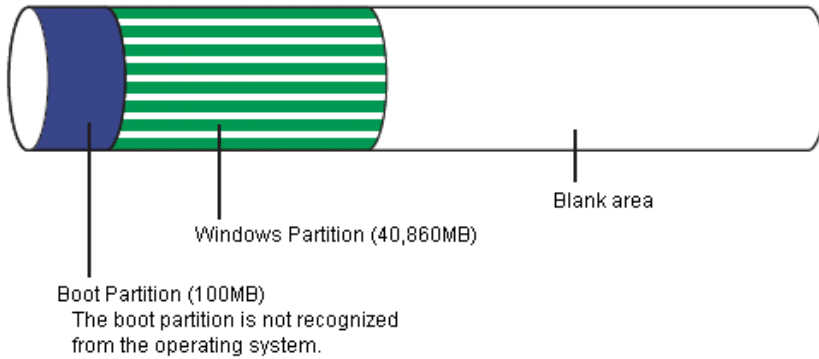
- The above-mentioned paging file size is recommended for collecting debug information (memory dump). The paging file with initial size large enough to store the dump file in the Windows Partition is required.
Correct debug information might not be able to be collected due to virtual memory shortage when the paging file is insufficient, so set an enough size of the paging file with the entire system.
 - Regardless of the size of the mounted memory, or the Write debugging information (type of memory dump), the maximum size of the dump file is 'The size of the mounted memory + 300MB'.
 - If you install any application program or the like, add necessary space to the partition to install these programs.
-

NOTE:

When new partition is created, initial 100MB is assigned as boot partition by Windows OS.

Example:

If you make a partition of 40,960MB (40GB), usable space will be 40,960MB - 100MB = 40,860MB.



The partition size required for a system with an installed memory size of 1GB (1,024MB) and a full installation of the operating system:

$$8,000\text{MB} + (1,024\text{MB} * 1.5) + (1,024\text{MB} + 300\text{MB}) + \text{application size} = 10,860\text{MB} + \text{application size}.$$

Step 2: Prepare for Express Setup

Before starting Express Setup, be sure to do the following. You can set up properly only when you make those preparations.

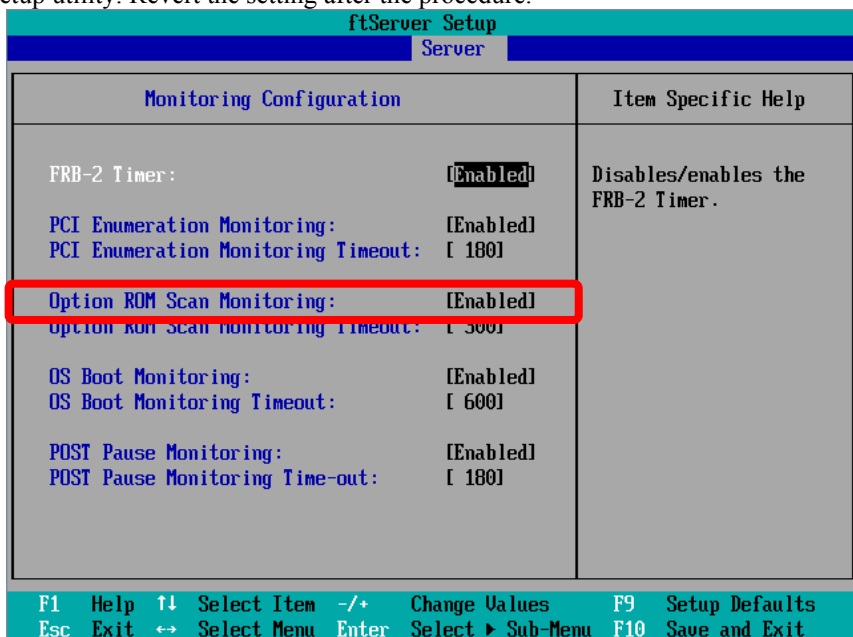
2-1: Prepare NEC Express5800/ft series

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

1. Prepare NEC Express5800/ft series.
 - Mount the modules for both systems.
 - Mount only one hard disk to the Slot 0 of the CPU/IO module 0.
 - Remove all LAN cables.
 - Remove SCSI- and SAS-connected devices such as a tape device from the connector.
 - Remove cables from the connectors attached to the Fibre Channel board.

IMPORTANT:

- You must perform OS installation on the server you actually use. Do not divert the HDD which was used for OS installation on a different server and do not use it as the system disk.
- Mount only one HDD to the designated slot of the designated CPU/IO module. If multiple HDDs are mounted, the hard disk to install OS cannot be determined.
- If the HDD is not new, physically format it after changing [Option ROM Scan Monitoring] as [Disabled] on [Server] – [Monitoring Configuration] on the BIOS setup utility. Revert the setting after the procedure.

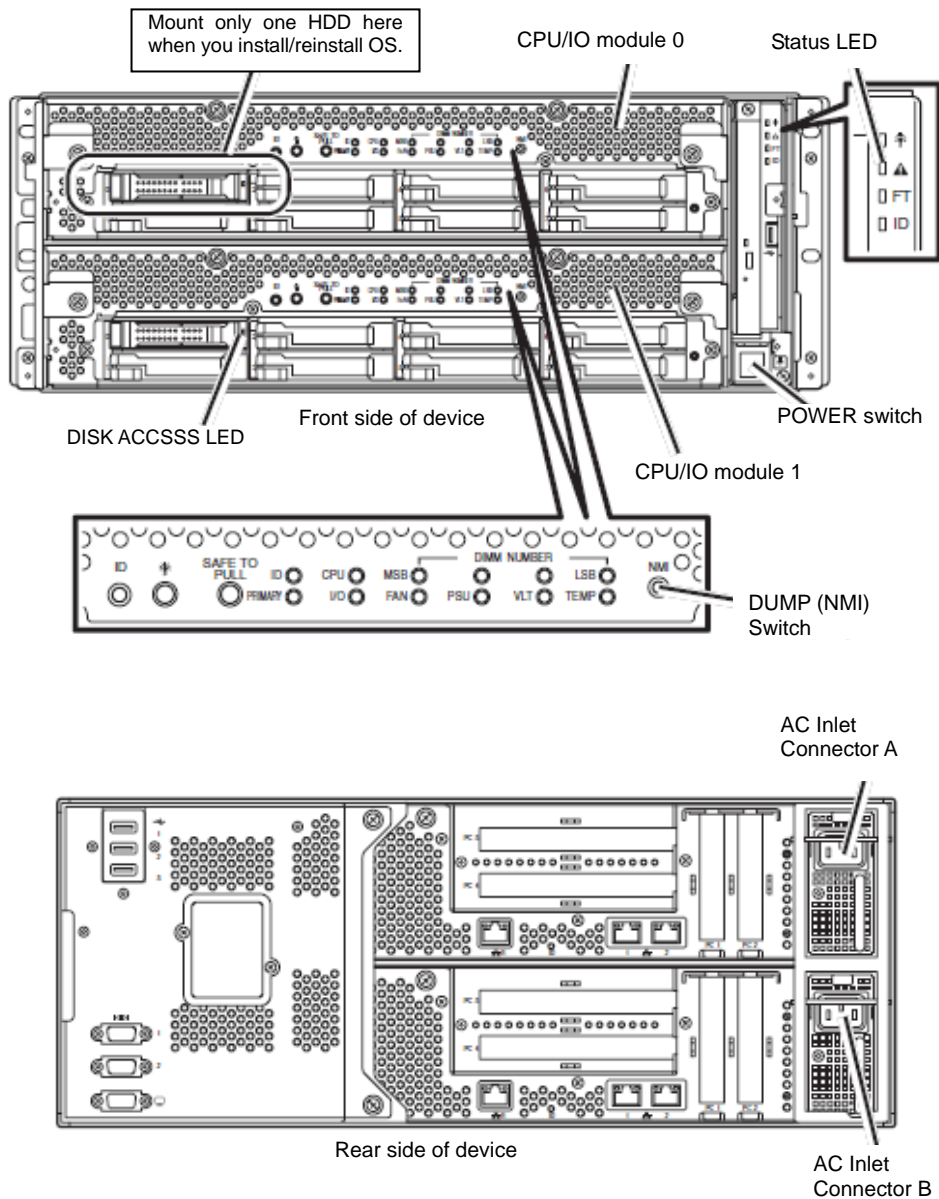


- As for physical format, refer to “SAS BIOS – SAS Configuration Utility –” in Chapter 4, “System Configuration” in the separate volume of the User’s Guide, and perform Format Disk with Disk Utilities.

For how to configure the settings, see “System BIOS – SETUP –” in Chapter 4 “System Configuration” in the separate volume of the User’s Guide.

2. Prepare the installation from the CPU/IO module 0. Mount a HDD to the designated place when installing the OS.

The location of the parts required for operation and checking are shown below:



When the AC power is on (The power cords are plugged into the wall outlet)

- (1) Confirm the POWER LED of the CPU/IO module.
 - If the POWER LED is lit, shut down the OS and unplug the AC power cord after the POWER LED turns off.

CHECK:

Wait more than five seconds before you plug again the power cord when you unplugged it.

- (2) Execute the operation to be taken when AC power supply is turned off.

When the AC power is off (The power cord is not plugged into the outlet)

Connect the power cords to NEC Express5800/ft series in the following order:

- (1) Connect the power cord to the AC inlet A connector.
- (2) Connect the power cord to the AC inlet B connector.
- (3) Make sure that the CPU/IO module status LED is turned off.

Preparation is now completed.

Step 3: Disable OS Boot Monitoring Function

Check whether the power is ON and make settings for properly performing setup for later on. This server has a function to monitor the main unit at startup. (Enabled in the configuration at shipment)

When installing/reinstalling the operating system, this monitoring function needs to be disabled; otherwise the OS may not install properly. Follow the steps in this section and make proper settings.

IMPORTANT:

If you skip the settings described here, the system will be forcefully restarted while Windows setup screen is shown and the setup will be unsuccessful. BIOS may repeat Windows setup in an invalid manner. In this case, you will need to restart the setup procedures from the beginning.

TIPS:

For details of operations for BIOS Setup Utility and parameters, see the separate volume of User's Guide.

Procedure for Changing BIOS settings

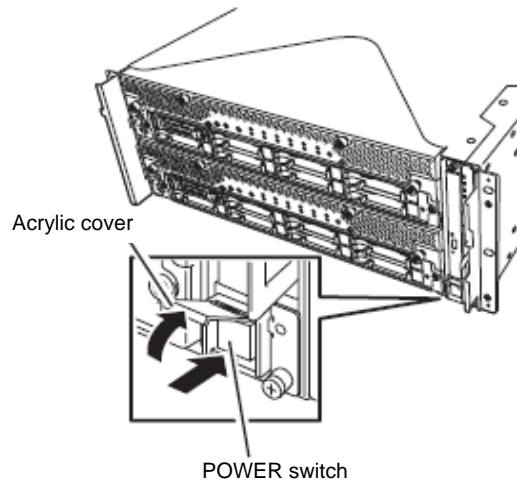
1. Turn on the display and the peripheral equipment connected to the NEC Express5800/ft series.

CHECK:

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.

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



IMPORTANT:

Do not turn off the power before the “NEC” logo appears.

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

While the “NEC” logo is displayed on the screen, NEC Express5800/ft series performs a power-on self test (POST) to check itself. For details, see the separate volume of User’s Guide.

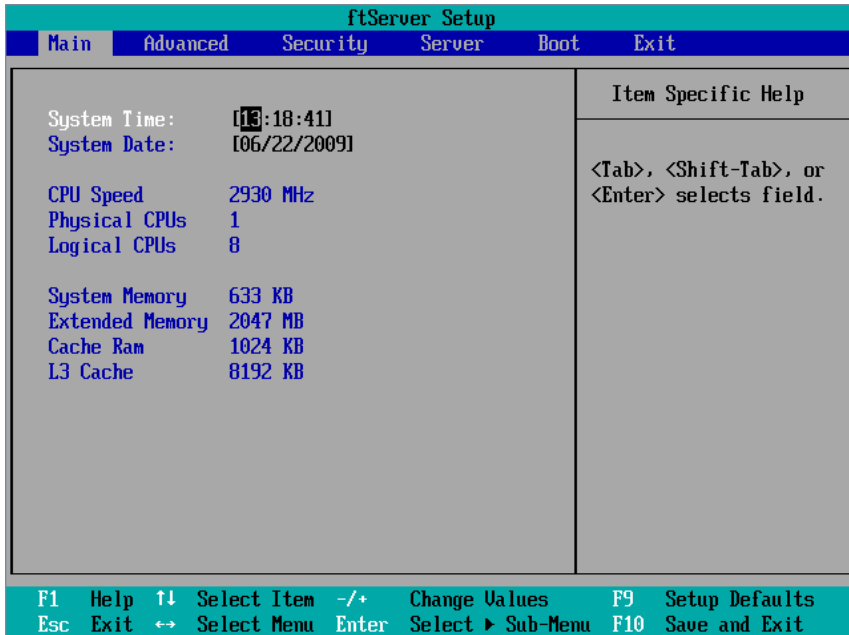
CHECK:

If the server finds errors during POST, it will interrupt POST and display the error message. See the separate volume of User’s Guide.

4. When the message “Press <F2> to enter SETUP” or “Press <F2> to enter SETUP or Press <F12> to boot from Network” is displayed on the display screen, press **F2**.

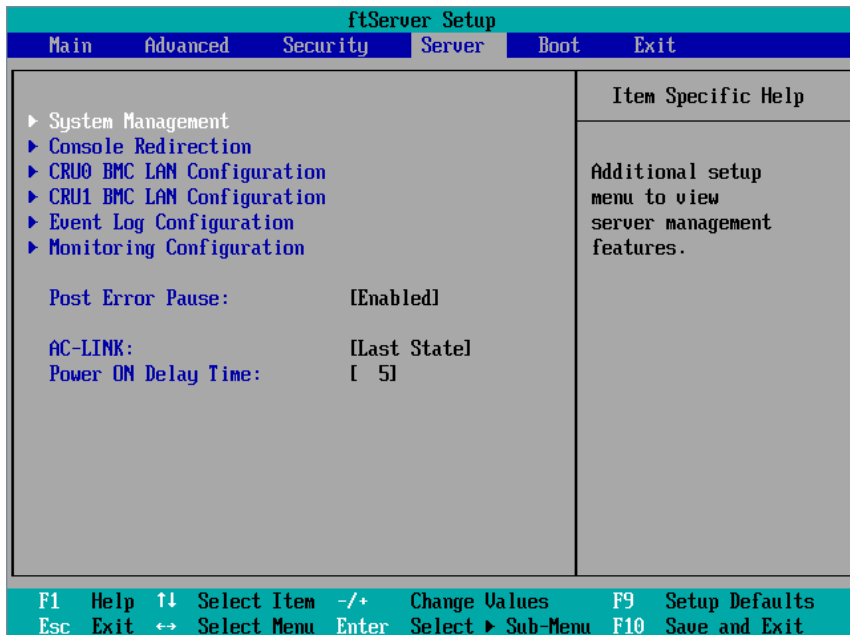
The BIOS Setup Utility “SETUP” starts and the Main menu is displayed on the screen.

Example:



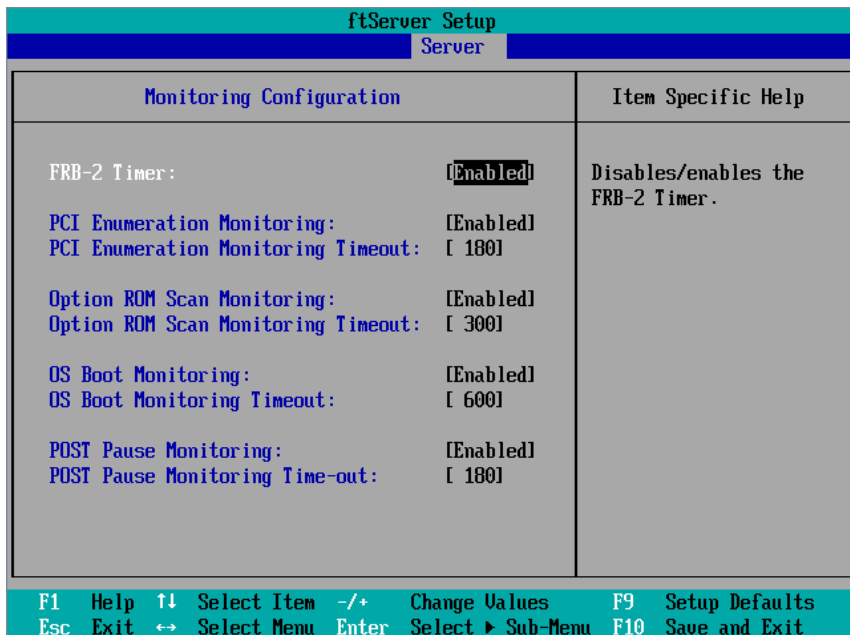
5. Move the cursor onto “Server” and select “Server.”

The Server menu will be displayed:



6. Move the cursor onto “Monitoring Configuration” and press **Enter**.

The Monitoring Configuration submenu appears:



7. Move the cursor onto “OS Boot Monitoring” and press **Enter**.

Parameters will be displayed.

8. Among the parameters, choose “Disabled” and press **Enter**.

The current display of the configuration for OS Boot Monitoring will be changed to “Disabled.”

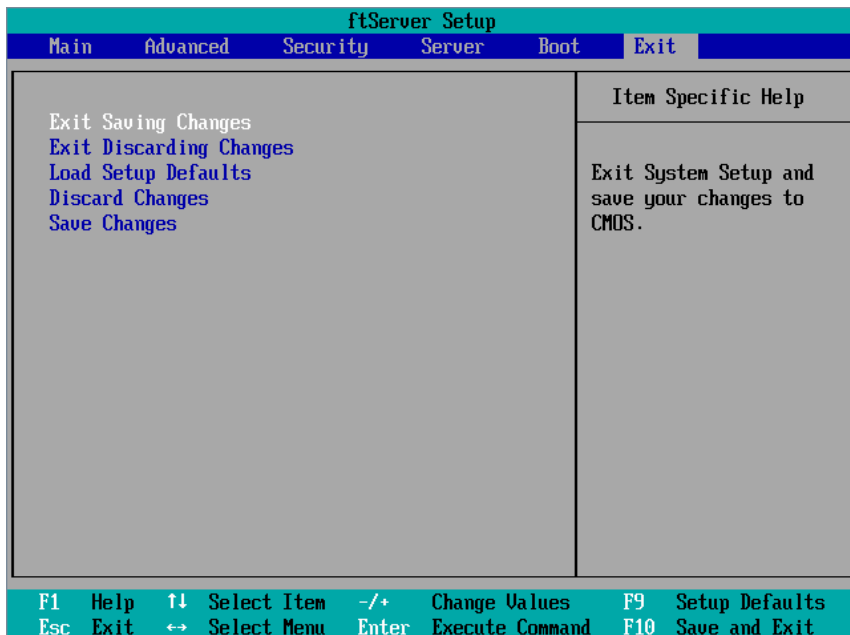
ftServer Setup		Server
Monitoring Configuration		Item Specific Help
FRB-2 Timer:	[Enabled]	Enables/disables OS boot monitoring.
PCI Enumeration Monitoring:	[Enabled]	
PCI Enumeration Monitoring Timeout:	[180]	
Option ROM Scan Monitoring:	[Enabled]	
Option ROM Scan Monitoring Timeout:	[300]	
OS Boot Monitoring:	[Disabled]	
POST Pause Monitoring:	[Enabled]	
POST Pause Monitoring Time-out:	[180]	

F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
 Esc Exit ↔ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit

IMPORTANT:

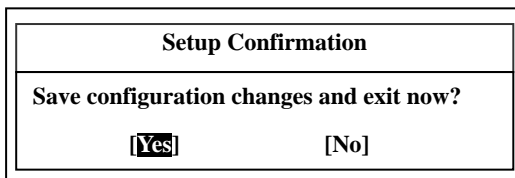
If you physically format the HDD, change [Option ROM Scan Monitoring] as [Disabled]

Press the **Esc** key to go back to the Server menu, and then move the cursor and select “Exit” to display the Exit menu.



9. Move the cursor onto “Exit Saving Changes” and press **Enter**.

The confirmation window will appear.



10. Select “Yes” and press **Enter**.

The configuration data is saved, SETUP terminated, and the system rebooted. This is the end of steps for switching OS Boot Monitoring function.

TIPS:

After the procedure above is completed, power off this server to prepare for installation.

If the installation preparation is ready, including power activation from optional devices, you do not need to power off the server.

Then, referring to “Step 4A : Start Express Setup” on the next page to continue the setup.

Step 4A : Start Express Setup

Set up with the Express Setup functions of NEC EXPRESSBUILDER.

“Express Setup” is a setup method for NEC Express5800 series that allows configuration of hardware internal parameters and status and installation of OS (Windows Server 2008 R2) and various utilities in seamless manners by using “NEC EXPRESSBUILDER” DVD which comes with the server. Use the “Express Setup” to install the OS. It performs complicated setups automatically.

Express Setup edits the information required for the setup, saves it to a floppy disk before the setup, reads the information one by one at the setup and automatically performs a series of setup processes.

TIPS:

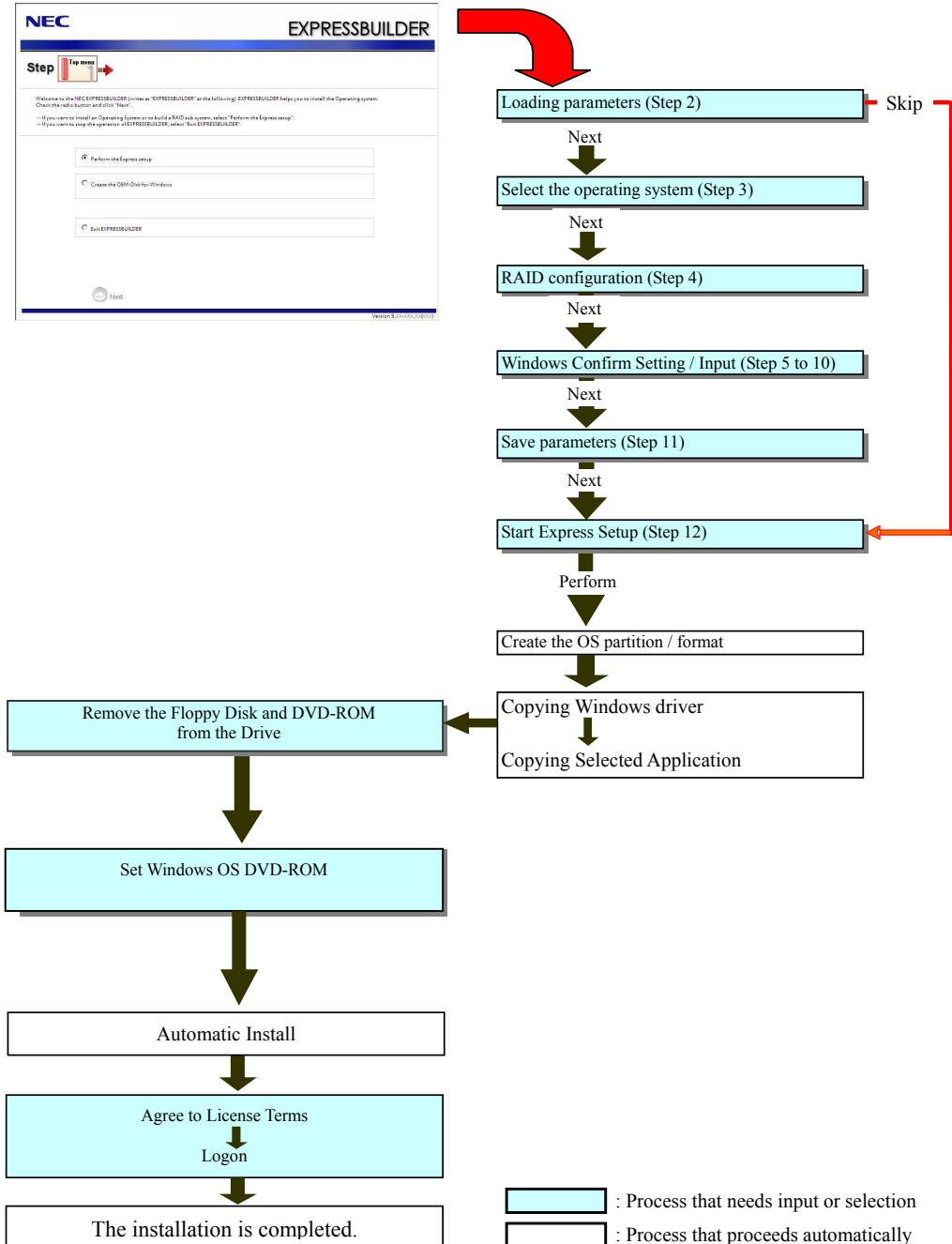
- Parameters file is a setup file that stores the information set/selected during Express Setup. Express Setup executes all the setup process automatically, based on this information. It is not necessary to sit by the system and check the status during the setup. If you use the Parameters file that has been used last time, you can create the same setup condition as the previous one.
- You can create a Parameters file in advance, by using “Parameter File Creator” in NEC EXPRESSBUILDER.

If you create a Parameters file in advance, you can skip the options that need to be entered or selected during Express Setup. (You can create or modify the setup information in the Parameters file, during Express Setup.) If any computer that is running on Windows XP/Vista/7/Windows Server 2003/2008/2008 R2 is available, it is recommended to edit the setup information with Parameter File Creator in advance.

- This device does not include the floppy disk (FD) drive by standard. Prepare an optional floppy drive when you create and use Parameters file.
-

Flow of Setup Procedures

The following flow chart illustrates the setup procedures for Express Setup.



Setup Procedures

Express Setup precedes the setup by selecting or inputting several parameters on the wizard. You can also save the parameters to a floppy disk as a Parameters file.

IMPORTANT:

■ The Scalable Networking Pack (SNP) function is disabled in the system that is installed by Express Setup.

The setting of SNP function may affect the system performance, so please refer to the attention of SNP detail in the following site before setting it.
<http://www.nec.com/global/prod/express/>

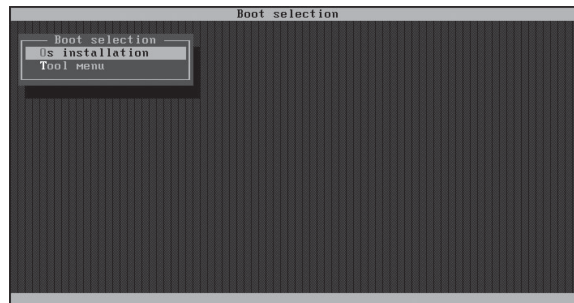
CHECK:

To execute Express Setup with a Parameters file, one empty 1.44MB formatted floppy disk is required. Prepare an empty floppy disk in advance.

When you reinstall OS, you can skip entering the parameter in the Wizard form, by reading the Parameters file that has been saved.

1. Turn the power of peripheral device on, and then turn on the server.
2. Insert the NEC EXPRESSBUILDER DVD into the optical disk drive of the server.
3. Press the **RESET** switch or press **Ctrl, Alt,** and **Delete** to reboot from the NEC EXPRESSBUILDER. (You may also turn off and then on again to reboot the server.)

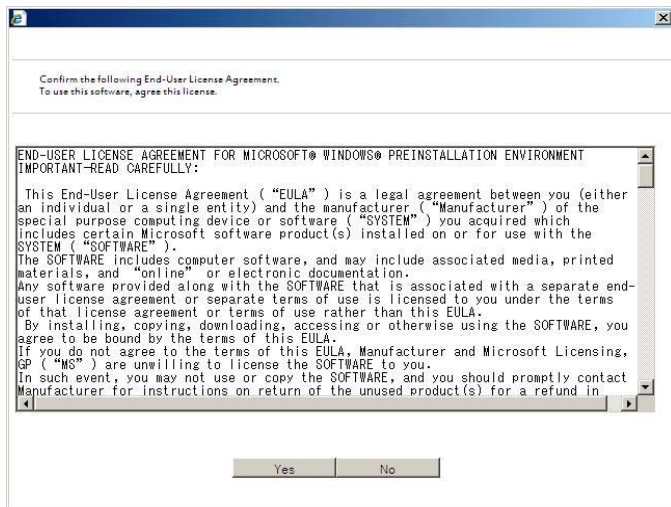
The system will boot from the DVD and NEC EXPRESSBUILDER starts. Select "Os installation" from the Boot selection menu. (After selecting "Yes" on the confirmation screen, the dialog of procedure 4 is displayed.)



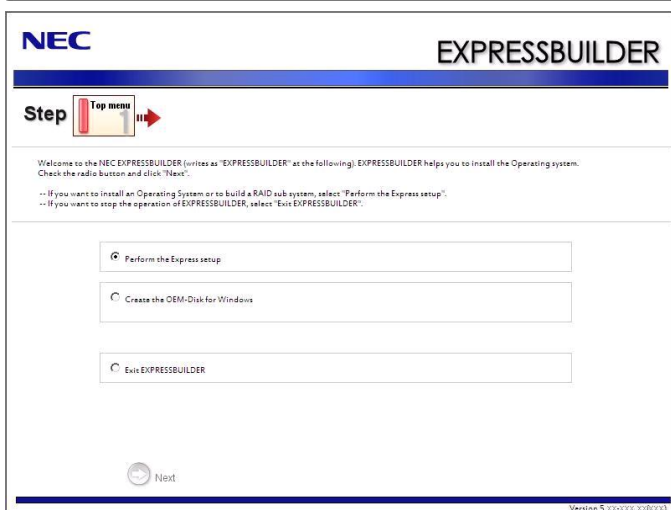
4. Select [English] from the Select Language and click [OK].



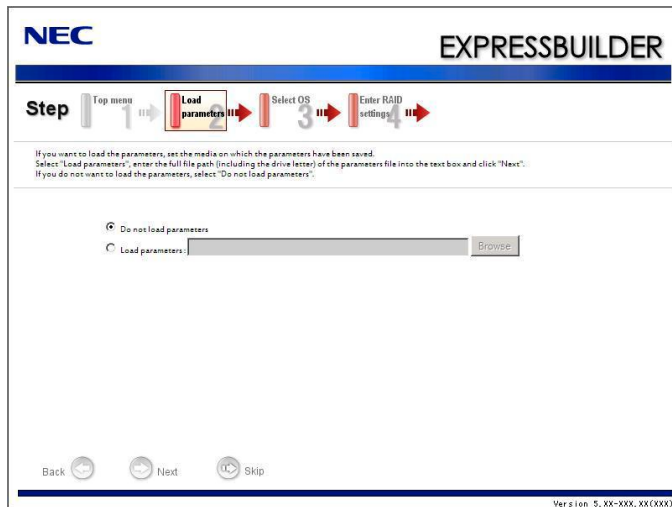
5. When the Software License Agreement screen of Windows PE appears, click [Yes].



6. Select [Perform the Express setup] from the Top Menu, click [Next].



7. [Load Parameters] steps are displayed.



[Do not load parameters]

- (1) Select [Do not load parameters].
- (2) Click [Next].

IMPORTANT:

The setup using a parameter file saved in the Flash FDD is not supported.

NOTE:

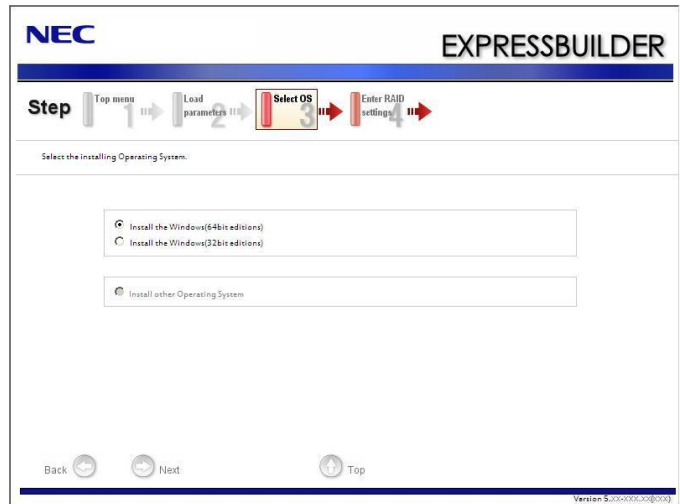
If a floppy disk drive is not connected, select this item.

[Load parameters]

- (1) Insert the floppy disk containing the parameters file.
- (2) Select [Load parameters], enter the file path of the parameters file into the text box.
- (3) Click [Next].

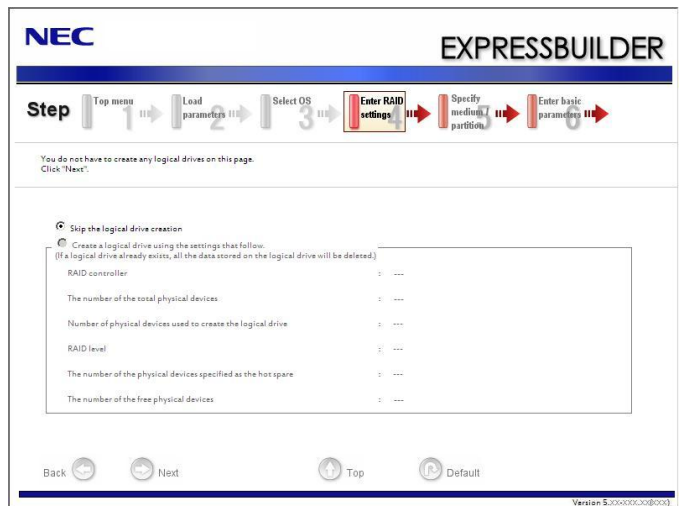
8. Select the installing Operating System.

Select [Install the Windows (64bit editions)] from the menu, click [Next].



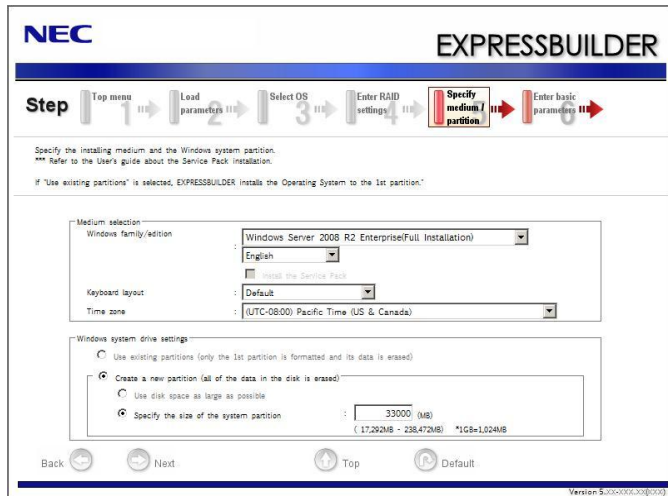
9. Enter the setting of a logical drive.

[Enter RAID settings] steps are displayed. Retain the default value, and then click [Next].



- Specify the installing medium and the Windows system partition.

[Specify medium /Partition] steps are displayed. Confirm the parameters, modify if necessary, and then click [Next].



IMPORTANT:

- About partition size
 - Specify the partition size larger than required minimum size for OS installation.
- If you select “Create a new partition” at “Windows system drive settings”, the contents of the hard disk will be all deleted.
- If “Use existing partitions” is selected, NEC EXPRESSBUILDER installs the Operating System to the Windows partition (The Boot partition (if it exists) and the Windows partition are deleted). The data in the other partition is kept if the system has two or more partitions (see the figure below).

Boot Partition Deleted	Windows Partition Deleted	User Data Partition Retained
---------------------------------------	--	---

- You can not re-install the system with the existing partition that is upgraded to Dynamic Disk remained. Do not select “Use existing partitions” at “Windows system drive settings.”

11. Enter the user information.

[Enter basic parameters] steps are displayed. Confirm the parameters, modify if necessary, and then click [Next].

IMPORTANT:

Computer name and Administrator password that satisfy the next condition, are required.

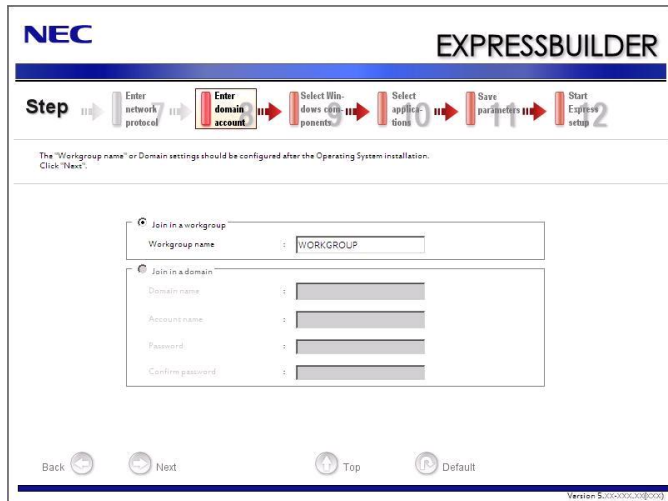
- More than 6 characters
- Contains characters from three of the following categories(numbers, uppercase letters, lowercase letters, and signs).

12. Enter the setting of the network protocol.

[Enter Network Protocol] steps are displayed. Retain the default value, and then click [Next].

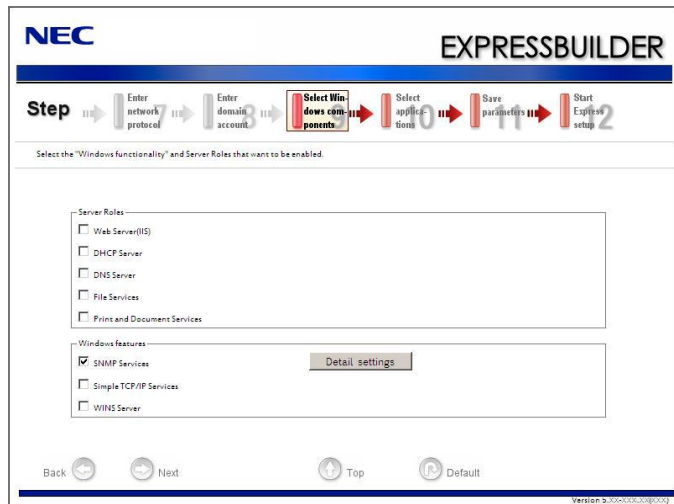
13. Enter the domain or workgroup name to be used.

[Enter domain account] steps are displayed. Retain the default value, and then click [Next].



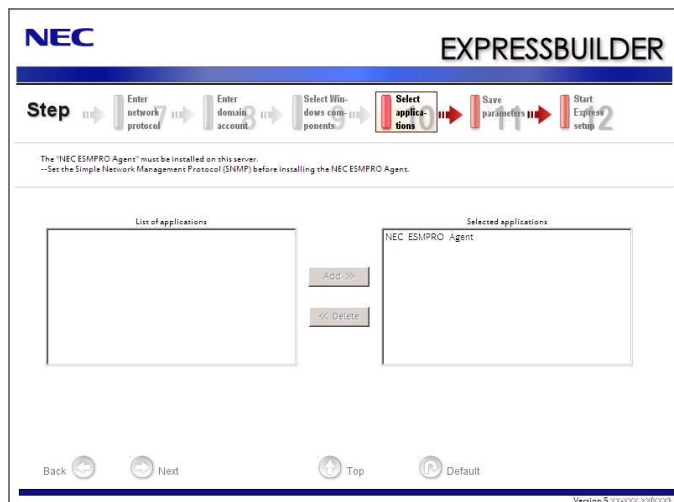
14. Select the installing components.

[Select Windows components] steps are displayed. Confirm the parameters, modify if necessary, and then click [Next].



15. Select the installing applications.

[Select applications] steps are displayed. Retain the default value, and then click [Next].



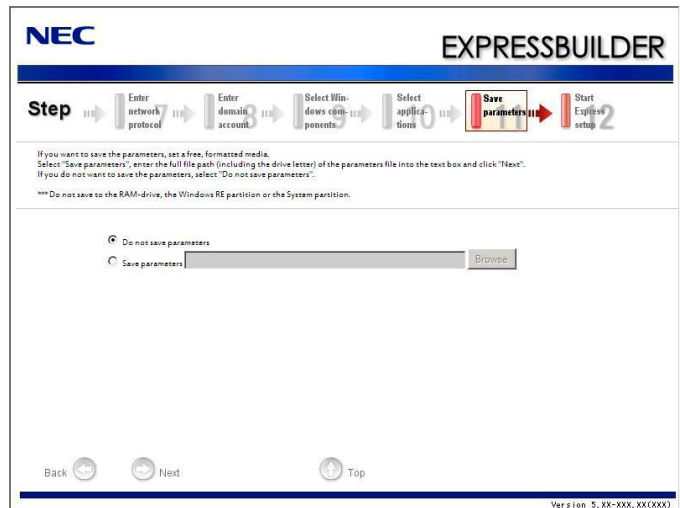
16. Save the parameters.

[Save parameters] steps are displayed.

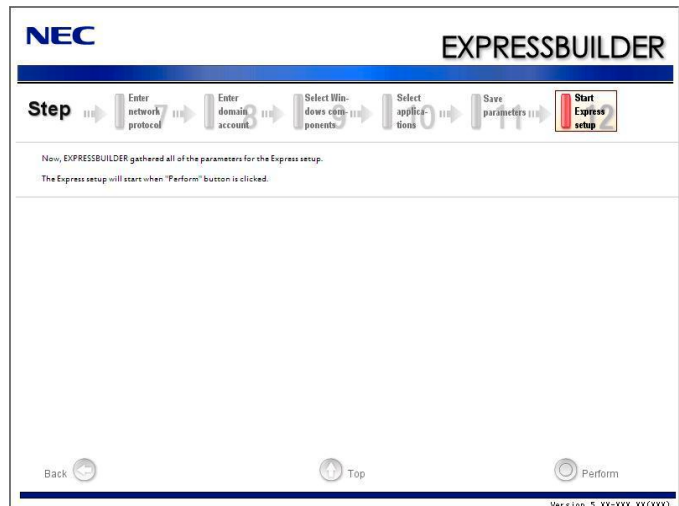
If you want to save the parameters, set the free formatted floppy disk.

Select [Save parameters], enter the file path of the parameters files into the text box and click [Next].

If not, select [Do not save Parameters].



17. The Express Setup will start when you click [Perform] in [Start Express setup] step.



18. Remove NEC EXPRESSBUILDER DVD from the optical disk drive according to the message.

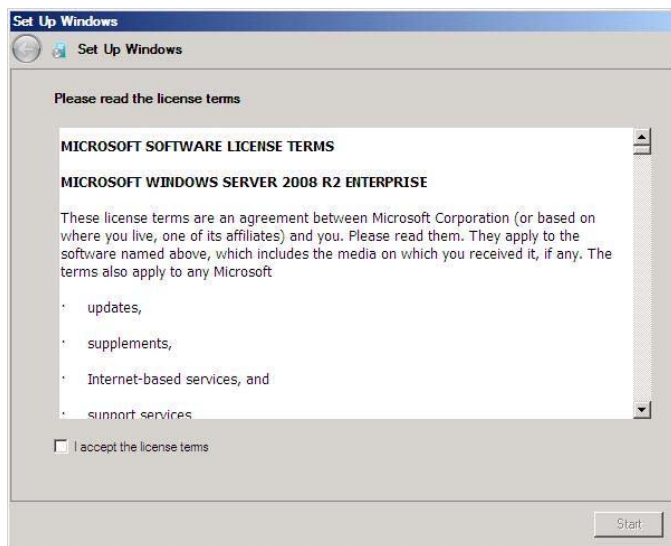
If you proceed the setup by using setup parameter file, remove the floppy disk from the floppy disk drive.

19. Insert Windows Server 2008 R2 DVD-ROM into the optical disk drive.

NOTE:

Windows Server 2008 R2 and selected applications will be installed automatically and reboots several times.


20. [Agree Software License Agreement] screen appears. Read the license terms carefully. If you agree, select I accept the license terms, and then click [Next].



21. When the following message appears, press **Ctrl + Alt + Del**.

Press CTRL + ALT + DELETE to log on

22. Log on to the system.

When the following screen message appears, enter your password into “Password” and click .



Step 4B: Manual Setup

Follow the procedures below to perform Manual Setup.

Installing Windows

IMPORTANT:

If you install Hyper-V, install Hyper-V after installing ft Server Control Software.

Follow steps below appropriate to your environment.

1. Turn on your system.

IMPORTANT:

To install Windows Server 2008 R2, you may need to update BIOS.

To check if your system needs a BIOS update, go to:

<http://www.nec.com/express>

2. Insert the Windows Server 2008 R2 DVD-ROM into your DVD-ROM drive.
3. Restart the system.
To restart the system, press **Ctrl + Alt + Del** or turn off the system once, and then turn it on again.

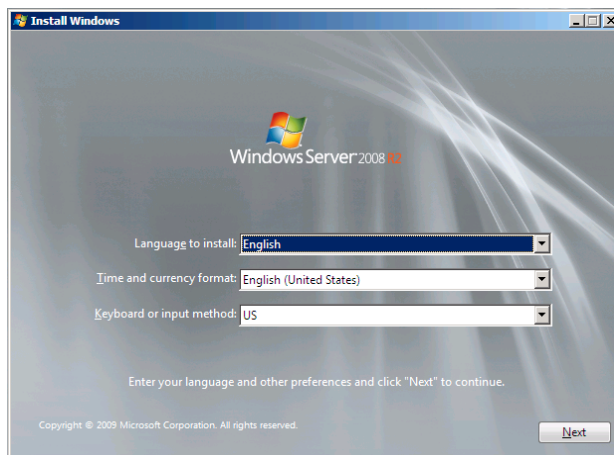
IMPORTANT:


When prompted to [press any key to boot from CD or DVD], press **Enter** while the message is displayed.

If the Windows installation screen (shown in steps 4) does not appear, turn off the system, and then turn it on again.

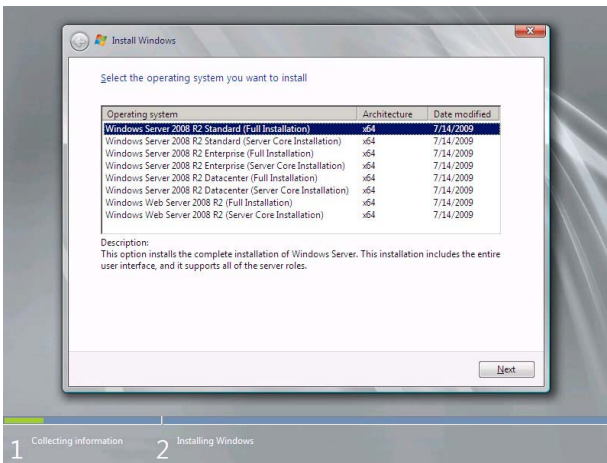
The DVD-ROM starts. A message "Windows is loading files ..." appears.

4. Select a language and other options from the drop-down lists, and then click [Next].

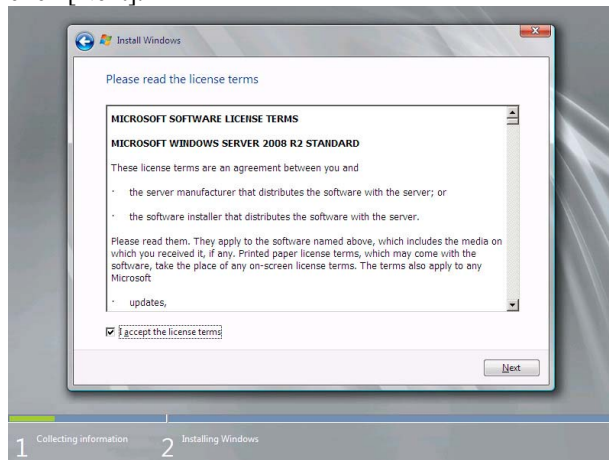


5. Click the [Install now 

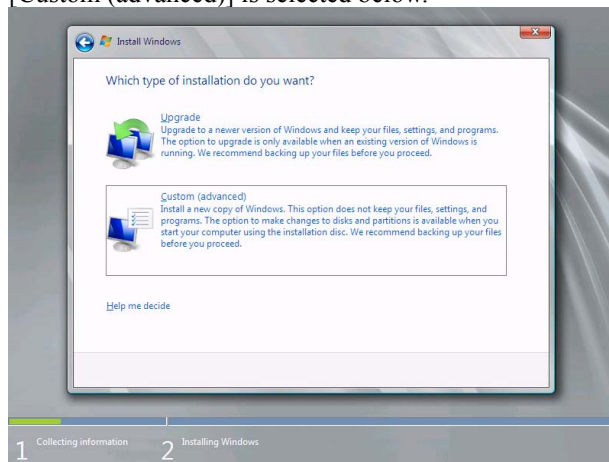
6. Select “Windows Server 2008 R2 Enterprise (Full Installation)” on this screen.



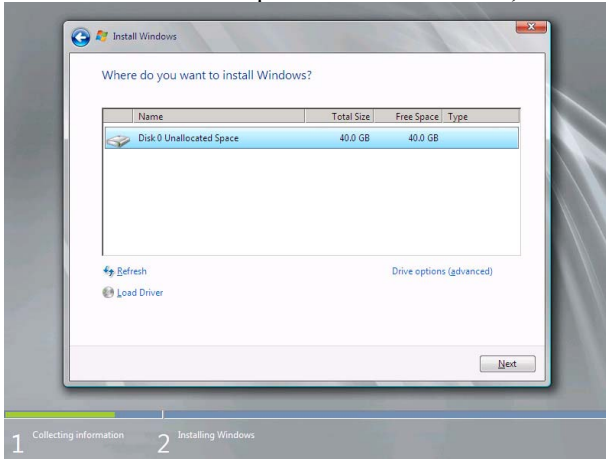
7. Read the license terms carefully. If you agree, select [I accept the license terms], and then click [Next].



8. Select the type of installation you want. [Custom (advanced)] is selected below.



9. Select the disk where a partition will be created, and then click [Drive options (advanced)].



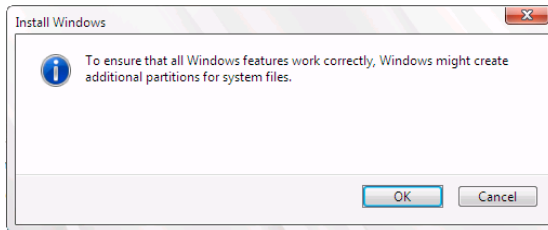
IMPORTANT:

If the partition has already been created, go to step 12.

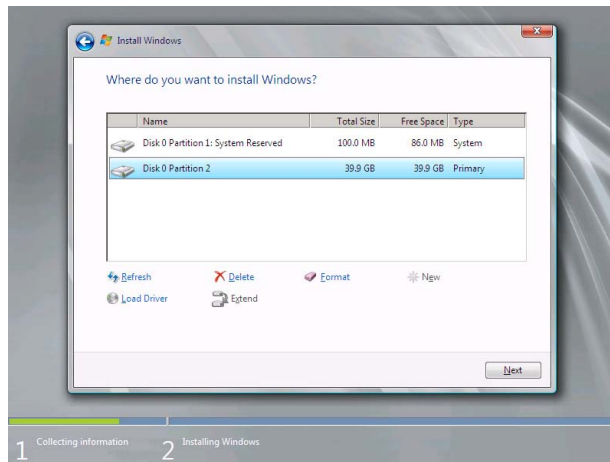
10. Click [New], enter a partition size, and then click [Apply].

NOTE:

When new partition is created, initial 100MB is assigned as boot partition by Windows OS.



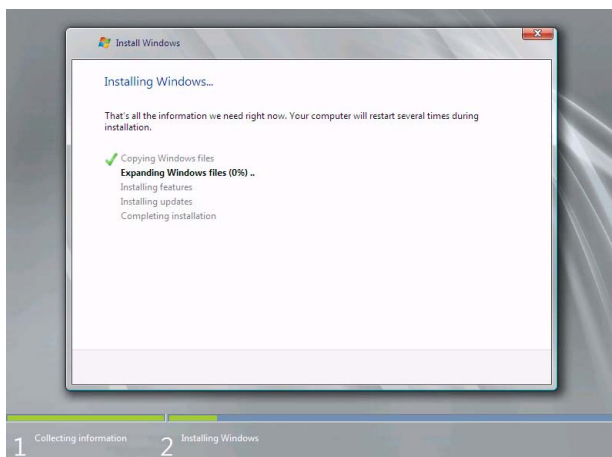
11. Select the partition created in step 10, and then click [Format].
12. Select the partition created, and then click [Next].



NOTE:


The number of partitions displayed on a screen depends on your system configuration.

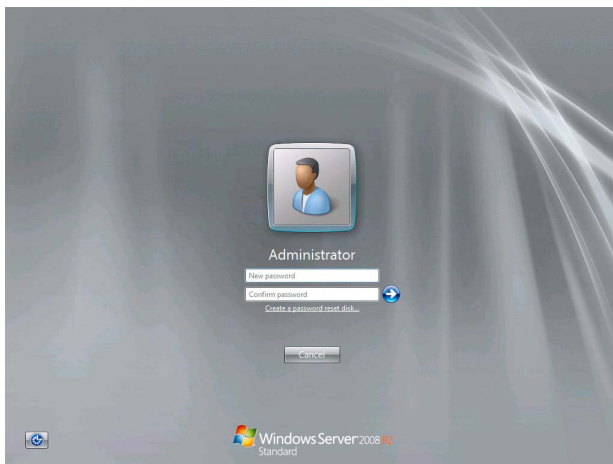
When the following message appears, the installation starts automatically.



13. After a full installation of Windows Server 2008 R2 is completed, the following dialog box will prompt you to set or change the password before you log on. Click [OK].



14. Change the password, and then click the [] button.



NOTE:

Administrator password that satisfy the next condition, are required.

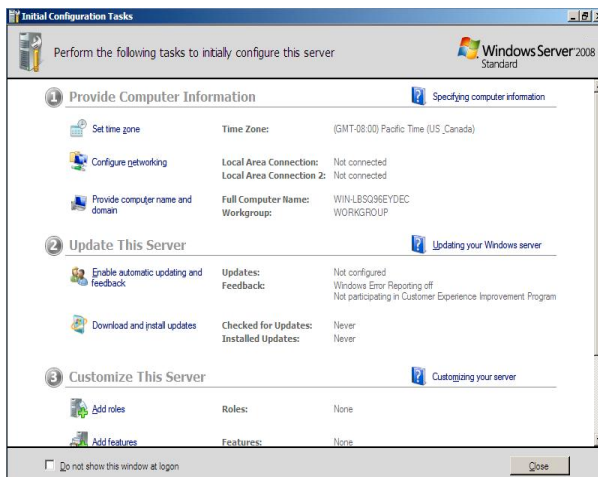
- More than 6 characters
 - Contains characters from three of the following categories (numbers, uppercase letters, lowercase letters, and signs)
-

15. When the following message appears, click [OK] to log on.



16. Log on to the system.
The steps vary depending on the edition you selected in step 6.

On the [Initial Configuration Tasks] window, enter user information.



17. Update the system by the following procedure.

IMPORTANT:

“Updating the System” disables the Scalable Networking Pack (SNP) function.

The setting of SNP function may affect the system performance, so please refer to the attention of SNP detail in the following site before setting it.

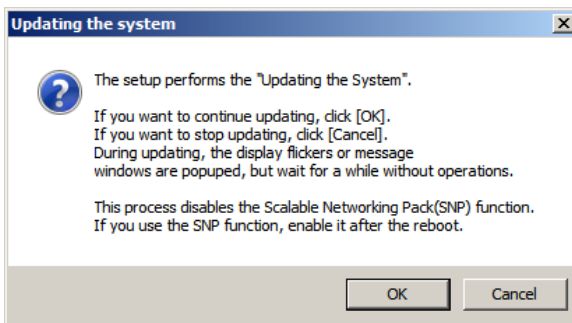
<http://www.nec.com/global/prod/express/>

1. Log on to the system using an administrator account.
2. Insert the NEC EXPRESSBUILDER DVD into the optical disk drive.
3. If the menu is displayed, click [Setup Windows] and click [Update the system].

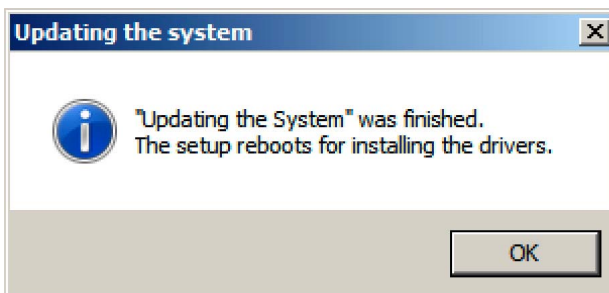
NOTE:

Right-clicking on the Menu produces the same outcome.

4. The following box appears.



5. Read the message, and then click [OK].
The update starts.
6. When the following message appears, click [OK] to restart the system.



18. Install ft Server Control Software.

IMPORTANT:

You must terminate all programs because the software will not be installed successfully, especially when Microsoft management console is running.

1. Follow the steps below to install ft Server Control Software.
 - a) After logging on to the system as a user with the Administrative account, insert the “NEC EXPRESSBUILDER” DVD into the optical disk drive of the server.
 - b) The menu screen starts up. Click [Setup software] and select [ft Server Control Software] on the menu.

Follow the instructions to with the installation. The message “ft Server Control Software, Now Installing... Please Wait.” is displayed while ft Server Control Software. Do not use the keyboard or mouse while this message is being displayed.

2. The system is rebooted during the installation.

The system is rebooted several times during the installation. Remove the NEC EXPRESSBUILDER DVD from the optical disk drive once rebooting is started. After the system is rebooted, log in again as the user logged in before rebooting. Installation of the ft Server Control Software is continued.
3. The message “Installation finished.” is displayed.

Once the installation is completed, the message “Installation finished.” is displayed and the rebooting starts by clicking [OK]. Change this screen to check the message, as the message can hide behind the screen.

19. Install NEC ESMPRO Agent

IMPORTANT:

Ensure that “System Update” is applied and that “ft Server Control Software” and “NEC ESMPRO Agent” are installed.

Changing Drive Letters

You can change the drive letters with the following procedure:

NOTE:

The following procedure does not change the drive letters for the system volume or the boot volume.

1. Go to the start menu, right click [My Computer], select [Manage] and then launch [Computer Management].
2. Select [Disk Management] in the left window.
3. Select and right-click a volume that you want to change the drive letter, and then select [Change Drive Letter and Path for...].
4. Click [Change].
5. Click [Change Drive Letter or Path], then select a letter for the drive.
6. Click [OK].
7. Click [Yes] after confirming the following message.

Changing the drive letter of a volume might cause programs to no longer run. Are you sure you want to change this drive letter?
--

8. Exit [Computer Management].

Step 5: Connect and Configure Options

When there are optional PCI boards or peripheral devices to connect to the main unit, power off the main unit. Then, for connecting them, follow the instructions in “PCI board” in the separate volume of the User’s Guide and the manual of the devices.

Make dual configuration when you added LAN and disks. For details, see “Step 7 Set Duplex LAN Configuration” and “Step 8 Set Dual Disk Configuration”.

Step 6: Update Software

If you use ftServer Control Software UPDATE Disc (CD-ROM or DVD-ROM), refer to the installation procedure enclosed in the UPDATE Disc to apply the update. When there are other update modules, apply them in this step.

IMPORTANT:

- Because the display name of the LAN card on the device manager has been initialized when doing the update of ft Server Control Software in the condition which set a LAN in the duplication, the name of the team has been deleted from the display name of the LAN card. There is not a problem in case of use, but when wanting to return to original, cancel and create a team once more.
 - When you update ftServer Control Software in the state of non-activating the LAN port which is not used, the LAN port is activated after updating. Do the operation of non-activation again.
-

Step 7: Set Duplex LAN Configuration

The NEC Express5800/ft series builds a duplex LAN configuration by using “Stratus emb-82576 2-Port Gigabit Adapter” mounted as standard on the CPU/IO module and the extended PCI slot “Stratus 82576 2-Port Copper Gigabit Adapter.”.

Overview

The duplex LAN configuration types are described below:

- **Adapter Fault Tolerance (AFT)**

Adapter Fault Tolerance (AFT) is a feature that places more than one LAN controller on the same LAN (same segment), and automatically switches the process of the primary controller to the backup controller when any trouble occurred on the primary.

- **Adaptive Load Balancing (ALB)**

Adaptive Load Balancing (ALB) is a feature that connects more than one LAN controller to the same hub and enhances the throughput by operating packet transmission from the server.

Receive Load Balancing (RLB) is enabled by default. Disable RLB. When RLB is enabled, the network duplex configuration may fail.

- **Switch Fault Tolerance (SFT)**

Switch Fault Tolerance is a feature that provides the network availability as the failover target (standby) adapter takes over MAC address and L3 address by connecting each two adapters to each two switches when a problem occurs on the adapter, cable or connecting target. One is assigned to the primary adapter and the other is to the standby. The primary adapter communicates on the network.

Regarding the path redundancy, you need to construct the environment by using the spanning tree not only on the server side but also on the switch side.

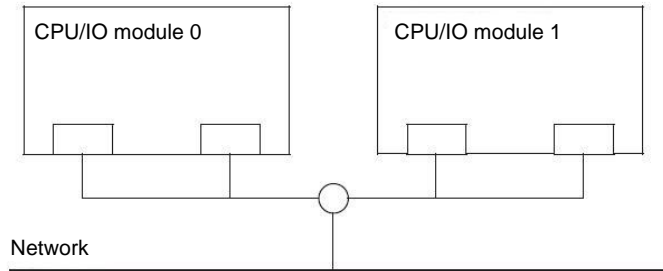
You need to set the priority of the switch so that the path through the primary adapter is available even when a switch on the path is broken and the path information is updated.

NEC Express5800/ft Series Duplication Rule

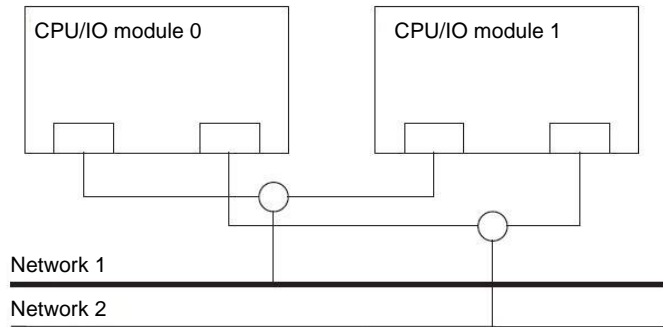
Be sure to set the duplex configuration in the server.

Also, when you set the duplex configuration, be sure to use one CPU/IO module 0 adapter and one CPU/IO module 1 adapter.

e.g.1) Set the duplex configuration with the improved endurance using all the adapters.



e.g.2) Set the duplex configuration for more than one LAN connection



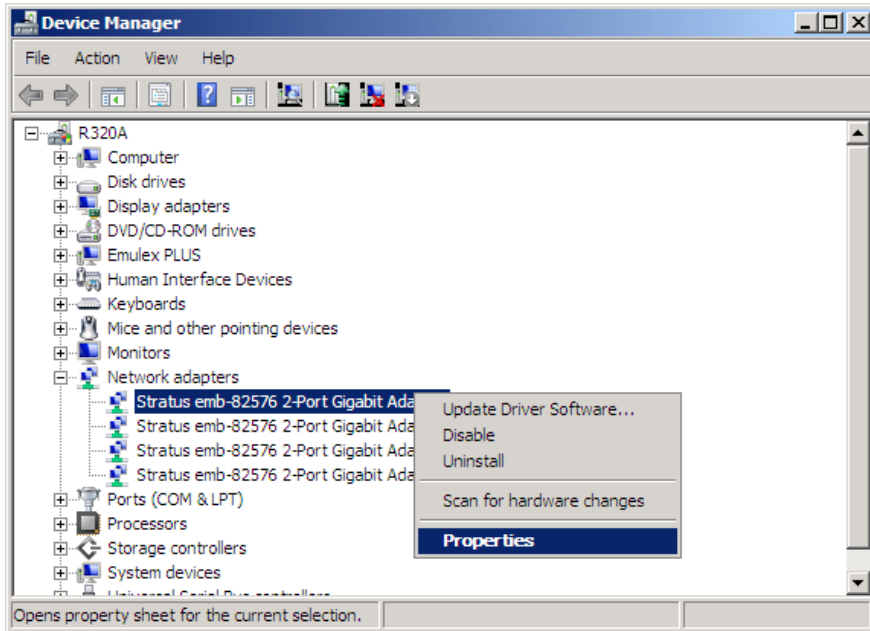
Duplex Configuration Setup

The following describes the procedure to set duplex LAN configuration.

The procedure to set the duplex LAN configuration of the example 1 in “NEC Express5800/ft Series Duplication Rule” above is explained.

To set the duplex LAN configuration, log on as “Administrator” or a member of the group “Administrators.”

1. Start Device Manager.
2. Select one target network adapter, right-click on it and select [Properties] from the displayed menu to display the Properties window.



IMPORTANT:

The display of Network Adapters may be duplicated as shown below, depending on the status at installation.

- Stratus emb-82576 2-Port Gigabit Adapter
- Stratus emb-82576 2-Port Gigabit Adapter
- Stratus emb-82576 2-Port Gigabit Adapter #2
- Stratus emb-82576 2-Port Gigabit Adapter #2

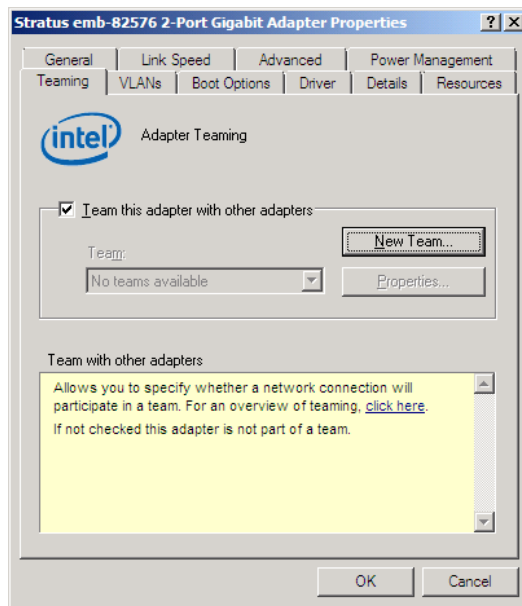
If such a case occurs, perform the following actions:

1. Delete all Network Adaptors from Device Manager.
2. Select [Action] – [Scan for hardware changes].

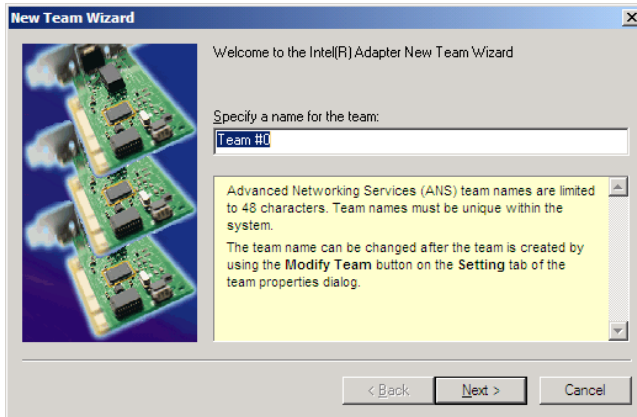
The display will be as follows when the actions are performed properly.

- Stratus emb-82576 2-Port Gigabit Adapter
 - Stratus emb-82576 2-Port Gigabit Adapter #2
 - Stratus emb-82576 2-Port Gigabit Adapter #3
 - Stratus emb-82576 2-Port Gigabit Adapter #4
-

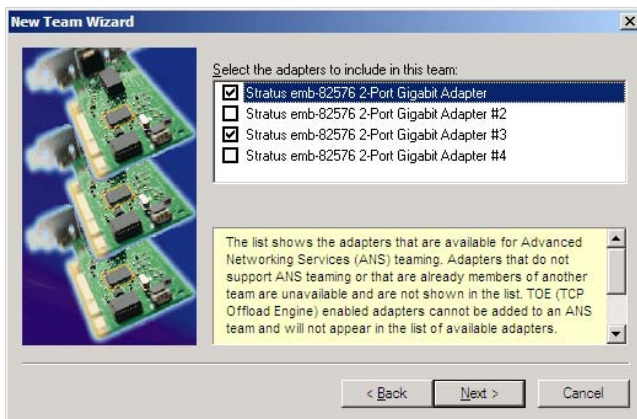
3. Select the [Teaming] tab in the Properties window. Check the radio button of [Team with other adapters] and click [New Team...].



4. Enter the team name, and click [Next >].

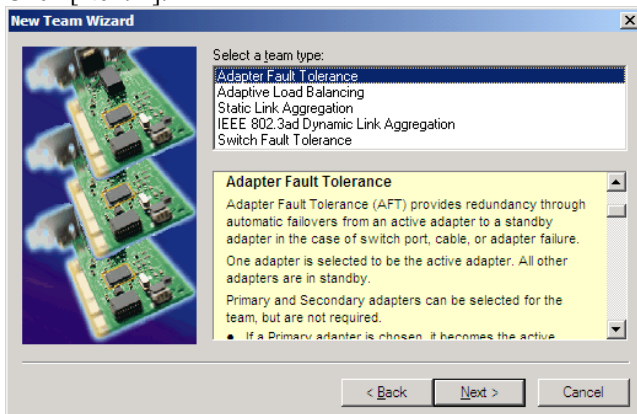


5. Select the check boxes of the adapters you want to include to the team, and click [Next>].

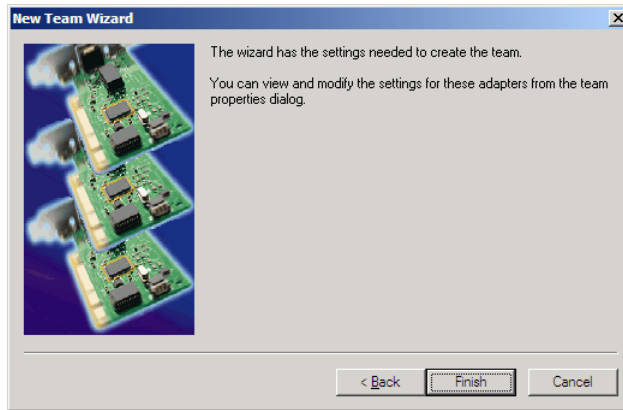


6. Select “Adapter Fault Tolerance” or “Adaptive Load Balancing” or “Switch Fault Tolerance” as a team mode. (Usually select “Adapter Fault Tolerance.”)

Click [Next >].



7. Click [Finish].

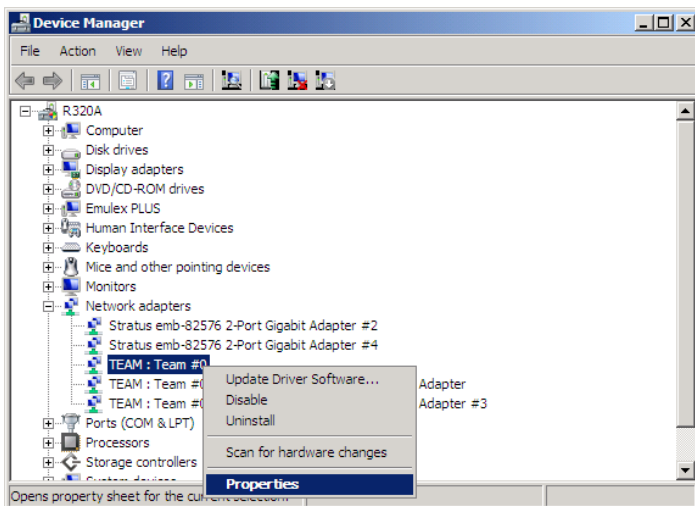


8. Start a command prompt, and confirm the physical MAC address of the team adapter with `ipconfig /all`.

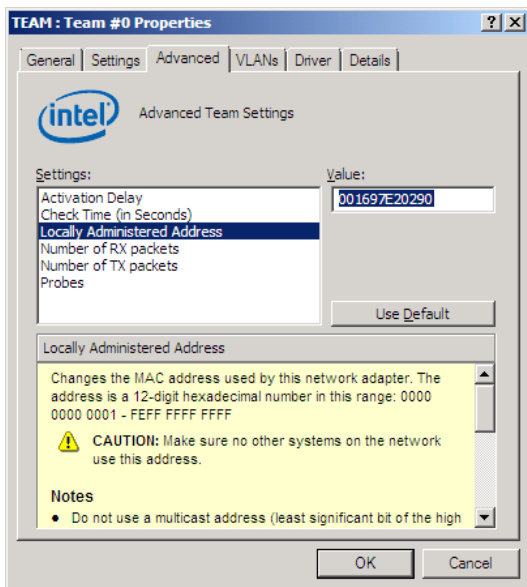
```
Administrator: C:\Windows\system32\cmd.exe
WINS Proxy Enabled. . . . . : No
Ethernet adapter Local Area Connection 5:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix . :
    Description . . . . . : Intel(R) Advanced Network Services Virtual
    Adapter
    Physical Address. . . . . : 00-16-97-E2-02-90
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
Ethernet adapter Local Area Connection 4:
```

9. Select the team adapter that has been set, right-click on it and select [Properties] from the menu displayed to display the Properties window.



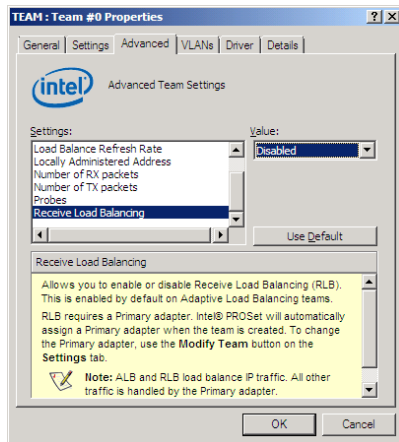
10. Select the [Advanced] tab in the Properties window. Select [Locally Administered Address] from the [Settings] list box, and enter the MAC address of team adapter that you have checked in the [Value:] text box, and click [OK].



11. Disable probe function when the team configured with only two adapters. Select the [Advanced] tab in the Properties window. Select [Probe] from the [Settings] list box, and click [Properties] button.

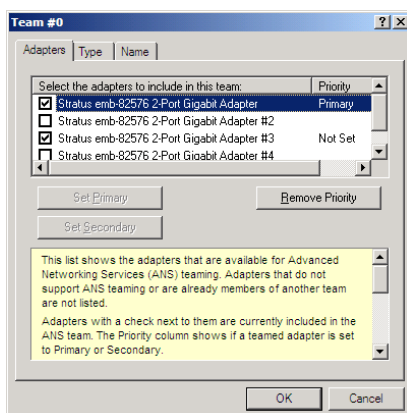
Probe dialog appears. Turn off the [Send Probes] in the dialog. Click [OK] to close the dialog.

12. When you select Adaptive Load Balancing as a team mode, you need to disable Receive Load Balancing and delete the adapter priority.
 - Select the [Advanced] tab on the properties dialog box. Select [Receive Load Balancing] from the [Settings:] list box, and then select [Disabled] from the [Value:] drop down list.
 - Click [OK] to apply a change. The dialog will close.
 - Show properties dialog again.



On Windows 2008

- Select the [Settings] tab on the properties dialog box and click [Modify Team] button to display the dialog box.
- Select the adapter that the priority is set, and then press the [Remove Priority] button to remove the priority.



On Windows 2008

Step 8: Set Dual Disk Configuration

NEC Express5800/ft series secures data by setting dual disk configuration using “RDR (Rapid Disk Resync) function.” Be sure to make dual disk settings by referring to the procedure.

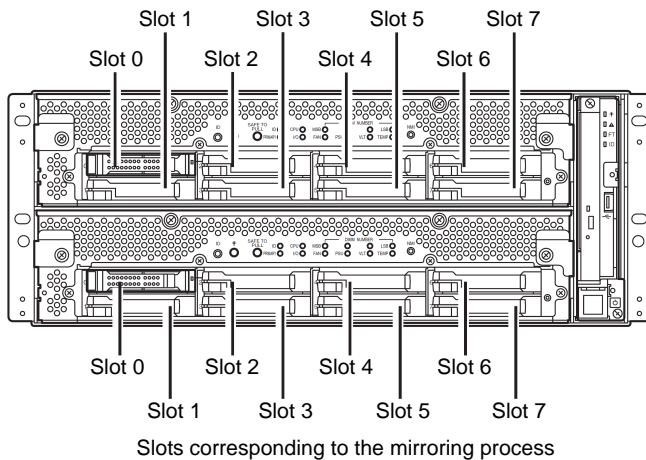
IMPORTANT:

- Set dual disk configuration by the RDR (Rapid Disk Resync) function. If you want to use other disk management tool (e.g. VERITAS Storage Foundation), install it after “Step 12: Make Settings for Failure Management.”
 - CPU/IO module has a processor function part and IO function part, and monitors and manages each part. The IO function part is referred to as PCI module in this section.
 - HDDs mounted to built-in slots need to be duplexed. Refer to “Setting Dual Disk Configuration by RDR (Rapid Disk Resync) function” and duplex the HDDs in each slot.
-

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

This device sets dual configuration for each disk by the RDR function of the fit server control software.

By setting RDR, as the following figure and table show, dual configuration is set between the disks of the corresponding slots, and these disks are recognized as one virtual disk by Windows (such as Disk Management and Device Manager).



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

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

IMPORTANT:

- To perform this procedure, you need to log on as an administrator or a member of administrator group.
- RDR can only be set on the basic disk inserted into the built-in slot of NEC Express5800/ft series. It cannot be set on the dynamic disk.
- For the disk on which RDR is set, use the products with the same serial number.
- Be sure to configure the RDR settings in the same way not only when the OS is installed but also when the disk is added to the PCI module.
- Create partitions only after the duplication of the hard disk drives are configured.
- Be sure to use a basic disk as the system disk. Only a data disk can be used for a dynamic disk.

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

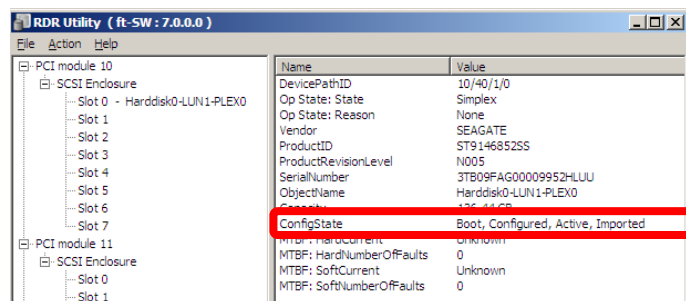
To configure the dual disk of the system disk, refer to “System Disk Dual Configuration Procedure.”

To configure the dual disk of the data disk, refer to “Data Disk Dual Configuration Procedure.”

System Disk Dual Configuration Procedure

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

1. Go to [Start] – [All Programs] – [RDR] – [RDR Utility], and start RDR Utility. On the left pane of the RDR Utility, select Slot 0 disk of PCI Module 10 and confirm that “ConfigState” on the right pane shows “Boot, Configured, Active, Imported.”



TIPS:

- For details of RDR Utility, refer to “Chapter 3 Windows Setup and Operation” – “DISK OPERATIONS” – “Disk Operations Using RDR (Rapid Disk Resync) Function” in the separate volume of User’s Guide.
 - The display of RDR Utility does not refresh automatically. From the menu, go to [Action] and click [Refresh] or press F5 key every time you conduct disk-related operations such as connecting/disconnecting disks or configuring the RDR.
 - On RDR Utility, PCI module names appear as follows.
 - PCI module (CPU/IO module 0) – PCI module 10
 - PCI module (CPU/IO module 1) – PCI module 11
2. Insert the disk for the dual configuration to the Slot 0 of PCI Module 11.

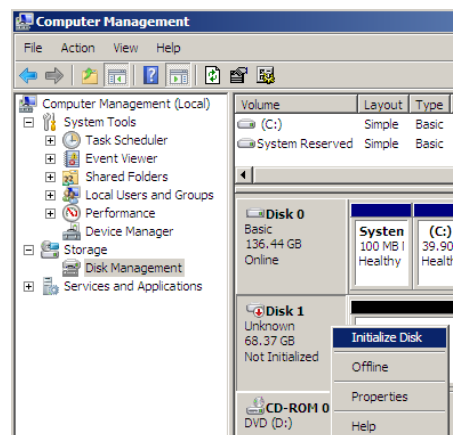
IMPORTANT:

As to the disks to insert, ensure to use new ones or physically formatted ones with the same capacity as the synchronization source disk. If you use other disks, dual configuration is not set properly.

As to the physical format, refer to “SAS BIOS –Adaptec SAS/SATA – Configuration Utility” in Chapter 4, “System Configuration” in the User’s Guide, and perform Format Disk with Disk Utilities.

Before performing physical formatting, change [Option ROM Scan Monitoring] to [Disabled] on [Server] – [Monitoring Configuration] on the BIOS setup utility. Refer to the separate volume of the User’s Guide “SYSTEM BIOS – SETUP –” in “ System Configuration in chapter 4” for configuration.

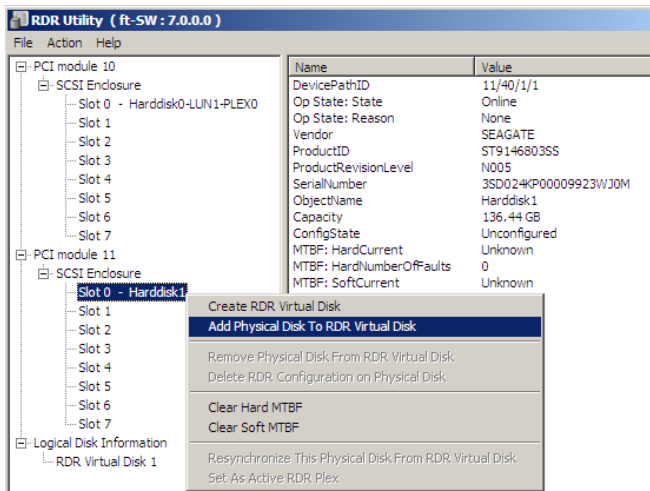
3. Start [Computer Management] by going to [Start] – [Administrative Tools], and select [Disk Management] on the left tree. If the disk which is to be set as dual configuration shows as “Not Initialized” on the right pane, right click on the relevant disk to initialize.



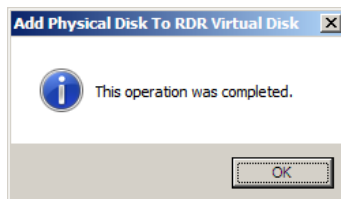
IMPORTANT:

A popup window prompting to reboot appears when inserting or initializing the disk; however, you do not need to reboot the system. Select [Restart Later] to exit the popup window.

- Right-click on the Slot 0 of the PCI module 11 from the left pane of RDR Utility, and then click [Add Physical Disk To RDR Virtual Disk].



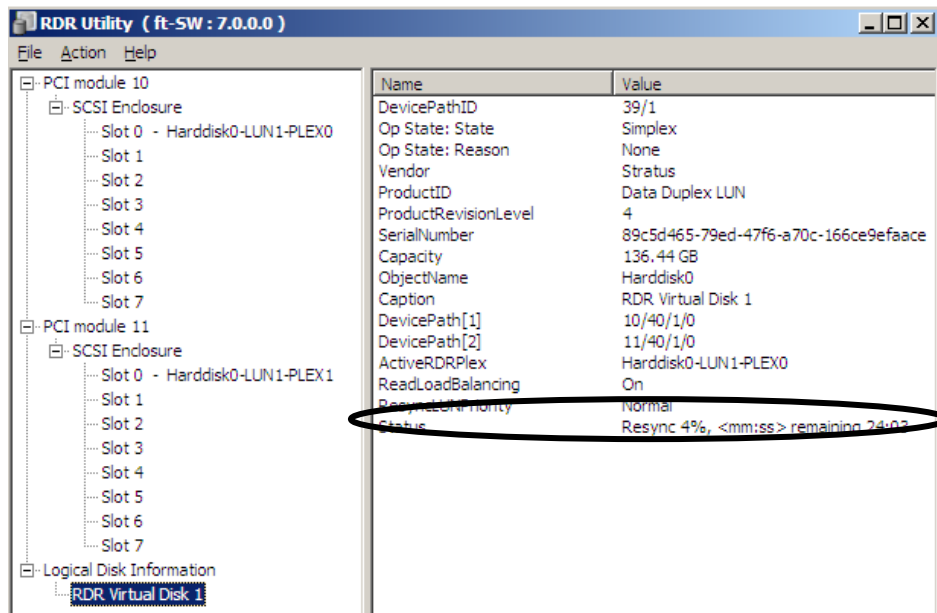
- Click [OK].



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

■ **During synchronization**

	DISK ACCESS LED	RDR Utility	
		Condition	Status
Synchronization source disk	Amber and blinking	Simplex	-
Synchronization destination disk	Amber and blinking	Syncing	-
RDR Virtual Disk	—	Simplex	Resync x % (x=0, 4, 8, ..., 96)

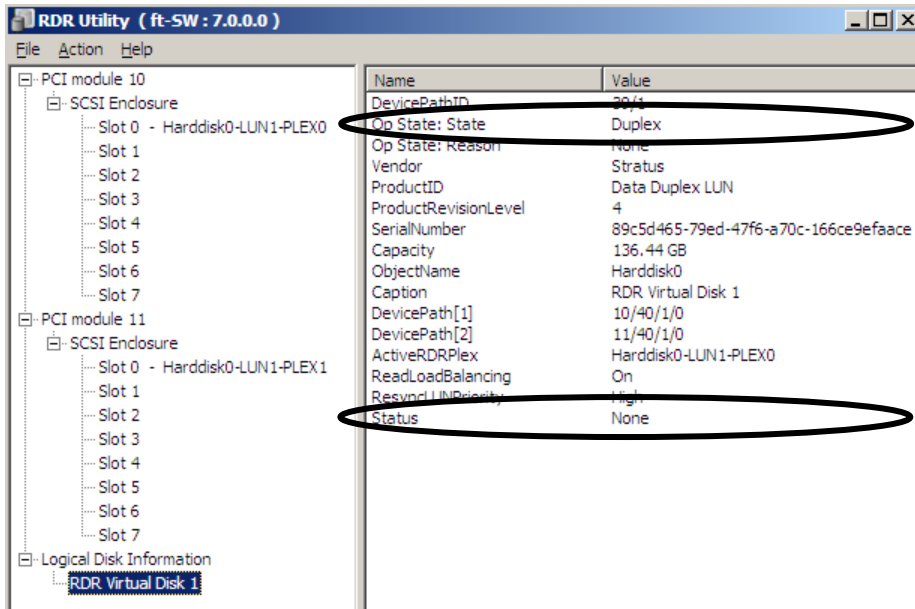


IMPORTANT:

- The time required for synchronization varies depending on the partition size on the disk. For a 40GB partition, it takes about 50 minutes.
 - Setting dual disk configuration may not complete if you reboot the system during the synchronization. Do not reboot the system before synchronization process completes.
 - If the system stops by terminating Windows improperly such as pressing the power button, the whole disk area already synchronized will be resynchronized after rebooting the system.
-

■ Synchronization completed

	DISK ACCESS LED	RDR Utility	
		Condition	Status
Synchronization source disk	Green and blinking	Duplex	-
Synchronization destination disk	Green and blinking	Duplex	-
RDR Virtual Disk	—	Duplex	None



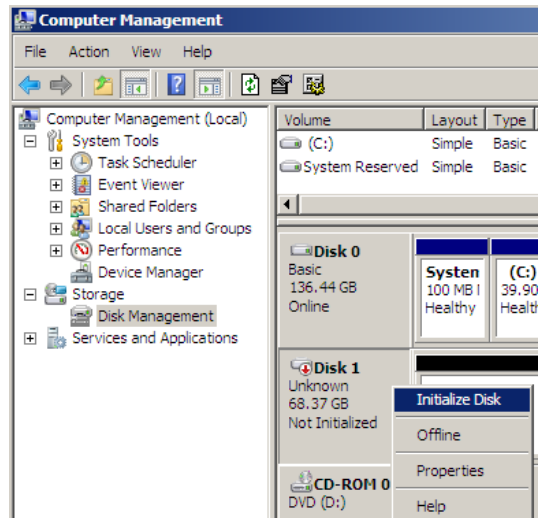
Data Disk Dual Configuration Procedure

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

IMPORTANT:

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

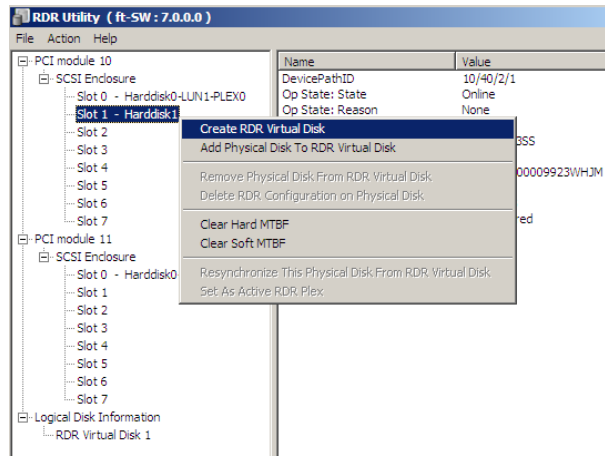
1. Insert a disk for the dual configuration into the slot 1 of PCI Module 10.
If a disk is already mounted, this procedure is not necessary. Go to step 2.
2. Start [Computer Management] by going to [Start] – [Control Panel] – [Administrative Tools], and select [Disk Management] on the left tree. If the disk which is to be set as dual configuration shows as “Not Initialized” on the right pane, right click on the relevant disk to initialize.



IMPORTANT:

A popup window prompting to reboot appears when you insert or initialize the disk; however, you do not need to reboot the system.
Select [Restart Later] to exit the popup window.

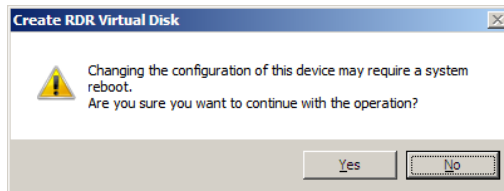
- Go to [Start] – [All Programs] – [RDR] – [RDR Utility], and start RDR Utility. On the left pane of the RDR Utility, right click on the Slot 1 disk of PCI Module 10 and choose [Create RDR VirtualDisk].



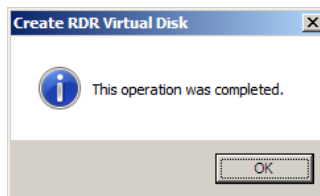
TIPS:

Depending on the disk status, it takes time to set RDR, and RDR Utility may stop for a few minutes. This is not an error. Just wait for a while.

- Click [Yes].



- Click [OK].



IMPORTANT:

If you set RDR on the disk that includes a system partition disabled to mount, the system restart pop-up message appears. The system reboots after 2 minutes by clicking [Yes]. After rebooting, perform the step 6 and later.

6. Insert the disk to set dual configuration into the slot 1 of PCI module 11, and perform the procedure 2.
If a HDD is already mounted, this procedure is not necessary. Perform the procedure 2 only.

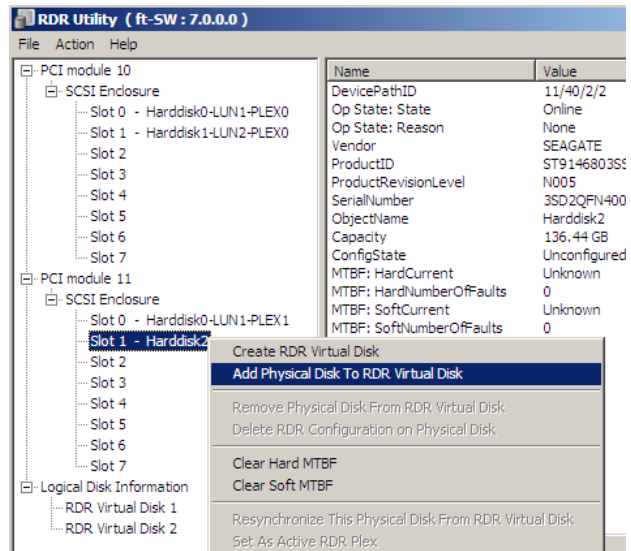
IMPORTANT:

As to the disks to insert, ensure to use new ones or physically formatted ones with the same capacity as the synchronization source disk. If you use other disks, dual configuration is not set properly.

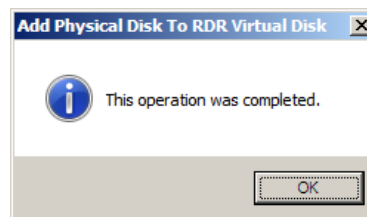
As to the physical format, refer to “SAS BIOS – SAS Configuration Utility –” in “Chapter 4 System Configuration” in the separate volume of the User’s Guide, and perform Format Disk with Disk Utilities.

Before performing a physical HDD formatting, go to [Server] – [Monitoring Configuration] and [Option ROM Scan Monitoring] as [Disabled] on the BIOS setup utility.. For how to configure the settings, see “System BIOS – SETUP –” in Chapter 4, “System Configuration” in the separate volume of the User’s Guide.

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



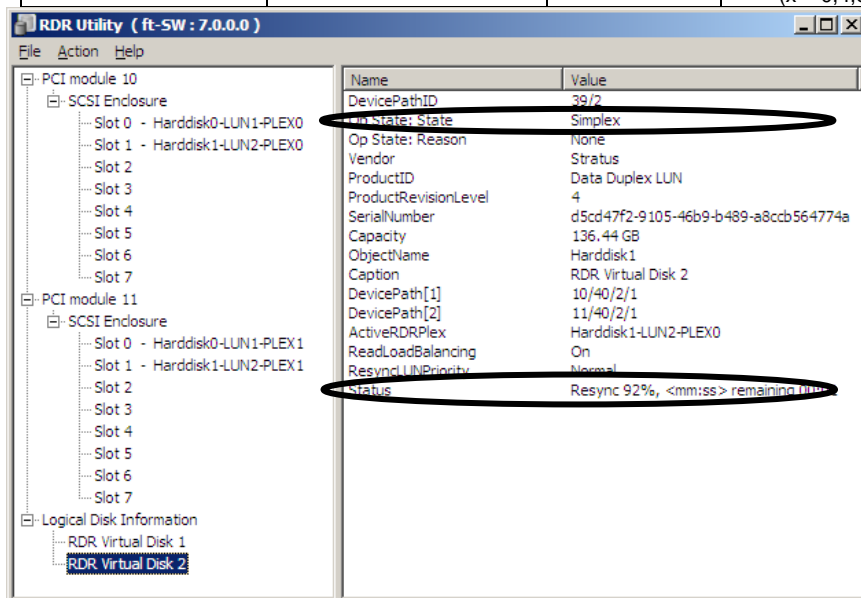
8. Click [OK].



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

■ **During synchronization**

	DISK ACCESS LED	RDR Utility	
		Condition	Status
Synchronization source disk	Green and blinking	Online	-
Synchronization destination disk	Amber and blinking	Syncing	-
RDR Virtual Disk	—	Simplex	Resync x % (x = 0,4,8,..., 96)

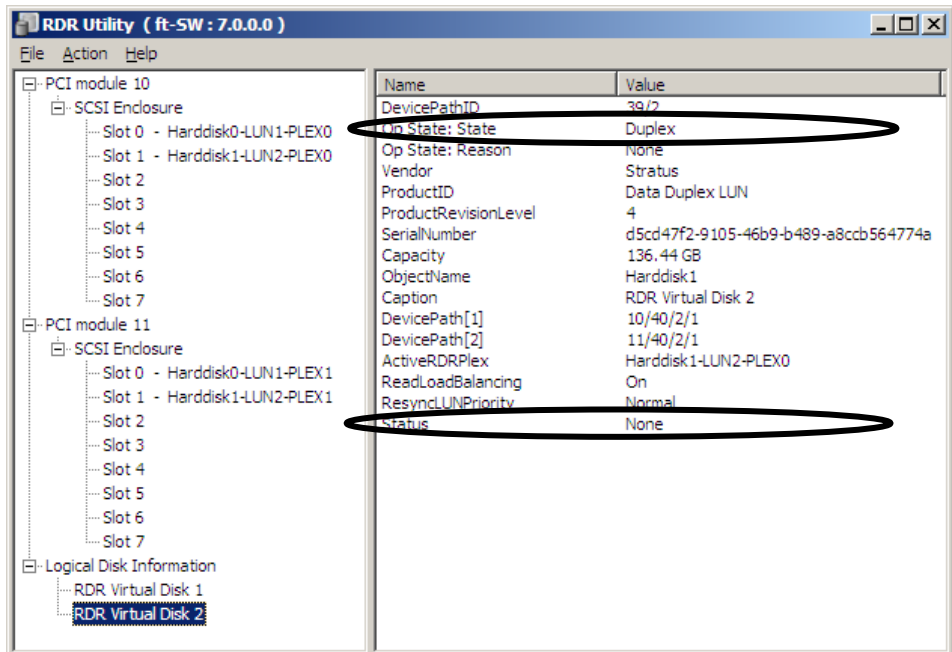


IMPORTANT:

- The time required for synchronization varies depending on the partition size on the disk. For a 73GB partition, it takes about 80 minutes. When the partition does not exist on the disk, the synchronization is completed immediately after the RDR is set, and Op State: State changes to Duplex. However, when the dynamic disk is used, the time required for synchronization depends on the disk size regardless of whether or not the partition exists on the disk. For a 73GB disk, it takes about 80 minutes.
- Setting dual disk configuration may not complete if you reboot the system during the synchronization. Do not reboot the system before synchronization process completes.
- If the system stops by improper termination of Windows such as pressing the power button, the entire synchronized disk area will be resynchronized after rebooting the system.

■ Synchronization completed

	DISK ACCESS LED	RDR Utility	
		Condition	Status
Synchronization source disk	Green and blinking	Online	-
Synchronization source disk	Green and blinking	Online	-
RDR Virtual Disk	—	Duplex	None



Step 9: Create Volume

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

IMPORTANT:

Note the following issues when you execute Active Upgrade under the status that the OS installed disk has partitions other than the system partition.

- All the data upgrade is discarded for the system disk of the Production Side that runs Active Upgrade.

A mirrored volume (RAID-1) or RAID-5 volume cannot be used on a dynamic disk.

TIPS:

- To create a partition or volume, refer to the Windows online help.
 - You can create a partition or volume even after the operation has been started.
-

Step 10: Set Network for NEC ESMPRO Agent

NEC ESMPRO Agent is required for continuous operation of the NEC Express5800/ft series. It is automatically installed when you reinstall Windows 2003.

To operate NEC ESMPRO Agent, you need to set the SNMP.

To change the settings of the SNMP Service:

1. Double-click [Administrative Tools] in [Control Panel].
2. Open [Services] in [Administrative Tools].
3. Select [SNMP Service] from the service list and then [Properties] in the [Action] menu.

The “SNMP Properties” dialog box appears.

4. Enter “public” or an arbitrary name in the [Community name] box of the [Traps] property sheet and click [Add to list] button.

IMPORTANT:

- If you changed the community name of traps to be received from the default “*” in the NEC ESMPRO Manager site, enter the same name as the community name newly set in the NEC ESMPRO Manager site.
 - To receive trap from NEC ESMPRO Agent at the NEC ESMPRO Manager machine, both community names should be the same.
-

5. Click the [Add...] button in [Trap destinations]. After entering the IP address of the NEC ESMPRO Manager machine of the send destination in the [Host name, IP or IPX address] box, click the [Add] button.

IMPORTANT: If the IP address (or host name) of the remote NEC ESMPRO Manager is specified as the trap send destination in the setup of the manager report (TCP/IP), the message warning the duplication appears. With this configuration, the alert is redundantly sent to NEC ESMPRO Manager of the specified IP address or host name.

6. Open the [Security] property sheet and make settings as follows:
 - Add the community name entered in 4 to [Accepted community names].
 - Set its authority to [READ CREATE] or [READ WRITE].
 - Select [Accept SNMP packets from any host].

IMPORTANT:

- If you entered any community name other than “public” in 4, add that name to “Accepted Community Names.”
 - If you do not set the authority of “Accepted community name” as “READ CREATE” or “READ WRITE”, you cannot set configuration or monitor from NEC ESMPRO Manager.
-

Setup of receiving SNMP packets from specific hosts only

Select [Accept SNMP packets from these hosts], specify IP addresses of the hosts, IP addresses of the servers to install NEC ESMPRO Agent, and the loop-back address (127.0.0.1).

Setup of receiving SNMP packets from specific communities only

Change the name of the community receiving SNMP packets from the default “public” to any name.

IMPORTANT:

- If the community name is changed, you must change the registered community of NEC ESMPRO Agent from [Control Panel]. To change the community to another and register it, use the [SNMP Community] list box in the [General] tab.
 - To allow NEC ESMPRO Agent to receive SNMP packets sent from NEC ESMPRO Manager, set the send community name in NEC ESMPRO Manager to be the same as that accepted by the SNMP Service in NEC ESMPRO Agent.
-

7. Terminate the network setup.

IMPORTANT:

- If the SNMP service is added to the system after the service pack had been applied at OS installation, apply it again. If not, the SNMP service may not operate properly. This can cause the improper operation of NEC ESMPRO Agent.
 - The SNMP Service is required for operating NEC ESMPRO Agent. If the SNMP Service is deleted after the installation of NEC ESMPRO Agent, install the SNMP Service and then reinstall NEC ESMPRO Agent.
 - Some software products provided by other vendors may change the SNMP Service configuration. If you install NEC ESMPRO Agent on the system under the condition where these types of software are already installed, NEC ESMPRO Agent service may not work properly.
In such a case, delete the SNMP Service once and then install the service again. Afterwards, reinstall NEC ESMPRO Agent and the software products provided by other vendors.
-

Step 11: Enable OS Boot Monitoring Function

Enable the “OS Boot Monitoring” setting which has been switched at “OS Boot Monitoring” (page 4-10). Refer to “Step 3: Disable OS Boot Monitoring Function”(page 4-10), change to “Enabled,” and set appropriate time (default is 10 min.).

ftServer Setup		Server
Monitoring Configuration		Item Specific Help
FRB-2 Timer:	[Enabled]	Enables/disables OS boot monitoring.
PCI Enumeration Monitoring:	[Enabled]	
PCI Enumeration Monitoring Timeout:	[180]	
Option ROM Scan Monitoring:	[Enabled]	
Option ROM Scan Monitoring Timeout:	[300]	
OS Boot Monitoring:	[Enabled]	
OS Boot Monitoring Timeout:	[600]	
POST Pause Monitoring:	[Enabled]	
POST Pause Monitoring Time-out:	[180]	

F1	Help	↑↓	Select Item	-/+	Change Values	F9	Setup Defaults
Esc	Exit	↔	Select Menu	Enter	Select ▶ Sub-Menu	F10	Save and Exit

Step 12: Make Settings for Failure Management

Make the following settings beforehand to ensure quick recovery from failure.

Set Memory Dump (Debug Information)

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

IMPORTANT: Notes on memory dump

- The maintenance personnel designated by your sales agent are responsible for collecting memory dump. Customers should make settings of memory dump only.
 - Sometimes a message indicating a shortage of virtual memory appears at the system startup, when a failure has occurred after making settings described here and you have restarted the system to save the memory dump. Continue the startup. If you restart the system, you may not be able to collect the memory dump accurately.
 - If an error such as a stop error of the OS occurs, the normal dump function may run instead of the quick dump function depending on the system status. However, the memory dump file can be used for failure analysis equivalent to that of the quick dump function.
-

Follow the procedure below to specify.

1. Click Start and select [Control Panel].
The [Control Panel] window appears.
2. Click [System and Security] and then select [System].

NOTE:

If [View by] is not set as [Category], start [System] from Control Panel directly.

3. Click [Advanced system settings].
The [System Properties] dialog box appears.
4. Select [Advanced] tab.
5. Click [Settings] on the [Startup and Recovery] group box.
6. Modify [Dump file] in the [Write debugging information] group box, and click [OK].

e.g. Write the debug information in D drive with the file name

"MEMORY.DMP".
D:\MEMORY.DMP

NOTE:

- To specify “Complete Memory Dump” to write the debug information is recommended. If the mounted memory size is larger than 2GB, “Complete Memory Dump” cannot be specified so that specify “Kernel Memroy Dump” instead.
 - Specify the drive where there is a free area more than the size of "the memory capacity mounted on Express server + 300MB".
 - In case the mounted memory size exceeds 2GB due to the added memory, change the write debugging information to [Kernel Memory Dump] before adding memory. The size of debugging information (memory dump) to be taken also changes due to adding memory. Verify the size of the empty space in the debugging information (memory dump) write destination drive.
-

7. Click [Settings] in the [Performance] group box.
The [Performance Options] window appears.
8. Click [Advanced] tab on the [Performance Options] window.
9. Click [Change] on the [Virtual memory] group box.
10. Uncheck the [Automatically manage paging file size for all drives] box, and check [Custom size].
11. On the [Paging file size for each drive] box, specify as follows:
 - A value larger than the recommended size shown in [Total paging file size for all drives] for [Initial size]
 - A value larger than the [Initial size] for [Maximum size]Then click [Set].

IMPORTANT:

- The above-mentioned paging file size is recommended for collecting debug information (memory dump).
The paging file with initial size large enough to store the dump file in the boot drive is required.
Correct debug information might not be able to be collected due to virtual memory shortage when the paging file is insufficient, so set an enough size of the paging file with the entire system.
 - For more information on “Recommended” value, see “About the System Partition Size” described earlier.
 - In case the memory is expanded, re-specify the paging file to suit the new memory size.
-

12. Click [OK].
The message to restart the system may appear according to the modified specification. In such case, follow the message to restart the system.

Acquiring User Mode Process Dumper

“User-mode Process Dump” is the file that records information when any application error occurs. When any application error occurs, do not close the pop-up window that notifies the error, and then collect a dump using following process.

1. Right-click a blank part of the taskbar and click [Task Manager], or press Ctrl + Shift + Esc to start [Task Manager].
2. Click [Processes] tab.
3. Right-click on process name that you want to collect dump, and then click [Create Dump File].
4. The dump file is stored in following directory.
C:\Users\\AppData\Local\Temp

NOTE:

The folder may be treated as hidden folder. If the folder does not appear, run Explorer and select [Organize] - [Folder and search options] - [View], and check to [Show hidden files, folders, and drives].

When the User-mode Process Dump is created, pick up the file from the directory described in Step 4. Refer to Knowledge Base of Microsoft web-site for more information about the User-mode Process Dump file collection.

“How to create a user-mode process dump file in Windows Server 2008”

<http://support.microsoft.com/kb/949180/en-us>

NOTE:

For Windows Server 2008 R2, Dr. Watson is replaced by [Problem Reports and Solutions], therefore, you can not collect the Crash Dump file by existing Dr. Watson. The above process provides you the information same level as the Crash Dump file.

Install a Network Monitor

A network monitor is useful for examining the causes of network failures and taking the countermeasures.

Windows Server 2008 R2

Setup procedure of a network monitor

TIPS:

Windows Server 2008 R2 does not include a network monitor. You need to set up Microsoft Network Monitor to acquire network trace on Windows Server 2008 R2.

1. Download the network monitor from the Microsoft web site:
<http://support.microsoft.com/kb/955998/en-us>
2. Execute the downloaded file and launch the installer.
Follow the directions on the screen to install.

TIPS:

If [Security Warning] appears, click [Run]. Select [Complete] on the screen of the setup format selection.

This completes the network monitor setup.

Acquisition procedure of a network monitor

1. Launch Microsoft Network Monitor from the [Start] menu.
2. Click [Create a new capture tab...] from [Start Page] or click [Capture] from [File] – [New]. A new tab for network trace acquisition is created.
3. Select the target network on [Select Networks].
4. Click [Start] on the [Capture] menu to start acquiring the network trace.
5. Click [Stop] on the [Capture] menu to stop acquiring the network trace.
6. Select [Save As...] under [File] menu.
Select [All captured frames], and then specify the appropriate folder and the file name when [Save As] window appears.

TIPS:

By default, the below folder is specified:
C:\Users\<User Name>\Documents\Network Monitor 3\Captures

7. Click [Save].

Step 13: Back up System Information

The system information includes the current BIOS settings and any specific information for the server. Save the information after completing the system setup. Without the backup data, you will not be able to recover the information.

You can save the information by the following process:

1. Connect Flash FDD or USB FDD to the USB connector.
2. Insert the NEC EXPRESSBUILDER DVD into the optical disk drive and reboot the system.
3. Select [Tool menu].
4. Select [English].
5. Select [Maintenance Utility].
6. Select [System Information Management].
7. Select [Save].

The setup is now completed.

Chapter 5

Procedures after Completion of Installation

This chapter describes how you install management utilities, how you back up system information, and setup of PCs on the network. You may need to confirm these procedures while the system is running.

INSTALLING MANAGEMENT UTILITIES

The provided “NEC EXPRESSBUILDER” DVD contains “NEC ESMPRO Agent” for monitoring NEC Express5800/ft series and “NEC ESMPRO Manager” for managing the NEC Express5800/ft series. Install and setup these utilities in the NEC Express5800/ft series or the computer (management PC) that manages the NEC Express5800/ft series.

Updating the System

Perform system update in the following cases:

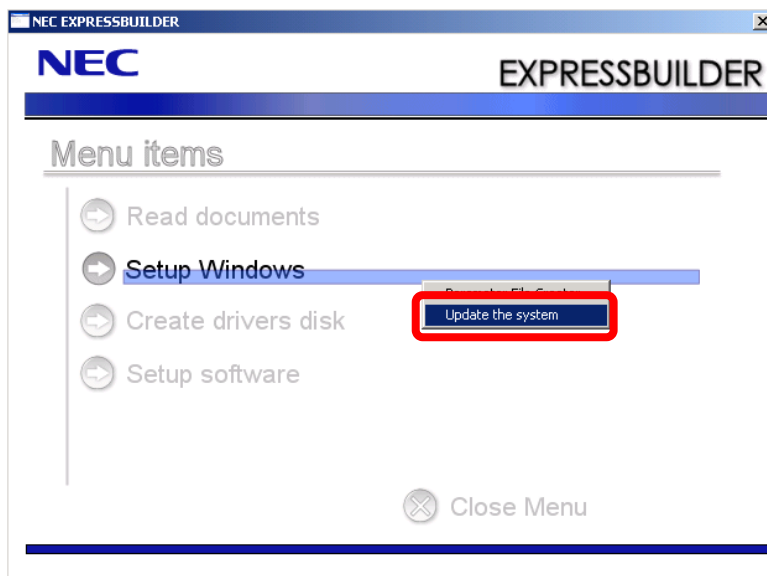
- When the system configuration is changed
- When the system is restored
- When the system is restored from the backup tool

IMPORTANT:

“Updating the System” disables the Scalable Networking Pack (SNP) function. The setting of SNP function may affect the system performance, so please refer to the attention of SNP detail in the following site before setting it.
<http://www.nec.com/global/prod/express/>

Log on to the system with the account that has administrator rights (such as Administrator) and insert the “NEC EXPRESSBUILDER” DVD into the DVD-ROM drive.

The menu screen is displayed. Click [Setup Windows] and click [Update the System] from the menu to start the system update. Follow the messages displayed on the screen to continue the process.



NEC ESMPRO Agent

NEC ESMPRO Agent is automatically installed by executing the “Fault Tolerant Server series setup program.”

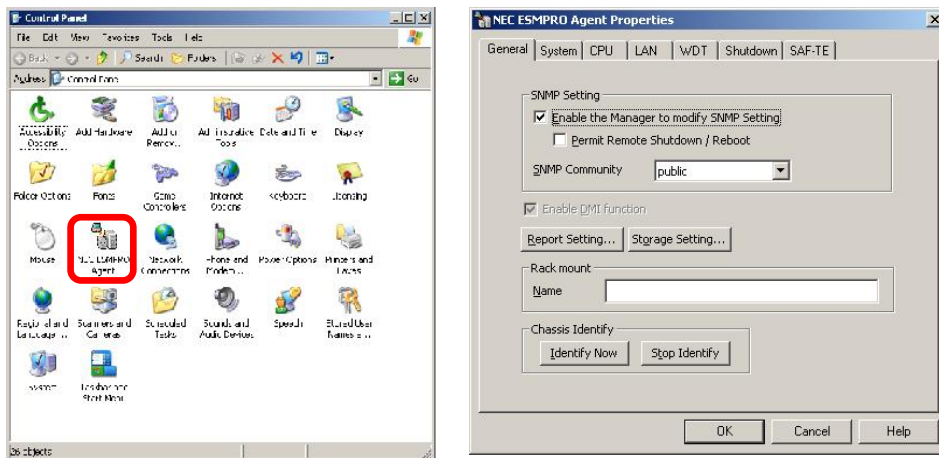
Click [Start] then [All Programs], and make sure that the installed utility folder exists. If it has not been installed while setting up the Fault Tolerant Server series, install it separately.

IMPORTANT:

Make sure that NEC ESMPRO Agent is installed because it is indispensable for continuous operation of NEC Express5800/ft series.

To set details about NEC ESMPRO Agent, double-click the [NEC ESMPRO Agent] icon in the [Control Panel] dialog box. The properties dialog box appears for changing the settings.

For details on the set items, see the online help displayed by clicking on [Help].



Operation Environment

NEC ESMPRO Agent can be operated in the hardware and software environments shown below.

■ Hardware

- Installation system NEC Express5800/ft series
- Memory Memory capacity required to operate OS + 30.0 MB or larger
- Empty capacity of hard disk 50.0 MB or larger

■ Software

- Windows Server 2008 R2
- Windows Server 2008
- Windows Server 2003 R2 Enterprise Edition

Preparation before Setup

Be sure to read the following description before system installation or setup.

To operate NEC ESMPRO Agent, you need to make settings of TCP/IP and the SNMP of components associated with TCP/IP.

TCP/IP Setting

See the Help started from the Start menu for how to set TCP/IP.

SNMP Service Setting

To install the SNMP Service:

For Windows Server 2008/Windows Server 2008 R2

1. Go to [Start] - [Control Panel] and select [Programs and Features].
2. Click [Turn Windows features on or off]. “Server Manager” window appears.
3. Click [Features].
4. Click [Add Features]. “Add Features Wizard” appears.
5. Check the [SNMP Services] check box.
6. Click [Next].

For Windows Server 2003 R2

1. Open [Add/Remove Programs] in [Control Panel].
2. Click [Add/Remove Windows Components].
3. Select [Management and Monitoring Tools] in the Windows component wizard and click the [Details...] button.
4. Check the check box of [Simple Network Management Protocol].
5. Click the [Next] button.
The file copy operation is started.
6. After the file copy is finished, click the [Finish] button.

To change the settings of the SNMP Service:

1. Double-click [Administrative Tool] in [Control Panel].
2. Start [Services] in [Administrative Tool].
3. Select [SNMP Service] from the service list and then [Properties] in the [Action] menu.
The “SNMP Properties” dialog box appears.
4. Enter “public” or an arbitrary name in the [Community name] box of the [Traps] property sheet and click [Add to list].

IMPORTANT:

- To change the community name of traps to be received from the default “*” in NEC ESMPRO Manager site, enter the same name as the community name newly set in NEC ESMPRO Manager site.
 - To receive trap from NEC ESMPRO Agent at NEC ESMPRO Manager machine, both community names should be the same.
-

5. Click the [Add...] button in [Trap destinations]. After entering the IP address of the NEC ESMPRO Manager machine of the send destination in the [Host name, IP or IPX address] box, click the [Add] button.

IMPORTANT:

If you specify the same IP address (or host name) specified on the trap destination also for the Manager Alert (TCP/IO) setting, a warning message appears to indicate redundancy. With this configuration, the alert is redundantly sent to NEC ESMPRO Manager of a specified IP address (or host name).

6. Open the [Security] property sheet and make settings as follows;
 - Add the community name entered in Step 4 to [Accepted community names].
 - Set its authority to [READ CREATE] or [READ WRITE].
 - Select [Accept SNMP packets from any host.]

IMPORTANT:

- If you entered any community name other than “public” in Step 4, add that name to “Accepted community names.”
 - If you do not set the authority of [Accepted community names] as “READ CREATE” or “READ WRITE”, you cannot perform configuration or monitoring from NEC ESMPRO Manager.
-

Setup of receiving SNMP packets from specific hosts only

Select [Accept SNMP packets from these hosts], specify IP addresses of the hosts, IP addresses of the servers to install NEC ESMPRO Agent, and the loop-back address (127.0.0.1).

Setup of receiving SNMP packets from specific communities only

Change the name of the community receiving SNMP packets from the default “public” to any name.

IMPORTANT:

- If the community name is changed, the community of NEC ESMPRO Agent is changed and registered by starting from [Control Panel]. To change the community to another and register it, use the [SNMP Community] list box in the [General] tab.
 - To allow NEC ESMPRO Agent to receive SNMP packets sent from NEC ESMPRO Manager, set the send community name in NEC ESMPRO Manager to be the same as that accepted by the SNMP Service in NEC ESMPRO Agent.
-

7. Terminate the network setup.

IMPORTANT:

- During OS installation, if the SNMP service is added to the system after applying the service package, apply it again. If not, the SNMP service may not operate properly, and this can cause the improper operation of NEC ESMPRO Agent.
 - The SNMP Service is required for operating NEC ESMPRO Agent. If the SNMP Service is deleted after the installation of NEC ESMPRO Agent, install the SNMP Service and then reinstall NEC ESMPRO Agent.
 - Some software products provided by other vendors may change the SNMP Service configuration. If you install NEC ESMPRO Agent on the system under the condition where these types of software are already installed, NEC ESMPRO Agent service may not work properly. In such a case, delete the SNMP Service once and then install the service again. Afterward, reinstall NEC ESMPRO Agent and the software products provided by other vendors.
-

Installation

NEC ESMPRO Agent is automatically installed together with the installation or re-installation of the NEC Express5800/ft series. NEC ESMPRO Agent may be installed manually on the Autorun Menu of NEC EXPRESSBUILDER as follows:

IMPORTANT:

- Start the installation after the system completely starts up.
 - If installation is conducted right after the system startup, it may fail. Wait for a while and retry if the error message appears.
-

1. Log in with the Administrator privilege.
2. Insert “NEC EXPRESSBUILDER” DVD into the DVD-ROM drive.

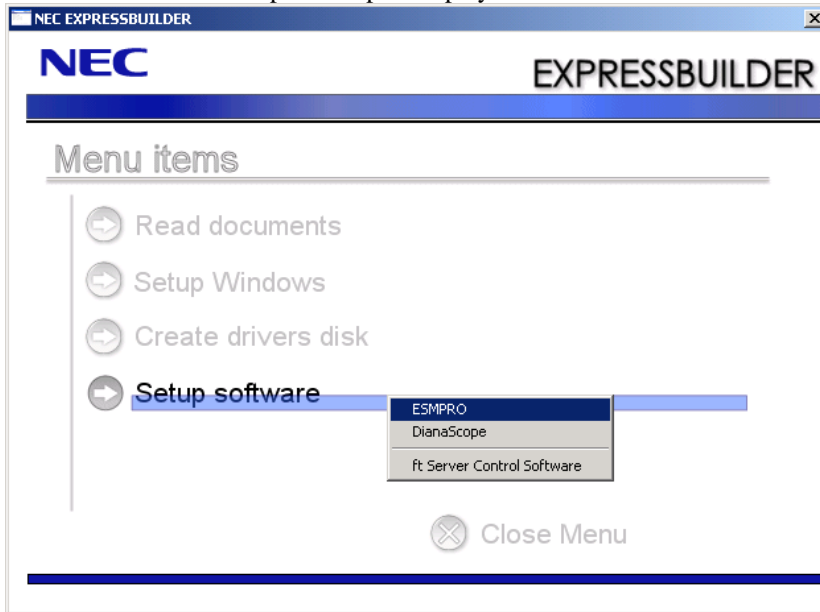
TIPS:

The DVD-ROM drive may be either the drive connected to the system or any optical disk drive located on the network and connected by the LAN Manager. (These are collectively called the optical disk drive hereafter).

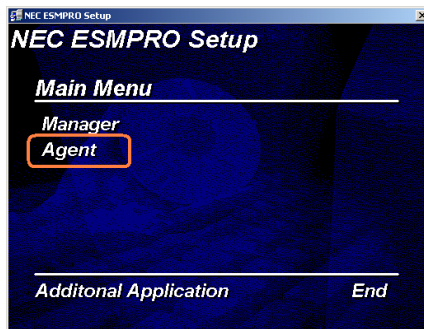
The autorun function automatically displays the Autorun Menu of NEC EXPRESSBUILDER.

3. Click [Setup software] and then [ESMPRO].

The NEC ESMPRO setup starts up to display the main menu.



4. Click on [Agent].



TIPS:

The available menus vary depending on OS types. (The menus that cannot be installed are displayed gray.)

IMPORTANT:

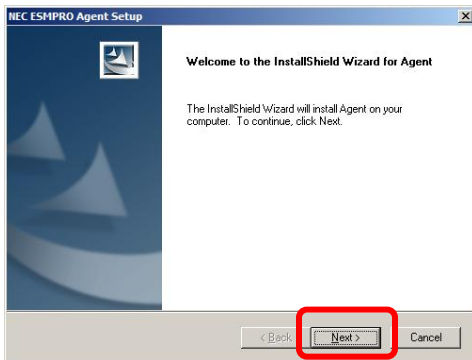
- Double-clicking to select a menu may display two same dialog boxes. Click the [End] button to close one of the dialog boxes.
 - If you click the [Cancel] button during setup, the message asking whether to stop or not to stop the installation will appear. You can stop the installation by clicking on the [Stop] button (the main menu remains displayed). However, the file having been setup halfway will not be deleted.
 - When NEC ESMPRO Agent is already installed, the dialog box "NEC ESMPRO Agent is already installed" appears. The previous version NEC ESMPRO Agent is uninstalled and reinstallation starts newly by clicking [Remove the Agent software] and then click [Next].
 - Windows installer may rarely cause error during installation, and the setup program execution may fail.
-

5. The setup program determines the machine type automatically.
-

IMPORTANT:

If the setup program is unable to determine the machine model, the setup of NEC ESMPRO Agent will be stopped.

6. Click the [Next] button.



7. Enter the path in which NEC ESMPRO Agent is installed and click the [Next] button.

IMPORTANT:

This version of NEC ESMPRO Agent is not compatible to the JIS 2004 font that is supported by Windows Vista. Do not use JIS 2004 font when you enter the destination path name for installation.

The NEC ESMPRO Agent module is installed below the ESM directory of the root partition in default. If no problem is found, click the [Next] button without any modification.

To change the installation directory, click the [Reference] button, specify the desired installation directory with the full path including the drive name, and click the [Next] button.

8. When the installation end window appears, click the [OK] button.

The installed is complete. The functions of installed NEC ESMPRO Agent will be enabled after the system is restarted.

IMPORTANT:

- After the installation of NEC ESMPRO Agent, SNMP Service is stopped. The SNMP Services will be started when the OS is restarted.
 - Even if the installation of NEC ESMPRO is completed, the main menu for the NEC ESMPRO setup remains displayed. Note that the main menu may be hidden by another dialog box. To terminate the NEC ESMPRO setup, click [End] in the main menu.
-

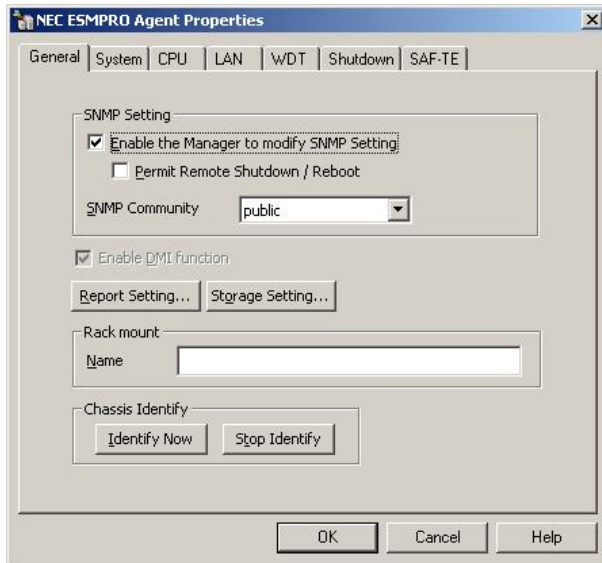
Message displayed during installation of NEC ESMPRO Agent:

If you install NEC ESMPRO Agent on Windows Server 2008 R2/Windows 7, an error message indicating that Explorer has stopped may be displayed. However, installation completes normally, and the system is not affected.

Setup of NEC ESMPRO Agent

The settings of installed NEC ESMPRO Agent remain unchanged from those at shipment. Click the [Start] button, [Setting], and [Control Panel] sequentially to open [Control Panel].

If you double-click the [NEC ESMPRO Agent] icon in [Control Panel], the property dialog box will appear. Modify the setting of each sheet in the dialog box to be fit to the used environment. The notes on setup and the necessary information are explained in “Supplement” in Chapter 5 of User’s Guide in the separate volume. See the supplement for setup or suspicion of malfunction.



Uninstall

The uninstallation of NEC ESMPRO Agent is described below.

Uninstallation of NEC ESMPRO Agent

The procedure of uninstalling NEC ESMPRO Agent is described below.

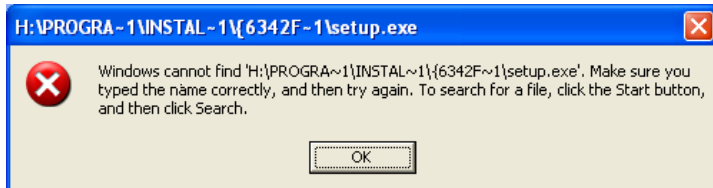
IMPORTANT:

Uninstallation of NEC ESMPRO Agent

- Start the uninstallation of NEC ESMPRO Agent after the system is started completely.
 - If NEC ESMPRO Agent is uninstalled just after the system startup, the setup program may freeze displaying the [Service Being Deleted...] dialog box. Shutdown the system by using “Task Manager” or other operation. Then uninstall NEC ESMPRO Agent after the system is started completely.
 - If uninstallation is conducted right after the system startup, it may fail. Wait for a while and retry if the error message appears.
 - A [AMIRTUpt.dll] file may remain solely in the installation folder. In this case, delete it manually. If files other than [AMIRTUpt.dll] also remain, do not delete them.
-
- With using NEC EXPRESSBUILDER:
 1. Make the main menu of the NEC ESMPRO setup appear by referring to the section “Installation” in this document.
 2. Click [Agent].
The “Welcome to the InstallShield Wizard for Agent” dialog box appears.
 3. Click [Next].
The message [NEC ESMPRO Agent is already installed] is displayed.
 4. Select [Delete] and then click the [Next] button.
Now NEC ESMPRO Agent is uninstalled.
 - Without using NEC EXPRESSBUILDER:
 1. Start [Programs and Features] or [Add or Remove Programs] from [Control Panel].
 2. Select [NEC ESMPRO Agent] and click [Uninstall/Change] (or [Change/Remove]).
Now NEC ESMPRO Agent is uninstalled.

Notes after uninstallation:

Due to an InstallShield 2008 failure, the following error message may be displayed only at the first startup after uninstallation.

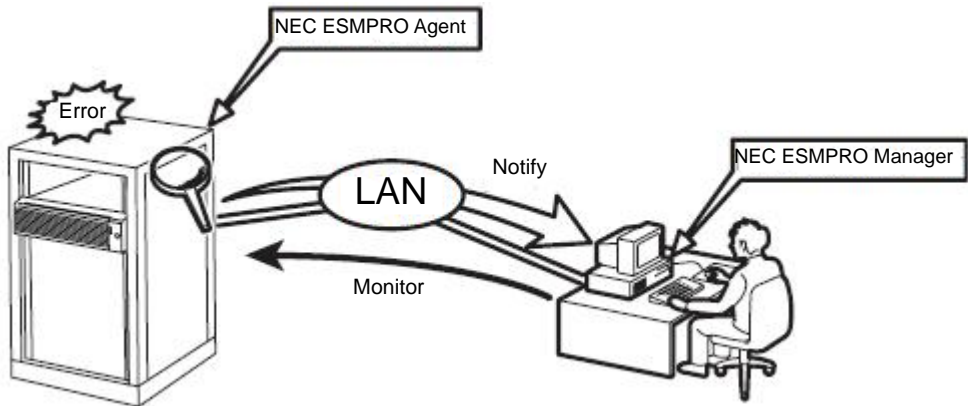


Message displayed during uninstallation of NEC ESMPRO Agent:

If you uninstall NEC ESMPRO Agent on Windows Server 2008 R2/Windows 7, an error message indicating that Explorer has stopped may be displayed. However, uninstallation completes normally, and the system is not affected.

NEC ESMPRO Manager

Linked with NEC ESMPRO Agent installed in the server, NEC ESMPRO Manager monitors the server status and receives alerts from the server.



When a failing module in the server is to be replaced, NEC ESMPRO Manager enables logical module disconnection from the server and logical installation after module replacement.

For the installation of NEC ESMPRO Manager and notes on the operation, refer to the online document "NEC ESMPRO Manager User's Guide" in the NEC EXPRESSBUILDER DVD.

CONFIRMING the ft Server Control Software Version

The following describes how to check the version of ft Server Control Software, which consists of various types of software for fault tolerance. Perform the procedure when you need to check the ft Server Control Software version of the current system before adding units or attachment to NEC Express5800/ft series.

Confirm the version following the steps below:

1. Log on the system as an authorized Administrator.
2. Open Control Panel from the Start menu.
3. Open “Programs and Features.”
If the “Programs and Features” icon is not displayed, open “Programs” and click “Programs and Features.”
4. Select “ftServer Control Software” from the list of programs to check the Product version.

COMPRESSING A SYSTEM DRIVE

Do not compress the root directory and the Windows directory when compressing the System Drive. (The Windows Server 2003 directory is labeled as "Windows.") If you compress the root directory and the Windows directory, operational stability cannot be ensured because the Windows File Protection (WFP) may replace an unassigned driver with a signed driver.

ABOUT Windows Update (APPLYING SECURITY PATCHES)

Before updating Windows modules by using the Windows Update function on NEC Express5800/ft series, make sure to read the description of each module. Contact NEC sales agent for information about the test status of security patch and QFE on NEC Express5800/ft series. It is strongly recommended to contact NEC sales agent when updating the operating system on NEC Express5800/ft series.

Under a support policy for security patches and QFE on NEC Express5800/ft series, security patches released by Microsoft are categorized into the following levels according to their importance:

- **IMPORTANT Patches (Considered as IMPORTANT by NEC and requires immediate application):** Tests will be performed upon publication of new patches and the results will be informed to NEC sales agents. The high-risk viruses (such as Nimba worm as a past example) will be immediately tested.
- **Security Rollup Package (SRP):** Tests will be performed along with the publications of SRP and the results will be informed to NEC sales agents.
- **Other patches:** Tests for the security patches regarding the standard functions of Windows Operating System will be periodically performed, and the results will be informed to NEC sales agents.

Contact NEC sales company if you have any questions or concerns regarding Windows Update.

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Chapter 6

Troubleshooting

This chapter describes what to do when files needed to operate the OS are damaged and any trouble occurs on the product.

TROUBLESHOOTING

This section describes what you should do when a trouble occurs in the product.

Problems with NEC EXPRESSBUILDER

When the NEC Express5800/ft series is not booted from the NEC EXPRESSBUILDER DVD, check the following:

- Did you set the NEC EXPRESSBUILDER DVD during POST and restart the server?
 - If you do not set the NEC EXPRESSBUILDER DVD during POST and restart the server, an error message will appear or the OS will boot.
- Is BIOS configuration correct?
 - The boot device order may be specified with the BIOS setup utility of the server. Use the BIOS setup utility to change the boot device order to boot the system from the optical disk drive first.
 <Menu to check: [Boot]>
- Is the connected Flash FDD or inserted floppy disk formatted?
 - Make sure that the Windows recognizes that the connected Flash FDD or inserted floppy disk is formatted. If not, format it.
- If [Os installation] is selected at Boot Selection screen, following message is displayed.

After this message appears, check the error and take the appropriate corrective action according to the message listed in the table below.

Message	Cause
This EXPRESSBUILDER version was not designed for this computer. Insert the correct version and click [OK]. (When you click [OK], the computer reboots.)	This NEC EXPRESSBUILDER version is not designed for this server. Execute the NEC EXPRESSBUILDER on the compliant server.
EXPRESSBUILDER could not get the hardware parameters written in this motherboard. This version is not designed for this computer or the motherboard may be broken. (When you click [OK], the computer reboots)	This message is displayed when NEC EXPRESSBUILDER cannot find system-specific information due to the replacement of a motherboard, and so on.
The hardware parameters written in this motherboard are incorrect. This version is not designed for this computer or the motherboard may be broken.	

An error message will also be displayed when an error was detected during system diagnosis. Take a note or print the error message displayed, and contact your sales agent.

Problems with Windows Setup

The following system event is logged when Windows Server 2008 R2 is installed:

Event ID: 134

Source: Microsoft-Windows-Time-Service

Level: Warning

Description: NtpClient was unable to set a manual peer to use as a time source because of DNS resolution error on ".

NtpClient will try again in 3473457 minutes and double the reattempt interval thereafter.

The error was: No such host is known. (0x80072AF9)

→ This event does not affect system operation. Ignore this message.

Event ID: 63

Source: Microsoft-Windows-WMI

Level: Warning

Description: A provider, Ncs2, has been registered in the Windows Management Instrumentation namespace Root\IntelNCS2 to use the LocalSystem account.

This account is privileged and the provider may cause a security violation if it does not correctly impersonate user requests.

→ This event does not affect system operation. Ignore this message.

The following application event is logged when Windows Server 2008 R2 is installed:

Event ID: 1534

Source: Microsoft-Windows-User Profiles Service

Level: Warning

Description: Profile notification of event Create for component

{56EA1054-1959-467f-BE3B-A2A787C4B6EA} failed, error code is The revision level is unknown.

→ This event does not affect system operation. Ignore this message.

The following warnings are logged to application event log when you import a transportable shadow-copy to another server that has a read-only volume while operating Windows Server 2008 R2:

Event ID: 8193

Source: VSS

Level: Error

Description: Volume Shadow Copy Service error: Unexpected error calling routine

IOCTL_DISK_GET_DRIVE_LAYOUT_EX(\\?\mpio#disk&ven_nec&prod_istorage_2000&rev_2800#1&7f6ac24&0&3030303030303039333313030303735373030323934#{ GUID }) -

BuildLunInfoForDrive.

hr = 0x80070013, This media is write-protected.

Event ID: 12289
Source: VSS
Level: Error
Description: Volume Shadow Copy Service error: Unexpected error
DeviceIoControl(\\?\storage#volume#{ GUID }#0000000000010000#{ GUID }
-00000000000002B8,0x00560000,0000000000000000,0,0000000002BE0C0,4096,[0]).
hr = 0x80070013, This media is write-protected.
→ Go to the Microsoft website:
<http://support.microsoft.com/kb/2003016/en-us>

The following warnings are logged to application event log when I import a transportable shadow-copy to another server that has a floppy disk drive while operating Windows Server 2008 R2:

Event ID: 12289
Source: VSS
Level: Error
Description: Volume shadow copy service error: unexpected error DeviceIoControl (\\? # 6
\usbstor#sfloppy &ven_teac&prod_fd-05pub&rev_3000 & 158e20d0 & 0 #
{ GUID }-00000000000002B8,0x00560000, 0000000000000000, 0,000000000327C70,4096, [0]).
HR = 0x80070032, this request is not supported.
→ Go to the Microsoft website:
<http://support.microsoft.com/kb/2003968/en-us>

There is the case that the following message is displayed at the time of shutdown when you execute “Updating the system” in Windows Server 2008 R2:

1 program still needs to close: (Waiting for) Task Host Window
→ This event does not affect system operation. Ignore this message. For more details, see
<http://support.microsoft.com/kb/975777/en-us>

Rebooted during the setup.

- See “Step 3: Disable OS Boot Monitoring Function”(page4-10), and set the parameter of this machine’s OS Boot Monitoring function to correct value.

ft Server Control Software UPDATE Disc (CD-ROM or DVD-ROM) is not included.

- ft Server Control Software UPDATE Disc is used to update ft Server Control Software; it may not be shipped with the equipment. (Not included if “NEC EXPRESSBUILDER” DVD contains the latest version of software programs at the time of shipment). For the latest release of ft Server Control Software and purchase of the latest version of its ft Server Control Software UPDATE CD-ROM, contact your sales agent.

During a setup, “Previous Operating System C:” was selected on a selection screen of the operating system.

- The process will be stopped along the display of DOS prompt or black screen. In this case, press **Ctrl + Alt + Delete**, or turn off the power to reboot the system. Installation will be continued after a reboot.

Windows can be operated after a setup but each module or PCI board is not duplicated. (Status LED on the CPU/IO module does not light on green).

- Did you abort the installation during a setup such as by closing a window of the programs that are running?
 - Installation will be aborted if you finish the programs that are running such as by closing a window. Although the operation on Windows will be feasible, PCI boards will not be duplicated properly if you abort the installation. In this case, “Step 1: Things Required for Setup” needs to be done from the beginning.

DISK Access LED will be lit in amber.

- Did you properly setup the duplex of HDDs?
 - DISK Access LED will be lit in amber, if a setup for duplex is not performed. (See “LEDs” in the separate volume of the User’s Guide for details about the indication status of LED.) See “Step 8: Set Dual Disk Configuration” in Chapter 4 and set up the duplex of HDDs.

“Complete memory dump” cannot be specified to the write debug information on “Set Memory Dump” (Debug Information).

- “Complete memory dump” cannot be specified (not displayed) if the memory size exceeds 2GB. Specify “Kernel memory dump” in this case.

Cannot find the recommended value for a paging file.

- See “Size of the Partition to be Created” in “Step 1: Things Required for Setup.”

The Telnet Service is not installed.

- Adjust the computer name to 14 characters or less, and then install the Telnet Service according to <How to install the Telnet Service>.

<How to install the Telnet Service>

1. Select [Run] from the Start menu.
2. Type “tlnetsvr /service” in the [Open] box, and click [OK].
3. From the Start menu, point to [Control Panel] and click [Administrative Tools] and then click [Services] to specify whether the Telnet Service is registered.

Note: Once the installation of Telnet Service is finished, you may change the computer name to 15 or more characters.

Problems with Express Setup

Data on the peripheral HDD was erased during the Express Setup.

- Is there any HDD other than the HDD to install OS attached?
 - Detach external HDD(s) and run the Express Setup again.

Cannot configure the details of network adapter.

- You cannot configure the details of network adapter during setup of NEC Express5800/ft servers.
 - You can configure this **after** the startup of Windows.

Product key was not asked.

- Case of Windows Server 2008 R2
 - If you install using BackUp DVD-ROM, product key is not required.

If you install using the DVD-ROM other than BackUp DVD-ROM, product key screen is displayed “before [MICROSOFT SOFTWARE LICENSE TERMS] dialog, which displayed after OS installation.”

Enter product key following the message.

When IIS is installed with Windows Server 2008 R2 by Express Setup, following feature is installed.

- Windows Process Activation Service
 - Process Model
 - Configuration APIs

- Remote Server Administration Tool
 - Role Administration Tools
 - Web Server (IIS) Tools

- The feature listed above is activated because they are required for the installation of IIS basic feature.

Problems with NEC ESMPRO Setup

A menu which cannot be chosen with a setup main menu.

- The available menus vary depending on the OS types. (The menus that cannot be installed are displayed in gray.)

Stop the setup of NEC ESMPRO Agent on the way.

- If you click [Cancel] during the setup, the message asking whether to stop or not to stop the installation will appear. You can stop the installation by clicking [Stop] (the main menu remains displayed). However, the file having been setup halfway will not be deleted.

Start the uninstallation of NEC ESMPRO Agent after the system is started completely.

- If NEC ESMPRO Agent is uninstalled just after the system startup, the setup program may freeze displaying the [Service Being Deleted...] dialog box. Shutdown the system by using Task Manager or other operation. Then uninstall NEC ESMPRO Agent after the system is started completely.

* For installation procedure and detailed explanations on NEC ESMPRO Manager, refer to the online document in the NEC EXPRESSBUILDER DVD.

Appendix A

About Services

Information on NEC Express5800/ft series is provided the web at NEC Global Site

<http://www.nec.com/>

N8800-155F, EXP320L

NEC Express5800/R320a-E4

N8800-154F, EXP320M

NEC Express5800/R320b-M4

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