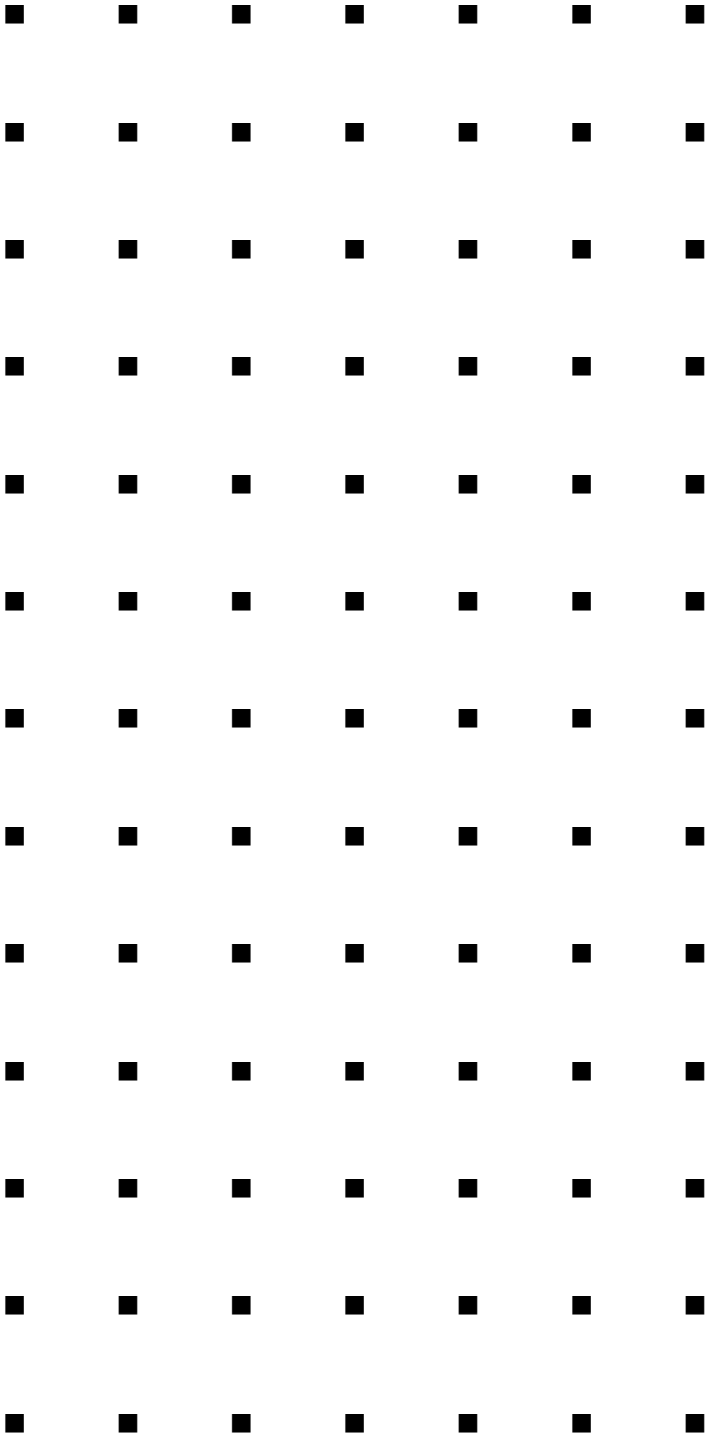


NovaScale R620



Setup Guide



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Keep this Setup Guide handy for quick reference when necessary.

## Safety Indications




To use NovaScale series safely, follow the instructions in this Setup 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:

 <b>WARNING</b>	Indicates a danger that could lead to a death or serious injury.
 <b>CAUTION</b>	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**



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.

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 an explosion.
	Indicates a risk of a personal injury.

#### Prohibited actions

	Indicates a general prohibition that is not defined herein.
	Do no 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.

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.

警告使用者：

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，  
在這種情況下，使用者會被要求採取某些適當的對策。

이 기기는 업무용으로 전자파적합등록을  
한 기기이오니 판매자 또는 사용자는  
이 점을 주의하시기 바라며 만약 잘못  
판매 또는 구입하였을 때에는 가정용으  
로 교환하시기 바랍니다.

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.

### CE Statement

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

**CLASS 1  
LASER PRODUCT**

This system is classified as a CLASS 1 LASER PRODUCT. This label is located on the internal CD-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.

## **Preface**

Welcome to the NovaScale/Fault Tolerant Server series.

NovaScale/Fault Tolerant Server 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 NovaScale series. In the event of trouble, its dual configuration will allow the system to instantaneously isolate 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 NovaScale/Fault Tolerant Server 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 Setup Guide thoroughly to understand how to operate NovaScale/Fault Tolerant Server series.

## **About This Setup Guide**

This Setup 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 Guide handy.

This Setup 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 Setup 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 “SYSTEM REPAIR” on page 6-2 for details about system configurations and repairs of this product. Refer to “TROUBLESHOOTING” on page 6-13 if you feel you failed to set up the product.

See this Setup 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.

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

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# Chapter 1

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## Before Using

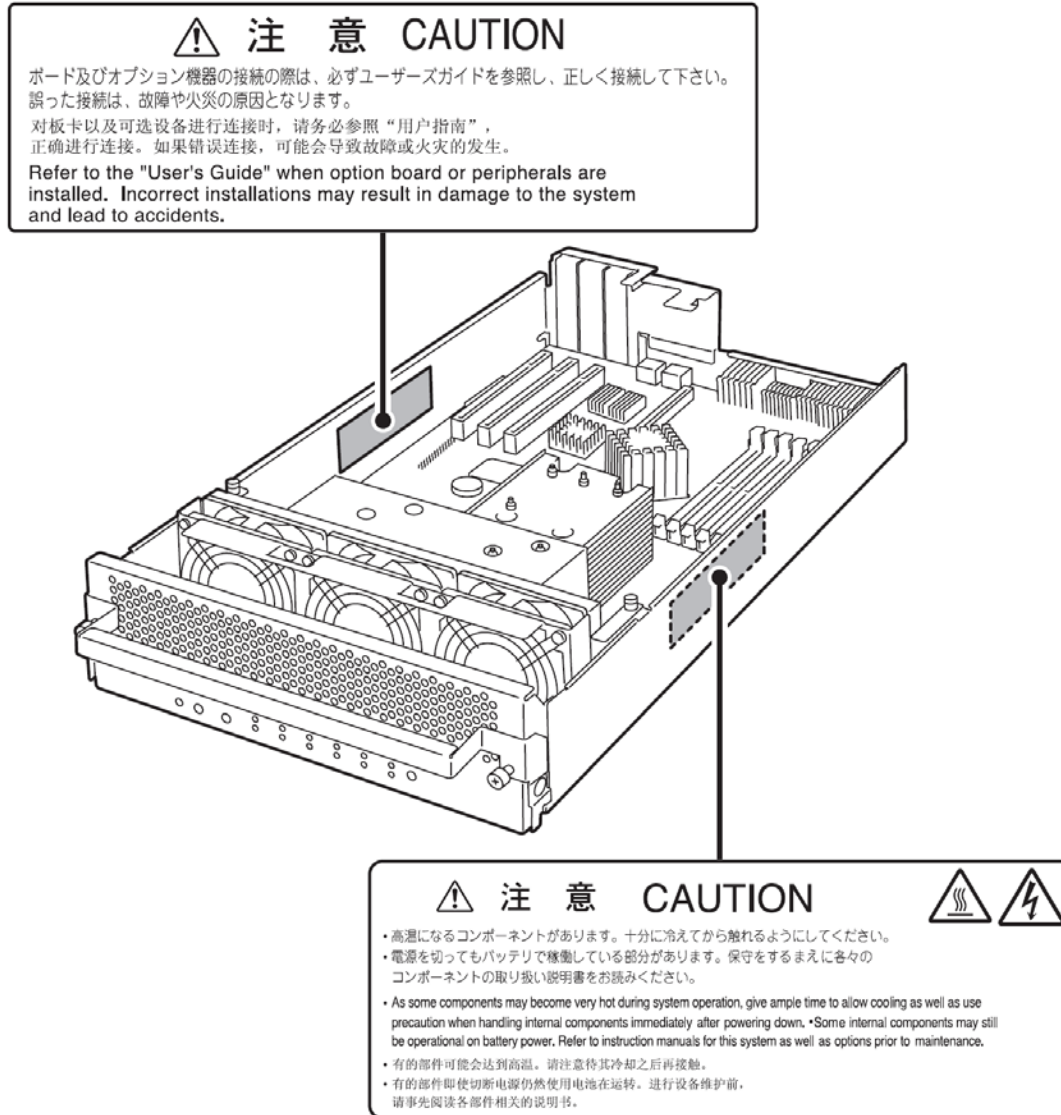
This chapter includes information necessary for proper and safe operation of the server, the main unit and its accessories. Go through this chapter before you start setup of the product.



## CPU/IO Modules

The following shows the place on CPU/IO modules where the label is attached.

Standard Model



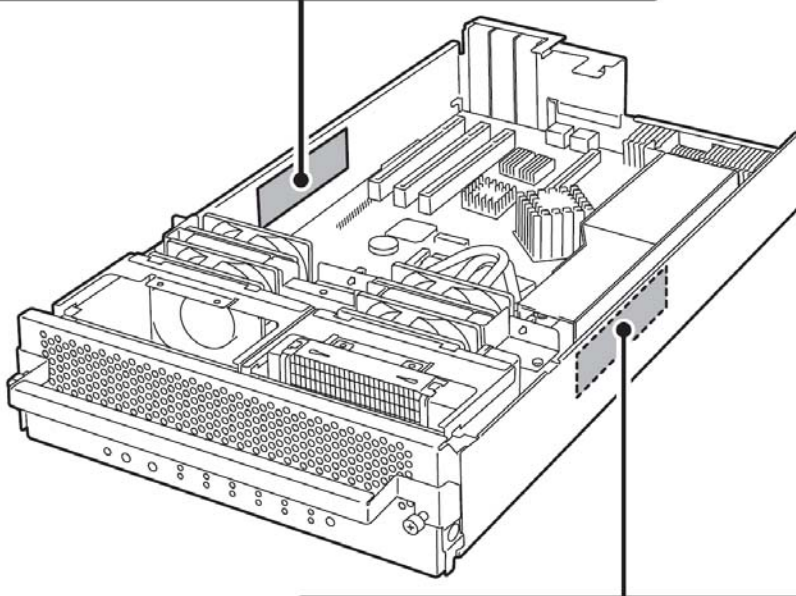
## Water-Cooling kit

### ⚠ 注意 CAUTION

ボード及びオプション機器の接続の際は、必ずユーザズガイドを参照し、正しく接続して下さい。  
誤った接続は、故障や火災の原因となります。

对板卡以及可选设备进行连接时，请务必参照“用户指南”，  
正确进行连接。如果错误连接，可能会导致故障或火灾的发生。

Refer to the "User's Guide" when option board or peripherals are installed. Incorrect installations may result in damage to the system and lead to accidents.



### ⚠ 注意 CAUTION



- 高温になるコンポーネントがあります。十分に冷えてから触れるようにしてください。
- 電源を切ってもバッテリーで稼働している部分があります。保守をするまえに各々のコンポーネントの取り扱い説明書をお読みください。
- As some components may become very hot during system operation, give ample time to allow cooling as well as use precaution when handling internal components immediately after powering down. \*Some internal components may still be operational on battery power. Refer to instruction manuals for this system as well as options prior to maintenance.
- 有的部件可能会达到高温。请注意待其冷却之后再接触。
- 有的部件即使切断电源仍然使用电池在运转。进行设备维护前，  
请事先阅读各部件相关的说明书。



## 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



Do not use the server in an operation where human lives are involved or high reliability is required.

This equipment is not intended for use in controlling or use with facilities or systems where human lives are involved or high reliability is required, including medical devices or nuclear, aerospace, transportation, and traffic control facilities. Bull assumes no liability for any accidents or damage to physical assets resulting from the use of this equipment in such systems or facilities.



Do not continue to use the server if you detect smoke, odour, or noise.

If the server emits smoke, odour, or noise, immediately flip off the POWER switch, unplug the cords, and contact your sales agent. There is a risk of a fire.



Do not insert a wire or metal object.

Do not insert a wire or metal objects into a vent or disk drive slot. There is a risk of an electric shock.

#### CAUTION



Prevent water or foreign objects from getting into the server.



Do not let water or foreign objects (e.g., pins or paper clips) enter the server. There is a risk of a fire, electric shock, and breakdown. When such things accidentally enter the server, immediately turn off the power and unplug the cords. Contact your sales agent instead of trying to disassemble it yourself.

## Use of Power Supply and Power Cord

### WARNING



Do not handle power plugs with a wet hand.

Do not plug/unplug power cords 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 cords in nonconforming outlets.



Use wall outlets with specified voltage and power type. There is a risk of a fire or current leakage.

Avoid installing the server where you may need extension cords. If the cords do not meet the power specifications, there is a risk of overheating that could lead to a fire.



Do not plug too many cords in a single outlet.

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



Do not plug the cords insecurely.



Insert the plug firmly into an outlet. There is a risk of heat or fire due to poor contact. 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.



AC cord is to spend the thing of the next specifications:

Maximum 4.5m (14.76ft) long. Rated minimum 125V, 10A, Type SJT flexible cord.

You also have to observe the following prohibitions to prevent an electric shock or fire caused by damage to the cords.

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

## Installation, Relocation, Storage and Connection

### CAUTION



Do not install the server in an unsuitable place.

Install the server in such a place as specified in this User's Guide. Avoid the following locations. There is a risk of a fire.

- 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 in a corrosive 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 : sulphur dioxide, hydrogen sulphide, nitrogen dioxide, chlorine, ammonia and/or ozone.

Avoid installing NovaScale/Fault Tolerant Server series in a dusty environment or one that may be exposed to corrosive materials such as sodium chloride and/or sulphur.

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

Such environments may cause corrosion or short circuits 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 Bull; identify which component or connector to attach beforehand. If you use a wrong 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 server with loose cable connections.
- Do not use damaged cables.

## Cleaning and Handling of Internal Devices

### ⚠ WARNING



Do not disassemble, repair, or alter the server.



Unless described herein, never attempt to disassemble, repair, or alter the server. There is a risk of an electric shock or fire as well as malfunction.



Do not look into the CD-ROM drive.



The CD-ROM 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 get exposed to it, there is a risk of losing eyesight.



Do not detach a lithium battery yourself.

This equipment has a lithium battery. Do not detach it yourself. If the battery is exposed to fire or water, it could explode.

When the lithium battery is running down and the server does not work correctly, contact your sales agent instead of disassembling, replacing or recharging it yourself.



Disconnect the power plugs before cleaning the server.



Even though built-in options for the server can be replaced while the power cords are connected to power source, be sure to follow the instructions described in this User's Guide. Do not touch any internal device of the server unless instructed by this User's Guide. There is a risk of an electric shock.

Make sure to power off the server and disconnect the power plug from a power outlet before cleaning or installing/removing internal optional devices. Touching any internal device of the server with its power cords connected to power source may cause an electric shock even if the server is off-powered.

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.

### ⚠ CAUTION



High temperature

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



Make sure to completely insert cables and boards.

Completely insert all power cords, interface cables and/or boards. An incompletely inserted 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 a protective cap to prevent short circuits and electrical hazards. When removing the power cord connector from the internal devices, attach the protective cap to the connector. Failure to follow this warning may cause a fire or an electric shock.

---

## During Operation

### CAUTION



Keep animals away.



Keep animals away from the server. Animal's waste or hair may get inside the server 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 CD tray ejected.

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



Do not touch the server when it thunders.

Unplug the server when it threatens to thunder. If it starts to thunder before you unplug the server, do not touch the server or cables. There is a risk of a fire or electric shock.



Do not use a cellular phone or pager around the server.

Turn off your cellular phone or pager when you use the server. Their radio waves may cause the server to malfunction.

## Rack-mount Model (Model R620-LR, R620-MR)

### ⚠ WARNING



Do not install the server on a nonconforming rack.

Install the server on a 19-inch rack conforming to the EIA standard. Do not use the server without a rack or install it on a nonconforming rack. The server 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 the server in an unsuitable place.

Do not install a server rack in an unsuitable environment. Other systems also may be affected, and the rack may fall over to cause a fire or injuries. For details about installation environment and quake-resistant engineering, see the attached manual or contact your sales agent.

### ⚠ 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.



Carry or install the server by more than 3 people.

To avoid a risk of injuries, users should not attempt to carry or install the server into a rack. Installation should be performed by trained maintenance personnel.



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

To distribute the weight, use stabilizers or attach two or more racks. Unstable rack may fall down to cause injuries.



Do not assemble parts alone.

It takes at least two people to mount doors and trays to a rack. If you handle them alone, you may drop some parts to cause a breakage or injuries.



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

Before pulling out a device, make sure that the rack is fixed (by stabilizers or quake-resistant engineering).



Do not leave more than one device pulled out from the rack.

If you pull out more than one device, the rack may fall down. You can only pull out one device at a time.



Do not install excessive wiring.



To prevent burns, fires, and damage to the server, 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 device during operation.

Do not pull out or remove a device while it is running. There is a risk of malfunction and a device may be detached from a rack to cause injuries.

## **UNPACKING**

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

---

### **Accessories**

This product is shipped with various accessories. See the attached 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 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, if any. Keep the original disks as the master disks; use these copies in operation.
- Improper use of an included floppy disk or CD-ROM may alter your system environment. If you find something unclear, stop using them and contact your sales agent.

# 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 2003**

For installing an operating system on NovaScale/Fault Tolerant Server series, use EXPRESSBUILDER.

---

### **IMPORTANT:**

The NovaScale/Fault Tolerant Server series is a precision instrument. You should ask maintenance personnel to install it.

---

The Express Setup program is exclusively used for the NovaScale/Fault Tolerant Server series. To execute the setup program, simply select the item [Express Setup] from the menu displayed when starting the system through the provided CD-ROM "EXPRESSBUILDER." The setup program automatically performs the complete setups from hardware internal parameter/status settings to installation of the operating system (Windows Server 2003) and various utilities.

Use the NovaScale/Fault Tolerant Server series setup program for the first installation and reinstallation of the operating system. This program accomplishes complicate setups.

Before performing the NovaScale/Fault Tolerant Server series setup, contact your sales agent about the latest release of GeminiEngine Control Software.

---

## **About OS Installation**

Read the notes here carefully before installing the operating system.

### **Operating System Supported by the NovaScale/Fault Tolerant Server series**

The operating system that NovaScale/Fault Tolerant Server series supports is Microsoft® Windows® Server 2003 R2 32-bit Enterprise Edition (English), hereinafter called "Windows Server 2003".

NovaScale/Fault Tolerant Server series does not support any operating systems other than the above (e.g., Windows Server 2003 Standard Edition, Windows 2000 or Windows NT 4.0).

## **About Windows Server 2003**

Use the Express Setup program to install Windows Server 2003. Note the following at installation:

---

### **IMPORTANT:**

- Complete all the setups such as the memory expansion and the BIOS setting before installing Windows Server 2003.
  - 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.
- 

## **About Auto Installation of Utilities**

The Express Setup installs the following utilities automatically.

- Drivers and services for achieving duplicated operation
- ESMPRO Agent

# Chapter 3

---

## Installing Server

This chapter describes requirements for using the product properly and safely, the setup procedures to make NovaScale/Fault Tolerant Server series ready for use, and how to connect peripherals.

## INSTALLATION

This section describes installation of NovaScale/Fault Tolerant Server series.

You can mount NovaScale/Fault Tolerant Server series on a rack that conforms to the EIA standards.

### IMPORTANT:

NovaScale/Fault Tolerant Server series is a precision instrument. You should ask maintenance personnel to install it.

To install a rack, contact your sales agent or maintenance personnel.

### ⚠ CAUTION



Do not attempt to install the server.

To avoid the risk of personal injury, users should not attempt to install the server into the rack assembly. The server should be installed in the rack only by trained maintenance personnel.

Room that can maintain the following conditions:  
[When operating]  
Temperature: 10 to 35°C\*  
Humidity: 20 to 80%  
Temperature gradient:  $\pm 10^{\circ}\text{C/hr}$   
Atmospheric pressure: 749 to 1040hpa  
[When not operating]  
Temperature: 5 to 40°C\*  
Humidity: 10 to 80%  
Temperature gradient:  $\pm 15^{\circ}\text{C/hr}$   
Atmospheric pressure: 749 to 1040hpa

Space 40 cm or more on top, 1 m or more on the front and rear, and 60 cm or more on the right and left.

100V - 120 V or 200V - 240 V parallel bi-polar power outlet with grounding

Wall outlet within the reach of supplied power cord.

Level and reinforced floor.

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

**⚠ 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 NovaScale/Fault Tolerant Server 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, air conditioner, or refrigerator).
- Place that is subject to intense vibration.
- Place where corrosive gas (sodium chloride, sulphur dioxide, hydrogen sulphide, 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.

**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 NovaScale/Fault Tolerant Server 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.

---

## Connection

Connect peripheral devices to NovaScale/Fault Tolerant Server series.

The server is provided with connectors for 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**



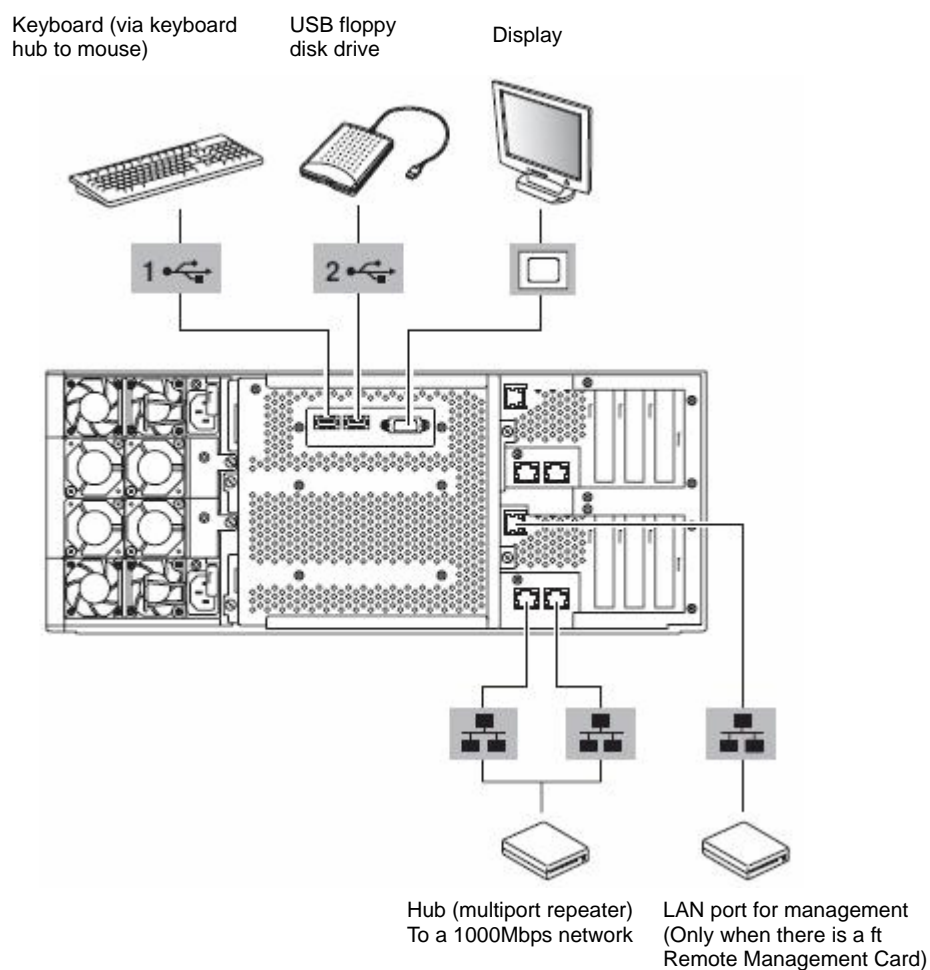
Observe the following precautions instructions to use the equipment safely. There is a risk of a burn, personal injury, or damage to physical assets. For details, see "Notes for Safe Handling" in Chapter 1.

- Do not 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.
  - 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 NovaScale/Fault Tolerant Server 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.
  - If fibre channel board is mounted, be sure to connect cables to the FC array unit before going on to the next step.
-

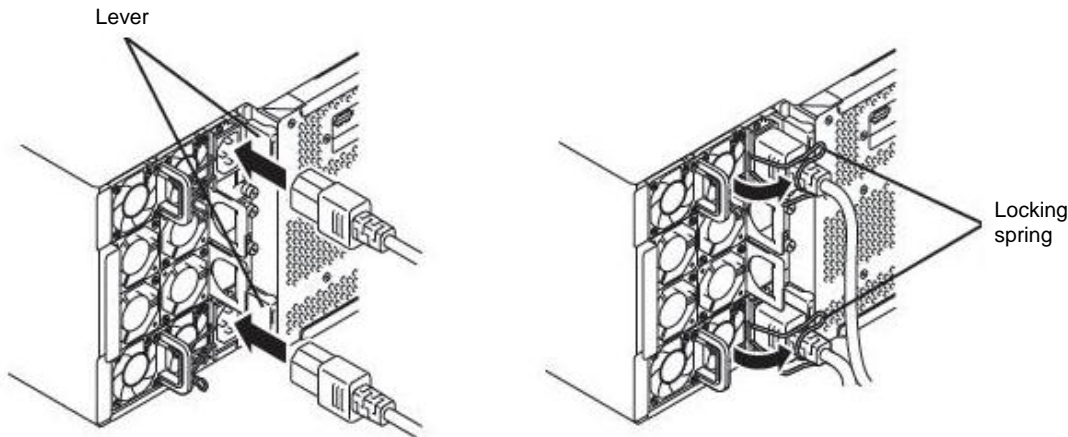
Insert the power cords to the AC inlets of the power unit.

Then, secure the power cords using the locking springs on the power units.

When completing connection to peripheral equipment, connect the two provided power cords to the server. After that, secure the cables with the cable tie provided in the server.

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:**

- Be sure to use both power cords to make the server fault-tolerant.
  - After connecting the power cords, wait at least 30 seconds before pressing the power switch.
- 

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

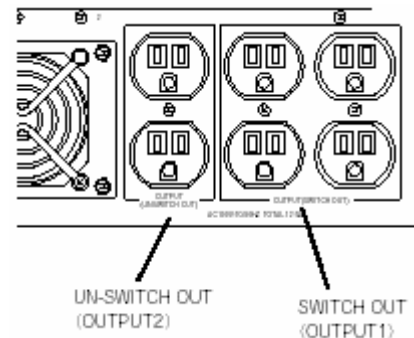
The UPS service outlets are categorized into two groups: SWITCH OUT and UN-SWITCH OUT. (They may be called "OUTPUT1" and "OUTPUT2".)

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.

<Example>





# Chapter 4

---

## Windows Setup

This chapter describes procedures for configuring boot monitoring function, setup, installing Windows, setting dual LAN configuration, setting dual disk configuration and so on.

## **Express Setup**

Use EXPRESSBUILDER to setup the NovaScale/ft Server series.

---

### **IMPORTANT:**

NovaScale/ft Server series is a precision instrument. You should ask maintenance personnel to install it. You perform Express Setup for reinstallation.

---

The Express Setup is the install program for the NovaScale/ft Server series. The Express Setup helps you to install Windows Server 2003. You can use the Express Setup for reinstalling Windows Server 2003 to your server as well.

---

### **IMPORTANT:**

Using the Express Setup will format your system disk.

---

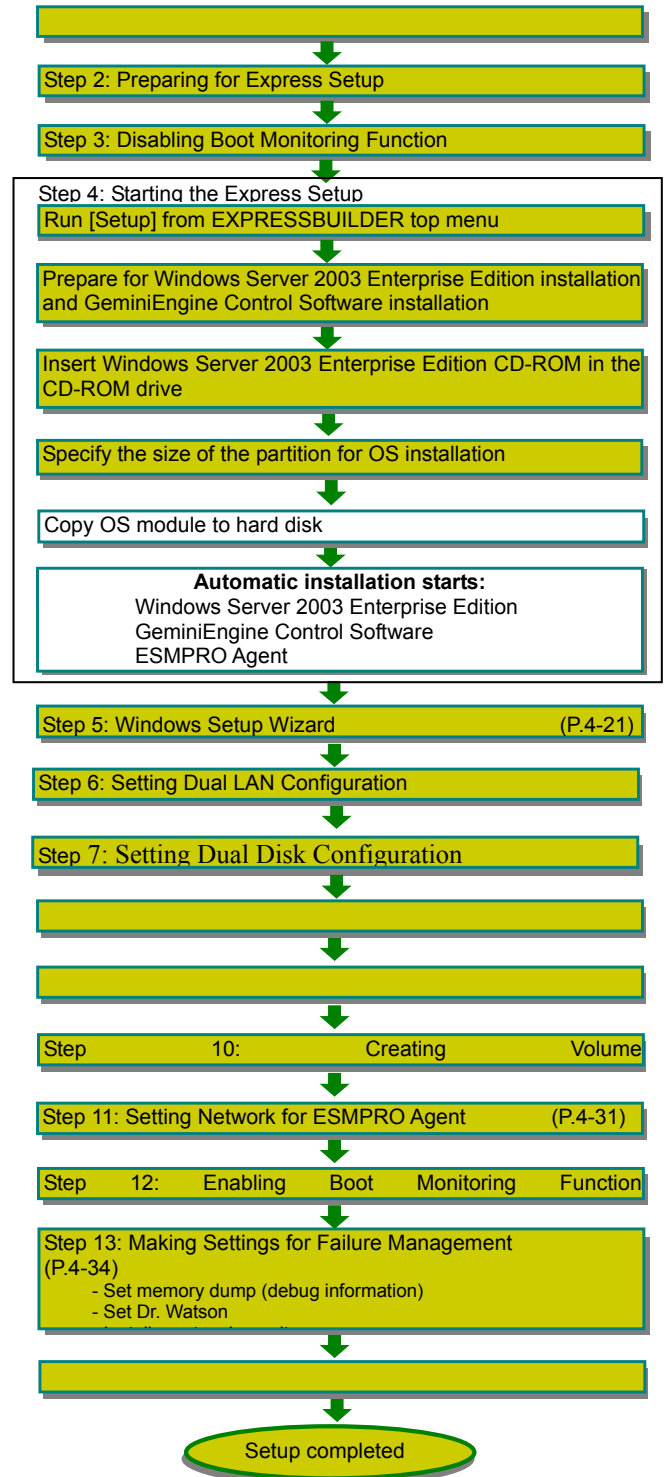
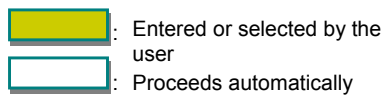
The "EXPRESSBUILDER" CD-ROM that comes with your server is used to run the Express Setup program.

You will also use the Express Setup when you reinstall the operating system.

## SETUP FLOW

The following flow-chart illustrates the flow of the setup procedures for the NovaScale/R620-LR server and R620-MR server.

Corresponding page numbers are shown in parentheses.



## **Step 1: Things Required for Setup**

The following explains the setup procedure using the Express Setup program:

---

### **IMPORTANT:**

- Because “Express Setup” formats the entire area of the disk used for reinstallation, all the data on that disk will be deleted. If there is any data partition other than system partition that contains OS on the disk for reinstallation, you must back up important data in the data partition first and then start “Express Setup.”
  - Do not apply service packs to NovaScale/ft Server series based on your judgment. If you want to apply service packs, contact your sales agent about application status and apply service packs to NovaScale/ft Server series.
- 

---

### **TIPS:**

For the latest information on support for Windows Service Pack, contact your sales agent.

---

You need the following to install Windows Server 2003 R2 32-bit Enterprise Edition:

- EXPRESSBUILDER (CD-ROM)
  - GeminiEngine Control Software UPDATE CD-ROM  
This CD-ROM is used to update GeminiEngine Control Software; it may not be shipped with the equipment. (Not included if “EXPRESSBUILDER” CD-ROM contains the latest version of software programs at the time of shipment.)
  - Microsoft® Windows Server™ 2003 R2 32-bit Enterprise Edition Disk1  
(hereinafter referred to as “Windows Server 2003 CD-ROM”)  
Microsoft® Windows Server™ 2003 R2 32-bit Enterprise Edition Disk2
  - Setup Guide (this manual)
  - User Guide
- 

### **IMPORTANT:**

- About the latest release of GeminiEngine Control Software and purchase of the latest version of its Update CD-ROM, ask your sales agent.
- 

Before starting the setup, decide the size of the partition where the operating system will be installed.

---

## Size of the Partition to be Created

The required minimum size of a partition to install the system can be obtained from the following formula:

Size required for installation + paging file size + dump file size	
Size required for installation	= 3 500 MB (Windows Server 2003 R2)
Paging file size (recommended)	= size of memory mounted* × 1.5
Dump file size	= size of memory mounted* + 12 MB

---

### IMPORTANT:

- The above paging file size is necessary for collecting debug information (memory dump). If a value smaller than the “Recommended” value is set for the initial size of the paging file, correct debug information (memory dump) may not be collected.
- The maximum paging file size is 4 095 MB in a partition. If 1.5 times the size of installed memory is larger than 4 095 MB, set the size at 4 095 MB.
- If the size of installed memory is larger than 2 GB, the maximum size of dump file is “2 048 MB+12 MB.”

---

**TIPS:** The installed memory size means the total of memory installed on a single CPU/IO module.

---

For example, if memory of 1 GB is mounted, the required minimum partition size obtained from the above formula is as follows:

$$3\,500\text{ MB} + (1\,024\text{ MB} \times 1.5) + (1\,024\text{ MB} + 12\text{ MB}) = 6\,072\text{ MB}$$

---

**TIPS:** The minimum partition size you can specify in the Express Setup is 6 072 MB. The partition size must be 6 072 MB or larger for automatic installation. Therefore the size smaller than 6 072 MB cannot be specified.

---

## Step 2: Preparing for Express Setup

Before starting Express Setup, be sure to do the following. If these preparations are not done, setup cannot be performed properly.

---

### 2-1: Preparing NovaScale/ft Server Series

With the power of NovaScale/ft Server series off, follow the steps below:

1. Prepare NovaScale/ft Server series.
  - Install the modules for both systems.
  - Insert only one hard disk into the slot0.
  - Remove all LAN cables.
  - Remove optional SCSI devices such as a tape device from the SCSI connector.

---

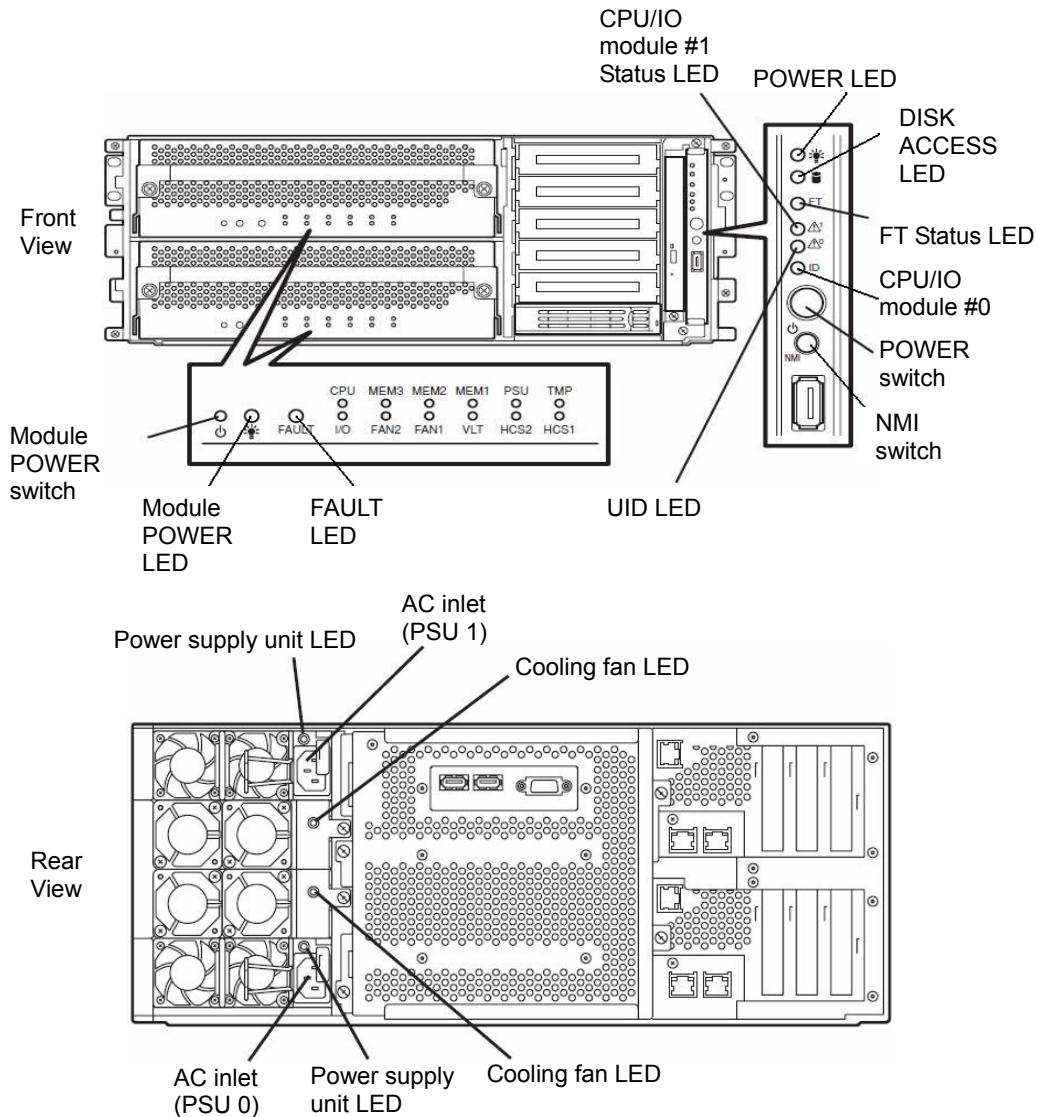
### IMPORTANT:

Do not install any hard disk into any slots of any modules unless specified. If multiple hard disks are inserted, the hard disk to install OS cannot be determined.

---

2. Prepare the installation from the module#0.

The location of the parts required for operations and check are shown below:



<When the AC power is on (The power cords are plugged to the wall outlet)>

- (1) Check the POWER LED of the system.
  - If the POWER LED is lit, shut down the OS and unplug the AC power cord after the POWER LED turns off.
  - If the POWER LED is turned off, unplug the AC power cord.
- (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 NovaScale/ft Server series in the following order:

- (1) Connect the power cord to the AC inlet (PSU0)
- (2) Connect the power cord to the AC inlet (PSU1)
- (3) Make sure that the FAULT LED of each module is turned off.

Preparation is now completed.



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

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

<Example>

Phoenix BIOS Setup Utility			
Main	Advanced	Security	Server
System Time: [14:00:09] System Date: [ 09 / 19 / 2005 ]  ▶ Processor Settings		Item Specific Help  <Tab>, <Shift-Tab>, or <Enter> selects field.	
F1 Help    ↑↓ Select Item    +/- Change Values    F9 Setup Defaults Esc Exit   ←→ Select Menu   Enter Select   ▶ Sub-Menu   F10 Save and Exit			

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

The Server menu will be displayed.

Phoenix BIOS Setup Utility			
Main	Advanced	Security	Server
▶ System Management ▶ Event Log Configuration ▶ Monitoring Configuration  Thermal Sensor: [Disabled]  BMC IRQ: [IRQ 11]  Post Error Pause: [Enabled]  AC-LINK: [Last State] Power ON Delay Time: [ 0]		Item Specific Help  Additional setup menu to view server management features.	
F1 Help    ↑↓ Select Item    +/- Change Values    F9 Setup Defaults Esc Exit   ←→ Select Menu   Enter Select   ▶ Sub-Menu   F10 Save and Exit			



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

The Monitoring Configuration submenu appears.

Phoenix BIOS Setup Utility	
Server	
Monitoring Configuration	Item Specific Help
FRB-2 Timer: <b>Enabled</b>	
Boot Monitoring: [Disabled]	
Option ROM Scan Monitoring: [Enabled]	
Option ROM Monitoring Time-out: [ 5]	
POST Pause Monitoring: [Enabled]	
POST Pause Monitoring Time-out: [ 3]	
F1 Help    ↑↓ Select Item    +/- Change Values    F9 Setup Defaults Esc Exit   ←→ Select Menu    Enter Select    ► Sub-Menu    F10 Save and Exit	

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

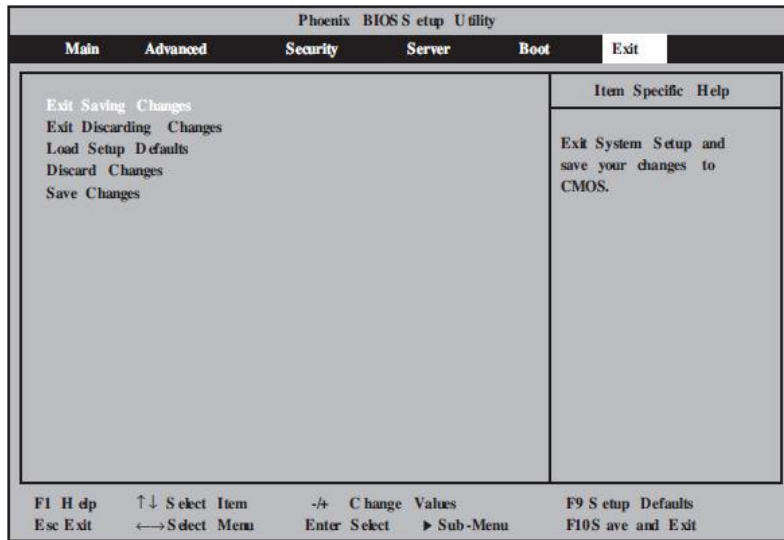
Parameters will be displayed.

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

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

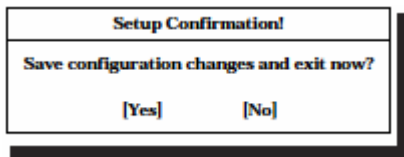
Phoenix BIOS Setup Utility	
Server	
Monitoring Configuration	Item Specific Help
FRB-2 Timer : [Enabled ]	
Boot Monitoring : <b>Disabled</b>	
Option ROMS can Monitoring : [Enabled ]	
Option ROM Monitoring Time-out : [ 5]	
POST Pause Monitoring : [Enabled ]	
POST Pause Monitoring Time-out : [ 3]	
F1 Help    ↑↓ Select Item    +/- Change Values    F9 Setup Defaults Esc Exit   ←→ Select Menu    Enter Select    ► Sub-Menu    F10 Save and Exit	

9. Press **Esc** twice to go back to the Advanced menu, and then move the cursor onto "Exit" to display the Exit menu.



10. Move the cursor onto "Exit Saving Changes" and press **Enter**.

The confirmation window will appear.



11. Select "Yes" and press **Enter**.

After the configuration data is saved and SETUP is terminated, the system is rebooted. This is the end of steps for switching boot monitoring function.

#### TIPS:

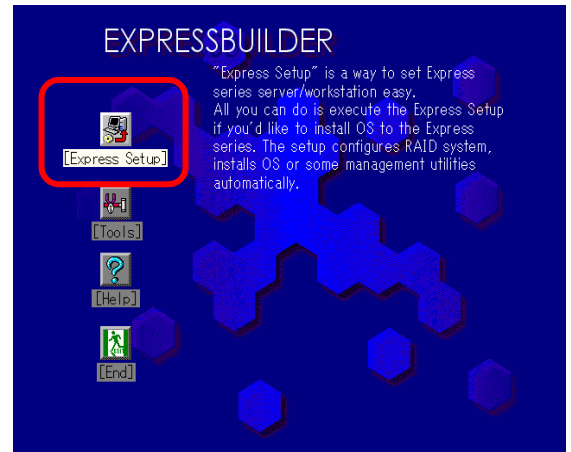
When reinstalling the OS, power off this server to prepare for reinstallation. Then, referring to "Step 4: Starting the Express Setup" on the next page, continue the setup.

## Step 4: Starting the Express Setup

Set up with the Express Setup functions of EXPRESS BUILDER.

“Express Setup” is a setup method for NovaScale series to smoothly configure settings as internal parameters and status of hardware and to install OS (Windows Server 2003) and various utilities by using the “EXPRESSBUILDER” CD-ROM which comes with the server. Use this “Express Setup” when using hard disk drives with their partition setting different from those at shipment, or when reinstalling the OS. It performs complicated setups automatically.

Express Setup edits the information required for the setup and saves it to a floppy disk before the setup, to proceed a series of setup processes. The floppy disk used here is called [Configuration diskette].



---

### TIPS:

- [Configuration diskette] is a setup disk 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. Also, if you use the Configuration diskette that has been used last time, you can create the same setup condition as the previous one.
- Users are responsible for preparing the Configuration diskette.
- You can create a parameter file in advance, by using “Configuration Diskette Creator®” in EXPRESSBUILDER.

If you create [Configuration diskette] 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 Configuration diskette, during Express Setup). If any computer that is running on Windows XP/2000/Windows Server 2003 is available, it is recommended to edit the setup information with Configuration Diskette Creator in advance.

- 
- You cannot use the mouse in the Express Setup. Use the keyboard to proceed with the setup.

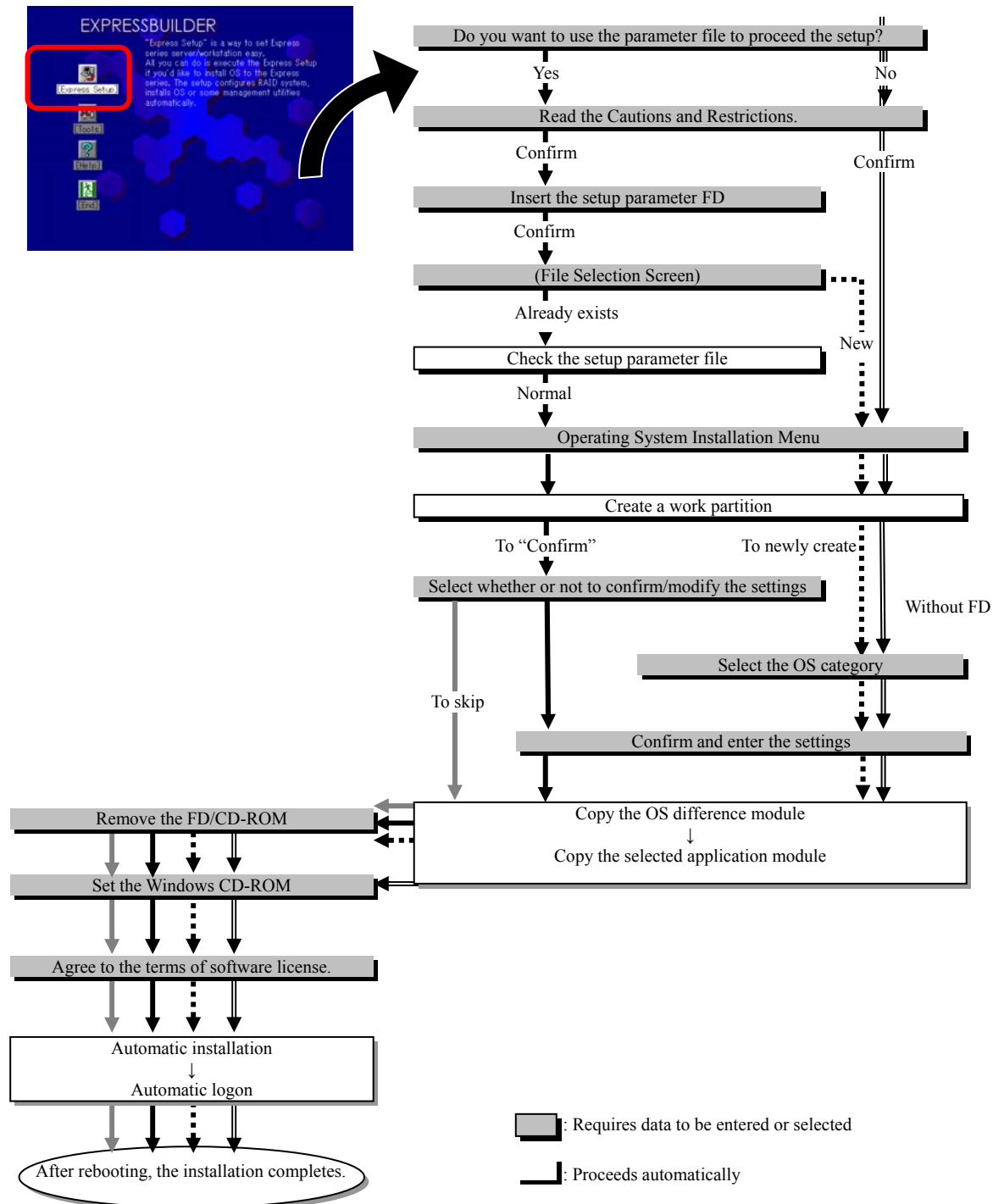
For the procedure to create a parameter file with Configuration Diskette Creator, refer to User Guide.

- **Reinstalling the OS to the hard disk dirve that has been upgraded to dynamic disk**

You cannot reinstall Windows Server 2003 if the existing partition of the hard disk drive that has been upgraded to dynamic disk is still there.

## Flow of Setup Procedures

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



## Setup Procedures

Express Setup configures the settings for each of the parameters in the Wizard form. You can also save each of the parameters as one file (parameter file) to a floppy disk.

### CHECK:

To execute Express Setup with a parameter file, one empty 1.44 MB 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 parameter file that has been saved.

Also, during Express Setup, to individually apply the attached driver FDs (OEM-FD for high-capacity storage), it is necessary to configure the parameter file settings as well. You also need to prepare an empty floppy disk for this purpose.

### IMPORTANT:

In case of changing the system configuration, update the system (page 6-7).

1. Turn on the peripherals and then NovaScale/ft Server series.

#### TIPS:

Install the OS before connecting a hard disk drive other than the one to which you install OS.

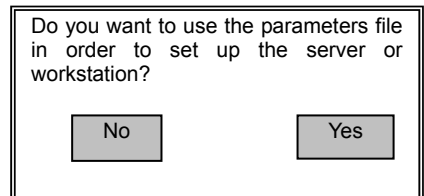
2. Insert the EXPRESSBUILDER CD-ROM into the CD-ROM drive of the server.
3. When having inserted the CD-ROM correctly, reset the system (press **Ctrl**, **Alt** and **Delete** together), or turn the power off and then turn it on to restart the NovaScale/ft Server series.

The system starts from the CD-ROM, and EXPRESSBUILDER is activated.

4. Click [Express Setup].



5. The message, [Do you want to use the parameters file in order to set up the server or workstation?] is displayed. In case of using the parameter file, click [Yes]. In case of not using, select [No].



6. [NOTE] is displayed. Read the displayed contents carefully and click [Confirm].

#### NOTE

We recommend you that you should save the information proper to your system after system setup. If not, you will not be able to recover the information. You can save the information by the following process.

- (1) Select 'Tools'.
- (2) Select 'Off-line Maintenance Utility'.
- (3) Select 'System Information Management'.
- (4) Select 'Save'.

Confirm

7. Cautions for Express Setup are displayed. Read the displayed contents carefully and click [Confirm].

When the setup goes ahead, your system will be rebooted some times automatically.  
Please don't remove the EXPRESSBUILDER CD-ROM and the Configuration diskette until other directions appear.

Confirm

#### CHECK:

If OS is installed to the disk, the message that confirms whether to continue the installation is displayed. To continue the setup, select [Continue].



There is an existing partition on this disk. Express Setup will destroy any data in this partition.

Do you wish to continue?

Continue

Cancel

8. In case of using the parameter file, the Configuration Diskette is required, so insert the FD and select [Confirm].  
In case of not using the parameter file, this message will not be displayed. Go to Step 9.

Insert configuration Diskette

Confirm

Back

#### CHECK:

Do not remove the floppy disk that has been set in this step until you receive instruction.

#### [In case of using an existing parameter]

List of the parameter files on the floppy disk that has been inserted is displayed.

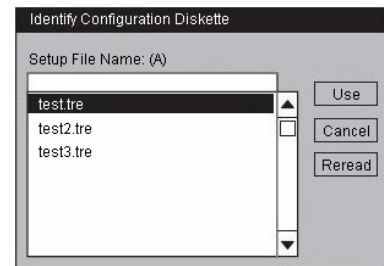
- (1) Select the parameter file that is used for the installation, and select [Use].

The confirmation dialog box will be displayed.

- (2) If you want to verify the parameter, click [Modify]. If you do not need to verify the parameter and want to proceed to the installation, click [Skip].

Click [Modify]. → Go to Step 9.

Click [Skip]. → After Step 9, go to Step 11.

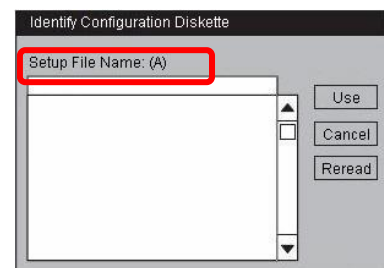


#### [In case of setting an empty floppy disk]

- (1) Press the **A** key.

The input box will be displayed.

- (2) Enter the file name.



9. Select the operating system to install.  
Select [Windows] from the list box.

Operating System to Install

Windows  
Other  
End

10. The confirmation dialog box will be displayed. If you want to verify the parameter, select [Modify]. If you do not need to verify the parameter and want to proceed to the installation, select [Skip].

Select [Modify]. → Go to Step 11  
Select [Skip]. → Go to Step 12

Setup information can be modified.  
Are you sure you want to modify the information?

Skip Modify

11. When the [Basic information] window is displayed, confirm the settings and press the → key. (The “Target Machine” information on the window is displayed.) Subsequently, confirm the settings and move to the next screen.

→ key: Used to move to the next screens.

← key: Used to return to the previous screen.

↑ ↓ key: Used to select a menu.

**F1** key: Displays help.

**ENTER** key: Used to select [OK] or to decide each item.

**ESC** key: Used to select [Cancel].

Basic Information

Target Machine	NovaScale R620
Operating System to Install	Windows Server 2003 Standard/Ent
OS Language	United States
System Partition	Create New Partition
Partition Size (Entire Area=“)	12288
Convert File System to NTFS	Yes
Apply Service Pack	No
Installation Directory	Windows

Back Next Help

### IMPORTANT:

- Allocate the partition to install the OS in a size that is bigger than the required minimum size. (See page 4-5.)
- If you select [Use Existing Partition] in [System Partition], information about the first partition will be formatted and erased all. Information on other partitions will be retained.

The first partition	The second partition	The third partition
Erased	Retained	Retained

- If an existing hard disk drive partition that has been upgraded to the dynamic disk remains, you cannot reinstall OS (refer to page 4-11). Do not select [Use Existing Partition] in [System Partition].
- The file system of the system partition is fixed to be NTFS.
- When you select [Use Existing Partition] in [System Partition], if the partition to be reused only exists (excluding the maintenance domain), reserve the maximum disk space and install Windows Server 2003.
- You cannot move to the next window, if the contents that you have set are incorrect.
- In Express Setup, you cannot specify the details of the network adapter. Specify them from the Control Panel after starting Windows.

12. When the [User Information] window is displayed, confirm the settings and move to the next screens. Correct the settings if necessary. Then press the → key.

→ key: Used to move to the next screen.

← key: Used to return to the previous screen.

↑ ↓ key: Used to select a menu.

**F1** key: Displays help.

**ENTER** key: Used to select [OK] or to decide each item.

**ESC** key: Used to select [Cancel].

User Information

User Name	
Corporate Name	Corporate Name
Time Zone	(GMT) Greenwich Mean Time:Du
Keyboard Layout	User Default

Back Next Help

13. When the [Role of Computer] window is displayed, confirm the information and correct it if necessary. Then press the **F9** key. (If the [OK] button is not displayed in the right side of the screen, press the → key.)

**F9** key: Used to finish the configuration settings.

→ key: Used to move to the next screen.

← key: Used to return to the previous screen.

↑ ↓ key: Used to select a menu.

**F1** key: Displays help.

**ENTER** key: Used to select [OK] or to decide each item.

**ESC** key: Used to select [Cancel].

If you press the → key, you can confirm the additional settings. Subsequently, confirm the settings and move to the next screen. Correct the settings if necessary.

### IMPORTANT:

- Once you press the → key to go to the next screen from [Role of Computer], [OK] will not appear even if you go back to this screen.
- [OK] does not appear if the Parameters File that has already been created is loaded.
- In Express Setup, you cannot specify the details of network adapter. Specify them from Control Panel after starting Windows.
- You cannot move to the next window, if the contents that you have set are incorrect.
- To specify the setup parameters, the number of characters must not exceed the limit as shown in the table below (a double-byte character is counted as two characters):

Item	Value specified	Max. number of characters
Creation of New Users	User Name	19
	Group Name	20
	Full Name	63
	Explanation	47
Creation of New Groups	Group Name	20
	Explanation (Group Name)	47

14. The confirmation dialog box will be displayed. If you want to finish the configuration select [OK]. If not, select [Cancel] to return to the configuration screen.

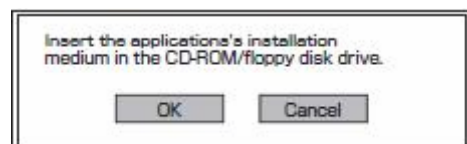
**ENTER** key: Used to select [OK] or to decide each item.

**ESC** key: Used to select [Cancel].

15. Install the application to add.

In case of additionally installing the application compatible with Express Setup, a message will be displayed.

16. Follow the message, and remove the EXPRESSBUILDER CD-ROM from the CD-ROM drive.



If the setup parameter diskette is used at this point, remove it from the floppy disk drive.

17. Insert the Windows Server 2003 CD-ROM into the CD-ROM drive.

The [Windows Server 2003 Setup] window will be displayed.

18. Read the contents carefully. If you agree, press the **F8** key. If you do not agree, press the **F3** key.



---

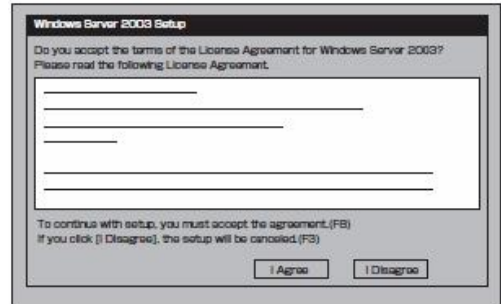
**IMPORTANT:**

If you do not agree, the setup will be terminated and Windows Server 2003 will not be installed.

---

Windows Server 2003 and the specified applications will be automatically installed. Log on to the system.

19. Insert Microsoft(R) Windows Server(TM) 2003 R2 32-bit Enterprise Edition Disk2 into the CD-ROM drive after the OS installation. Follow the instructions on the screen. When the installation is completed, remove the CD from the CD-ROM drive and restart the system.



Now the setup using Express Setup is completed.

## Step 5: Windows Setup Wizard

1. After restarting, the [Welcome to the Windows Setup Wizard] screen will appear. Click [Next>] and follow the instruction of the wizard. After completing operations in the wizard, the NovaScale/ft Server series will be restarted automatically.

---

**IMPORTANT:**

The [Welcome to the Windows Setup Wizard] screen will only appear at the first system power on. When re-installing skip to step 6.

---

2. After the machine is restarted, log on as a user with Administrator authority.

## Step 6: Setting Dual LAN Configuration

The NovaScale/ft Server series builds a dual LAN configuration by using "Intel(R) PRO/1000 MT Dual Port Network Connection" and extended PCI slot "Intel(R) PRO/1000 MT Server Adapter", "Intel(R) PRO/1000 MF Server Adapter" mounted as standard on the CPU/IO module.

---

### Overview

There are two kinds of Dual LAN configurations below.

- **Adapter Fault Tolerance (AFT)**

Adapter Fault Tolerance is a feature to switch to the backup controller immediately and continue the operation if the primary controller fails, by placing more than one LAN controllers on the same LAN (same segment).

- **Adaptive Load Balancing (ALB)**

Adaptive Load Balancing (ARB) 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. When RLB is enabled, the receive throughput is enhanced.

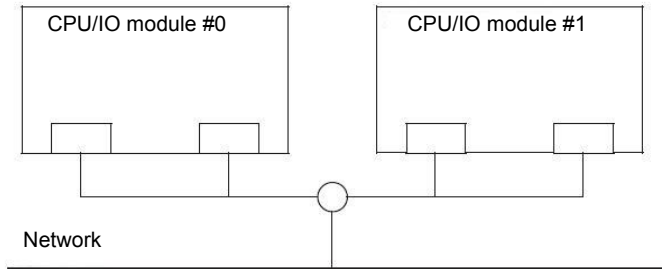
---

## NovaScale/ft Server Series Duplication Rule

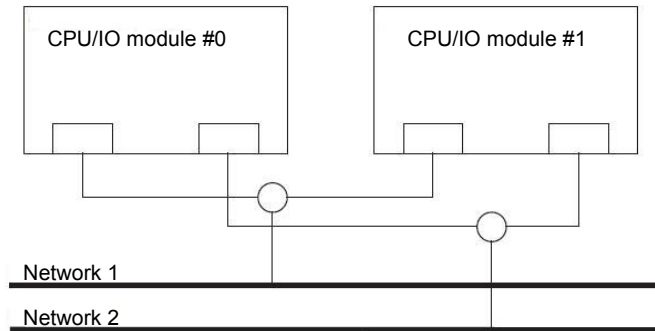
Be sure to set the dual configuration in the server.

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 dual configuration with the improved endurance using all the adapters.



e.g.2) Set the dual configuration for more than one LAN connections



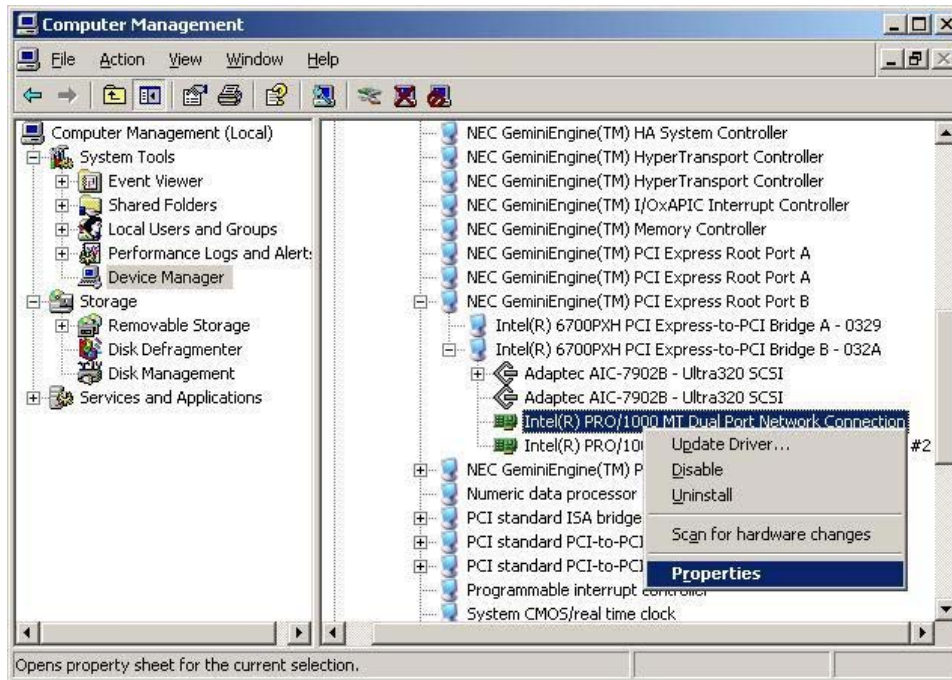
## Dual Configuration Setup

The following describes the procedure to set dual LAN configuration.

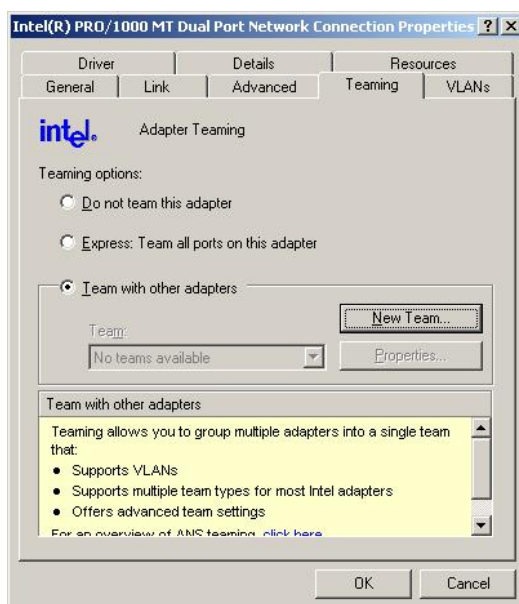
The procedure to set dual LAN configuration of the example 1 in “NovaScale/ft Server Series Duplication Rule” is explained.

To set dual 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.



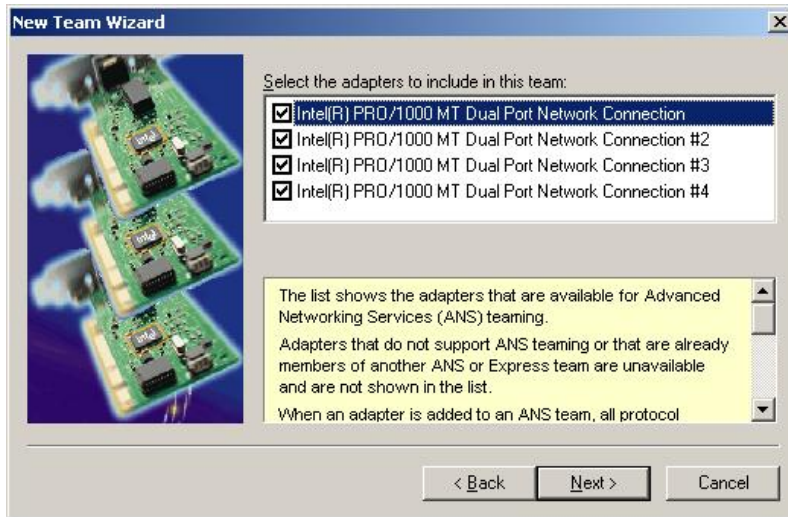
3. Select the [Teaming] tab in the Properties window. Check the radio button of [Team with other adapters] and click [New Team...].



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

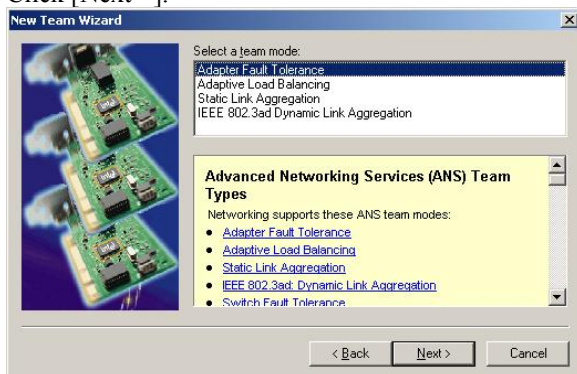


5. Select the check boxes of the adapters you want to include to the team, and click [Next>].

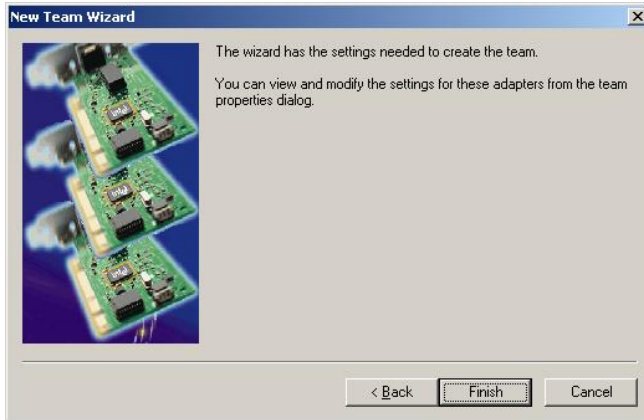


6. Select “Adapter Fault Tolerance” or “Adaptive Load Balancing” as a team mode. (Usually select “Adapter Fault Tolerance”.)

Click [Next >].



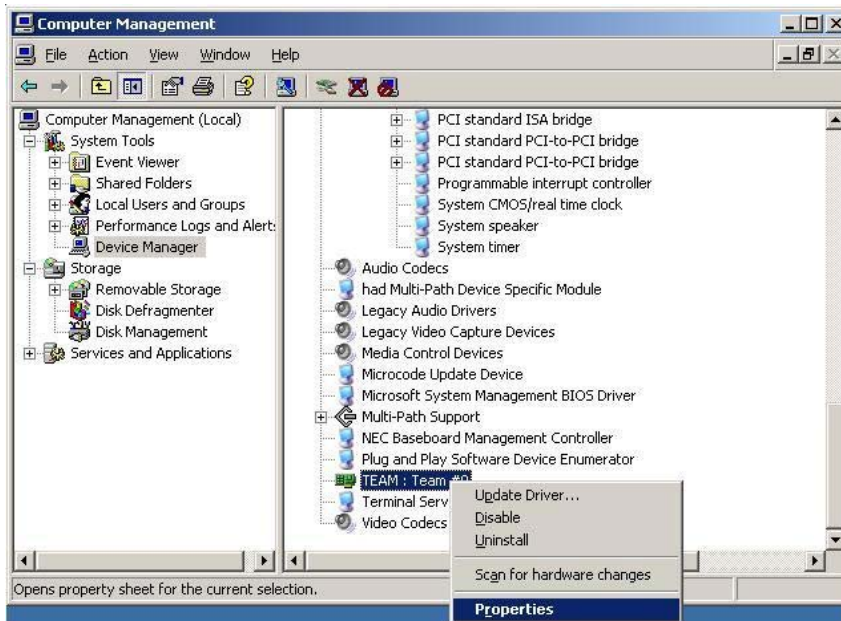
7. Click [Finish].



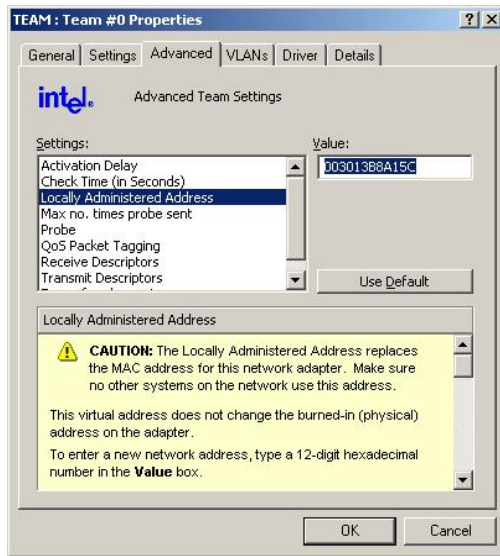
8. Start a command prompt, and verify the physical MAC address of the team adapter with ipconfig /all.

```
Media State . . . . . : Media disconnected
Description . . . . . : TEAM : Team #0
Physical Address. . . . . : 00-30-13-B8-A1-5C
```

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 to the [Value:] text box, and click [OK].



## Step 7: Setting Dual Disk Configuration

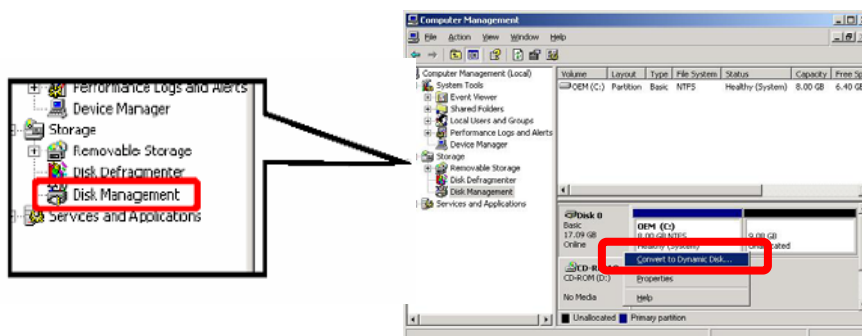
NovaScale/ft Server series secures data by setting dual disk configuration using “Disk Management”. Be sure to make dual disk settings by referring to the procedure.

### Setting Dual Disk Configuration by Disk Management

#### IMPORTANT:

- To set dual disk configuration, log on as "Administrator" or a member of the group "Administrators".
- Make sure to mirror the volumes not only when installing an operating system but also when creating partitions.
- After upgrading the volume that contains system partition to dynamic disk, set the hard disk for mirroring to the slot. Do not set the hard disk to the slot before upgrading.
- Set the mirroring for the hard disk with the designated target ID. See "Hard Disk Configurations That Can Be Built On The NovaScale/ft Server series" in the separate volume User Guide for details.

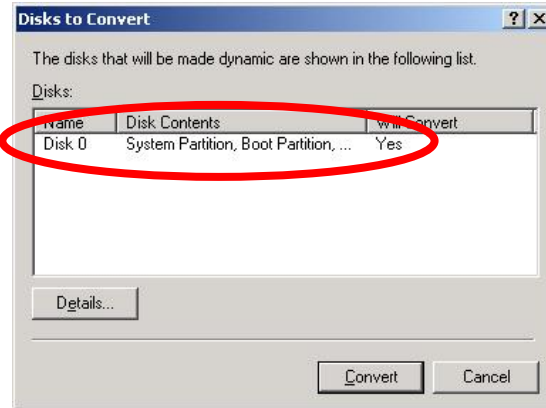
1. Click [Start], and then [Control Panel]. When the [Control Panel] screen appears, double-click [Administrative Tools], and then [Computer Management].
2. Click [Disk Management] under the Storage branch of the tree view menu.
3. Display the hard disk drive list in the right frame, right-click the hard disk where the system is installed and click [Convert to Dynamic Disk...].





4. Check that the hard disk to be converted is the hard disk where the system is installed and click [Convert].

If the selected hard disk contains a system partition, you will have to restart the computer to complete the upgrade of the hard disk. The message also states that file systems on any of the hard disks to be upgraded will be forcibly dismounted. This means if any file systems are in use at the time of upgrade, they will be dismounted, so that the upgrade can continue.



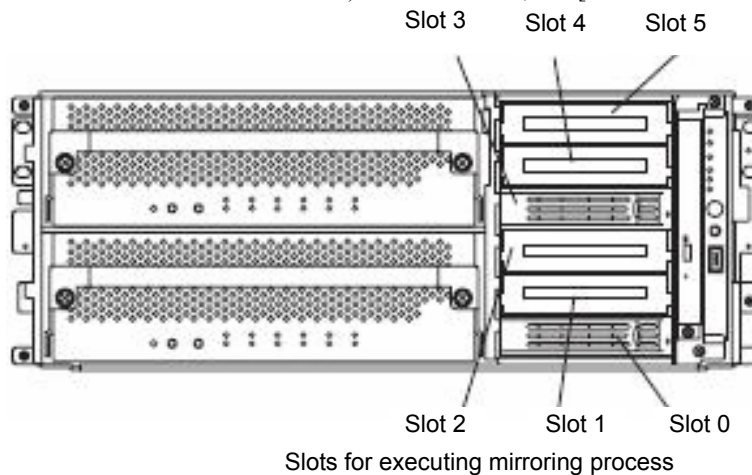
5. After the system has restarted, display [Disk Management] again and set the hard disks for creating mirror volume.

#### IMPORTANT:

When the hard disk status is “Not Initialized”, right-click that hard disk and initialize it.

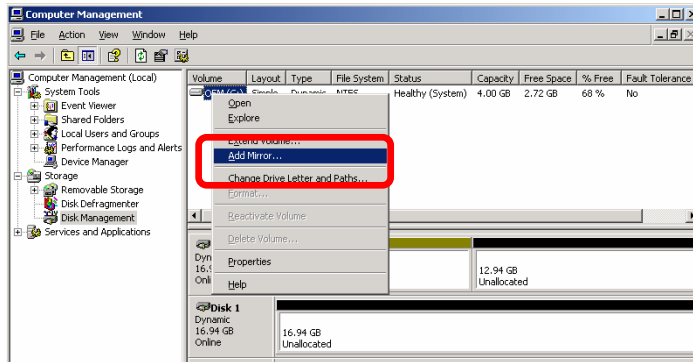
If “Foreign” is displayed, perform “Convert to Basic Disk” and then perform “Convert to Dynamic Disk...”

Hard disks to be mirrored must be inserted to the corresponding slots. Make them in pairs (Slot0 and Slot3/ Slot1 and Slot4/ Slot2 and Slot5). For the details, see [DISK OPERATIONS] in the separate User Guide.



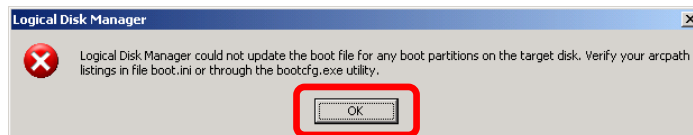
6. If the inserted hard disk is not a dynamic disk, right-click the disk and perform “Convert to Dynamic Disk”.

7. Right-click the dynamic disk volume for creating mirror, and click [Add Mirror...].



#### IMPORTANT:

- When you click [Add Mirror...], the [Logical Disk Manager] dialog box will appear. This is not an error. Click [OK].

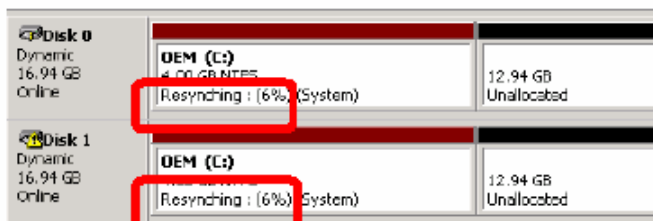


- If you restart the system while creating mirror, mirroring will not be completed. Do not reboot the system until the mirroring process is completed.

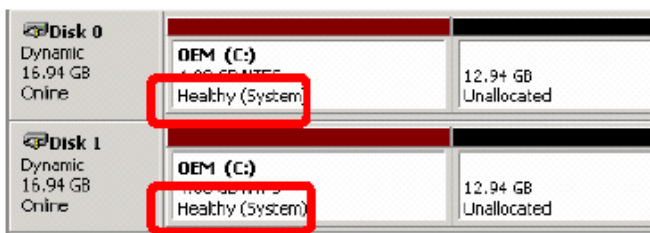
#### TIPS:

Creating mirror takes about 20 minutes for 10 GB hard disks.

8. Confirm that the mirroring of the HDD has been started in the Disk Manager.



9. When the "Resyncing" shown in 8 changes to "Healthy", disk mirroring has completed.



## Step 8: Updating Software

If you use GeminiEngine Control Software UPDATE CD-ROM, see "Installing GeminiEngine Control Software" (page 6-12) to update the software. When there are other update modules, apply them in this step.



## Step 9: Connecting and Configuring 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 User Guide and the manual of the devices.

---

### TIPS:

If LAN or hard disks are added, you need to set dual configurations. For details, see “Step 6: Setting Dual LAN Configuration” (page 4-17).

---

When the mounted memory is over 4 GB, specify /PAE switch to BOOT.INI file.

In order to use the entire mounted memory from the Windows system, /PAE switch needs to be specified. If it is not specified, the Windows system only uses a part of the mounted memory.

Refer to Microsoft Product Support Services for details of specification method.

Display BOOT.INI file as described below:

1. Right-click [My Computer] and select “Properties” to display “System Properties.”
2. On the “Advanced” tab of “System Properties”, click the “Settings” button of “Startup and Recovery”.
3. Click the “Edit” button of “System startup” on the displayed window.

Below shows the example of the modification.

(Before modification)

```
[boot loader]
timeout=30
default=multi(0)disk(0)rdisk(0)partition(1)\WINNT
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINNT="Windows Server 2003, Enterprise" /fastdetect
```

(After modification)

```
[boot loader]
timeout=30
default=multi(0)disk(0)rdisk(0)partition(1)\WINNT
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINNT="Windows Server 2003, Enterprise" /fastdetect /PAE
```

## Step 10: Creating Volume

For NovaScale/ft Server series, you need to create mirrors for all volumes. In case of creating a new volume except for the one that stores the system partition, see “Hard Disk Configurations that can be built on the NovaScale/ft Server series” in the separate User Guide.

For how to create or mirror volume, see the Online Help of Windows and “Step 7: Setting Dual Disk Configuration” (page 4-22).

---

### IMPOTANT:

The creation of volume is available after the system operation is started.

For creating volume, refer to “Hard Disk Configurations that can be built on the NovaScale/ft Server series” in the separate User’s Guide.

---

## Step 11: Setting Network for ESMPRO Agent

ESMPRO Agent is required for continuous operation of the NovaScale/ft Server series. It is automatically installed when installing OS using Express Setup.

To operate 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” in the [Community name] box in the [Traps] property sheet and click the [Add to list] button.

---

### IMPORTANT:

- To change the community name of traps to be received from the default “\*” in the ESMPRO Manager site, enter the same name as the community name newly set in the ESMPRO Manager site.
  - To receive trap from ESMPRO Agent at the 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 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 ESMPRO Manager specified as the trap send destination in the setup of the manager report (TCP/IP), the message warning the duplication appears. The specification of the same ESMPRO Manager causes to be reported doubly.

---

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”.
  - Unless you set the acceptable community’s authority to “READ CREATE” or “READ WRITE,” you cannot perform monitoring from 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 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 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 ESMPRO Agent to receive SNMP packets sent from ESMPRO Manager, set the send community name in ESMPRO Manager to be the same as that accepted by the SNMP Service in ESMPRO Agent.

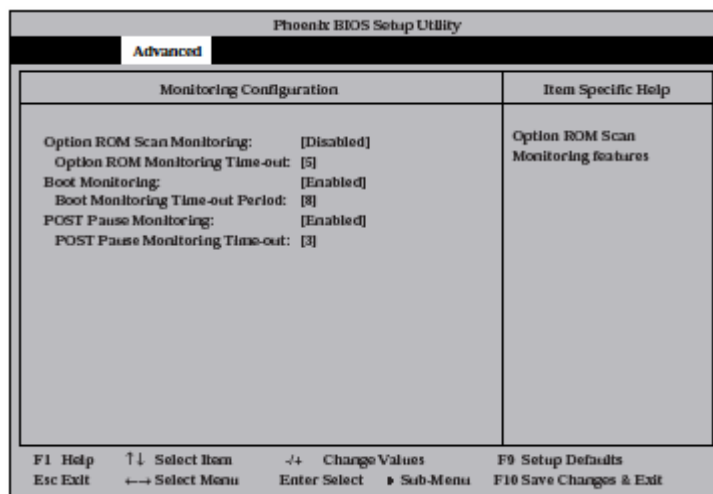
7. Terminate the network setup.

**IMPORTANT:**

- If the SNMP service was 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 ESMPRO Agent.
- The SNMP Service is required for operating ESMPRO Agent. If the SNMP Service is deleted after the installation of ESMPRO Agent, install the SNMP Service and then reinstall ESMPRO Agent.
- Some software products provided by other vendors use the SNMP Service. If the SNMP Service and ESMPRO Agent are installed in the system in which such software as above is installed, it may be impossible to start ESMPRO Agent services. If so, delete the SNMP Service once and install the service again. Then, reinstall ESMPRO Agent and the other vendor's software.

## Step 12: Enabling Boot Monitoring Function

When necessary for system operation, enable the “Boot Monitoring” setting which has been disabled in “Step 3: Disabling Boot Monitoring Function” (page 4-7). Or, see “Step 3: Disabling Boot Monitoring Function” (page 4-7) and set appropriate time (Default is 10 min.).



## Step 13: Making 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

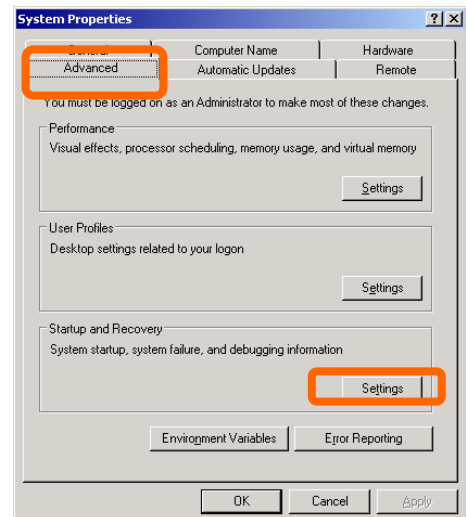
- The maintenance personnel designated by your sales agent are responsible for collecting memory dump. Customers should make settings of memory dump only.
- Sometimes a message indicating a shortage of virtual memory appears at the system startup, when a failure has occurred after making settings described 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.

Take the following steps to set memory dump:

1. From the [Start] menu, select [Control Panel] and then click [System].

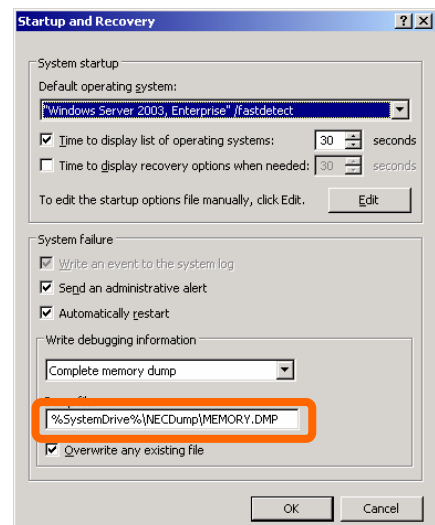
The [System Properties] dialog box appears.

2. Click the [Advanced] tab.
3. Click [Settings] in the [Startup and Recovery] box.



4. Enter the location, where debug information is to be written, in the text box.

When writing debug information under the file name "MEMORY.DMP" in the D drive: D:\MEMORY.DMP

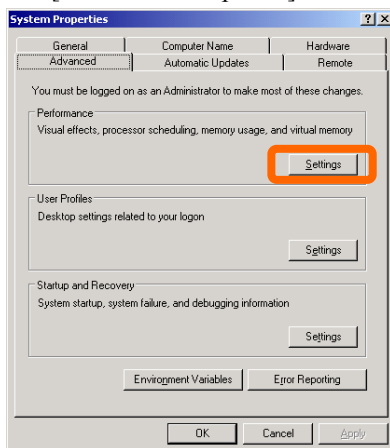


**IMPORTANT:**

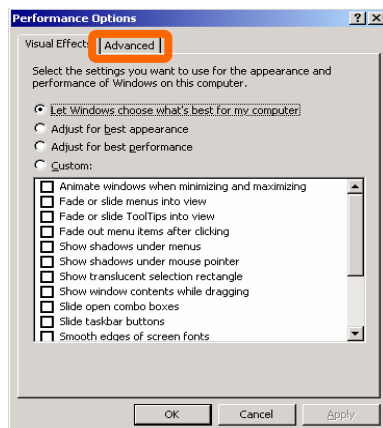
- [Complete memory dump] should be specified for writing debug information. However, if the installed memory size is over 2 GB, specify [Kernel Memory Dump]; you cannot specify [Complete memory dump]. Quick dump function is enabled when specifying the [Complete memory dump]. If you specify the setting other than the [Complete memory dump], the dump function for OS standard works.
- Specify a drive which has a free space of the size of memory in the NovaScale/ft Server series + 12 MB or more (If the memory size is over 2 GB, 2048 MB + 12 MB).
- If the memory will be expanded to larger than 2 GB, change Write Debugging Information to [Kernel Memory Dump] before expanding the memory. Size of the debugging information (memory dump) to be collected will change due to memory increase. Check how much free space the hard disk to which debugging information is written has.
- Perform the steps below to change your memory dump setting, if a total memory capacity exceeds 2GB after additional memory has been installed in the system with complete memory dump enabled. If the setting is not changed, incorrect dump files may be collected.
  - 1) Go to [Control Panel], click [System], and then click [Advanced] to open the [Startup and Recovery] dialog box. Choose “Small memory dump” and click [OK].
  - 2) Return the setting to “Kernel memory dump” and click [OK].
- In the system failure settings, it is recommended to specify “Automatically restart.” When this option is not selected, the operation cannot be switched to the disks that are mirrored if the system cannot be started due to a disk error.

5. Click [Settings] in the [Performance] box.

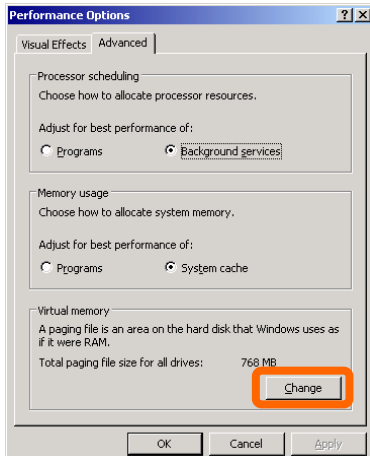
The [Performance Options] window appears.



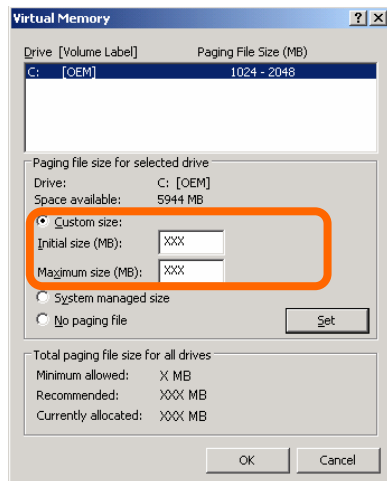
6. Click the [Advanced] tab on the [Performance Options] window.



7. Click [Change] in the [Virtual memory] box.



8. Change the value set for [Initial Size] in the [Paging file size for selected drive] box to the [Recommended] value or more, and then click [Set].



### IMPORTANT:

- Be sure to create the file in the size more than [Recommended] value in the OS partition. If a value smaller than the [Recommended] value is set for [Initial Size] of the paging file, accurate debug information (memory dump) may not be collected.
- For the [Recommended] value, see "Size of the Partition to be Created" (page 4-5).
- To be prepared for failure, it is recommended to press the dump button to see if the memory dump can be collected in normally beforehand.
- If the memory has been expanded, re-set the paging file according to the memory size.

9. Click [OK].

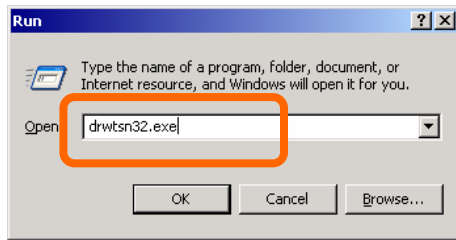
A message is displayed asking you to restart the system depending on the changed settings. Restart the system according to the messages.

## Setting Dr. Watson

Dr. Watson of Windows Server 2003 is a debugger for application errors. When detecting an application error, Dr. Watson diagnoses the NovaScale/ft Server series, and records the diagnostic information (log). Take the following steps to collect diagnostic information:

1. Click [Run...] from [Start].
2. Enter "drwtsn32.exe" in the [Open] box, and click [OK].

The [Dr. Watson for Windows] dialog box appears.



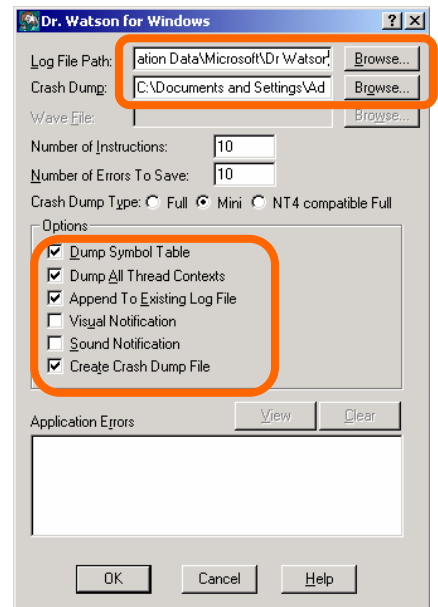
3. Specify where you want to save diagnostic information in the [Log File Path] box.

Diagnostic information is saved under the file name "DRWTSN32.LOG."

**CHECK:** Do not specify a network path. Be sure to specify a path on the local computer.

4. Specify the crash dump file save destination in the [Crash Dump] box.

**TIPS:** A "crash dump file" is a binary file that can be read by Windows Debugger.



5. Select the following check boxes in the [Options] box.

- ☐ [Dump Symbol Table]
- ☐ [Dump All Thread Contexts]
- ☐ [Append To Existing Log File]
- ☐ [Create Crash Dump File]

For the above functions, see the online help.

6. Click [OK].

## Installing a Network Monitor

A network monitor is useful for examining the causes of network failures and taking the countermeasures. To use the network monitor, you need to restart the system after the installation. It is recommended to install the network monitor before a failure occurs.

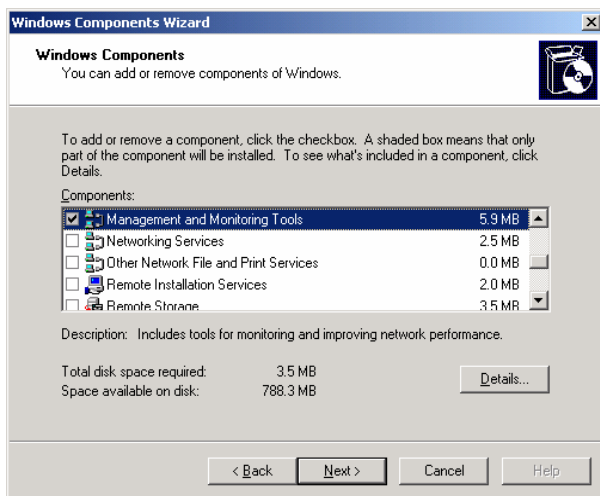
1. From the [Start] menu, select [Control Panel] and click [Add/Remove Windows Programs].

The [Add/Remove Windows Programs] dialog box appears.

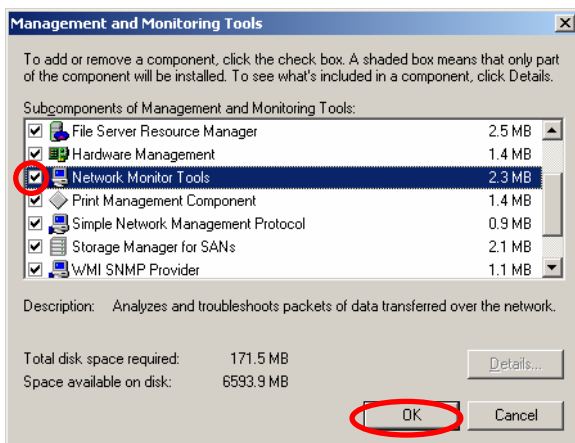
2. Click [Add/Remove Windows Components].

The [Windows Components Wizard] dialog box appears.

3. Select the [Management and Monitoring Tools] [Components] and click [Details...] at the bottom right of the window. [Management and Monitoring Tools] appears.



4. Check the [Network Monitor Tools] check box on the [Subcomponents of Management Monitoring Tools] dialog box and click [OK] at the bottom of the window.



5. Click [Next].
6. If a message is displayed asking you to insert "Windows Server 2003 R2 Enterprise Edition CD-ROM," follow the instructions on the screen.  
Close the menu that appears by inserting the CD-ROM. To close the menu, click the [X] mark on the menu.
7. Click the [X] mark on the [Add or Remove Programs] dialog box.

You can also activate the network monitor by clicking [Start], pointing to [All Programs], pointing to [Administrative Tools] then clicking [Network Monitor]. For details on the operation, see the online help.



---

## **Set Recovery Console**

---

### **TIPS:**

Recovery console is used for repairing the system when the system cannot be started for some reason.

---

There are cautions to be taken for using the Recovery console. Refer to “Cautions for using the Windows Server 2003 Recovery Console” of “SYSTEM REPAIR” in Chapter 6 “Troubleshooting” in the User’s Guide (Setup).

---

## **Updating the System – Applying Service Pack**

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### **IMPORTANT:**

If you use the Windows Server 2003 CD-ROM which contains Service Pack 1 to install Windows Server 2003 on the server, you do not have to apply Service Pack 1 again.

---

Update the system when:

- the system configuration is modified.
- the system configuration is recovered.
- the system is restored using the backup medium.

Log on to the system with the account that has administrative authority (e.g. Administrator), and insert the EXPRESSBUILDER CD-ROM into the CD-ROM drive of the server. When the [Master Control Menu] screen appears, click [Setup Software]. Click [Update NovaScale System] from the menu and the setup will start. Follow the instruction to continue the setup process.

## **Step 14: Backing up System Information**

After setting up the system, back up the system information using the Off-line Maintenance Utility.

Without backup for system information, the information and settings that are specific to your server cannot be restored if the server is repaired. Take the following steps to make a backup copy of the system information:

1. Get a 3.5-inch floppy disk.
2. Insert the "EXPRESSBUILDER" CD-ROM into the CD-ROM drive of the server, and restart the system.  
EXPRESSBUILDER is activated and [EXPRESSBUILDER Top Menu] is displayed.
3. Select [Off-line Maintenance Utility] from [Tools].
4. Select [Save System NVRAM/ROM Data] from [System Information Management].

Follow the instructions you see on the screen.

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 "EXPRESSBUILDER" CD-ROM contains "ESMPRO Agent" for monitoring NovaScale/Fault Tolerant Server series and "ESMPRO Manager" for managing the NovaScale/Fault Tolerant Server series. Install and setup these utilities in the NovaScale/Fault Tolerant Server series or the computer (management PC) that manages the NovaScale/Fault Tolerant Server series.

### ESMPRO Agent

ESMPRO Agent is automatically installed by executing the "Fault Tolerant Server series setup program."

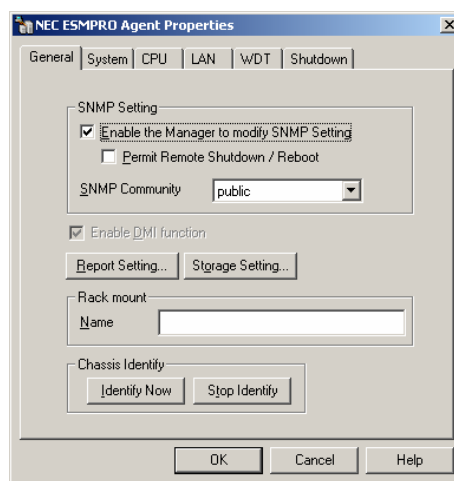
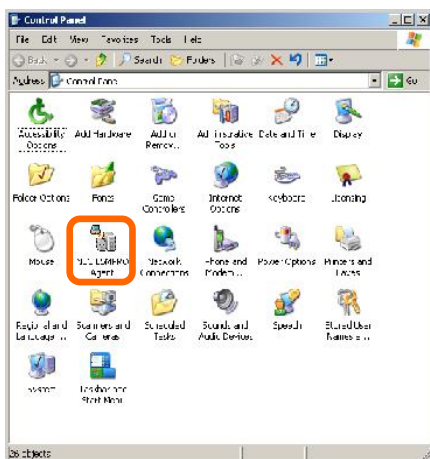
Click [Start] then [All Programs], and make sure that the installed utility folder exists. If it has not been installed while setting up the Fault Tolerant Server series, install it separately.

#### IMPORTANT:

Make sure that ESMPRO Agent is installed because it is indispensable for continuous operation of NovaScale/Fault Tolerant Server series.

To set details about ESMPRO Agent, double-click the [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

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

#### ■ Hardware

- Installation system      NovaScale/Fault Tolerant Server series
- Memory      Memory capacity required to operate OS + 25 MB or larger
- Empty capacity of hard disk      50 MB or larger

#### ■ Software      Windows Server 2003 SP1

## **Preparation before Setup**

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

To operate 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:**

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" in the [Community name] box in the [Traps] property sheet and click the [Add to list] button.

---

#### **IMPORTANT:**

- To change the community name of traps to be received from the default "\*" in the ESMPRO Manager site, enter the same name as the community name newly set in the ESMPRO Manager site.
  - To receive trap from ESMPRO Agent at the 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 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 ESMPRO Manager specified as the trap send destination in the setup of the manager report (TCP/IP), the message warning the duplication appears. The specification of the same ESMPRO Manager causes to be reported doubly.

---

**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”.
  - Unless you set the acceptable community’s authority to “READ CREATE” or “READ WRITE,” you cannot perform monitoring from 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 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 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 ESMPRO Agent to receive SNMP packets sent from ESMPRO Manager, set the send community name in ESMPRO Manager to be the same as that accepted by the SNMP Service in 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 during OS installation, apply it again. If not, the SNMP service may not operate properly, and this can cause the improper operation of ESMPRO Agent.
  - The SNMP Service is required for operating ESMPRO Agent. If the SNMP Service is deleted after the installation of ESMPRO Agent, install the SNMP Service and then reinstall ESMPRO Agent.
  - Some software products provided by other vendors use the SNMP Service. If the SNMP Service and ESMPRO Agent are installed in the system in which such software as above is installed, it may be impossible to start ESMPRO Agent services. If so, delete the SNMP Service once and install the service again. After which, reinstall ESMPRO Agent and the other vendor's software.
-

## Installation

ESMPRO Agent is automatically installed together with the installation or re-installation of the NovaScale/Fault Tolerant Server series. ESMPRO Agent may be installed manually on the master control menu of EXPRESSBUILDER as follows:

1. Login to the system with user name "Administrator."
2. Insert the CD-ROM "EXPRESSBUILDER" into the CD-ROM drive.

---

### TIPS:

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

---

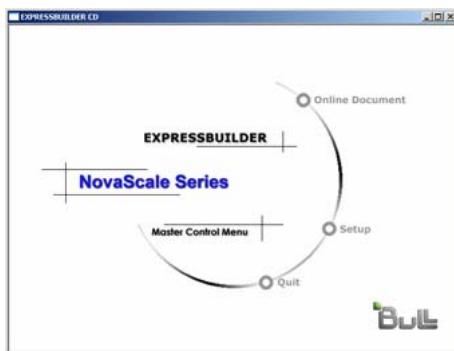
### IMPORTANT:

To use a CD-ROM drive on the network, assign the network driver to the drive and then execute MC\1ST.EXE of the drive. Do not start the CD-ROM drive from the network computer in Windows Explorer.

---

The autorun function automatically displays the master control menu of EXPRESSBUILDER.

3. Click [ESMPRO] in [Setup].



The ESMPRO setup is started to display the main menu.

4. Click [Agent] in the main menu of the ESMPRO setup.



---

### TIPS:

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

---

---

**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 ESMPRO Agent is already installed, delete its older version from [Add or Remove Programs] in Control Panel, and install the new version.
- 

5. The setup program determines the machine type automatically.

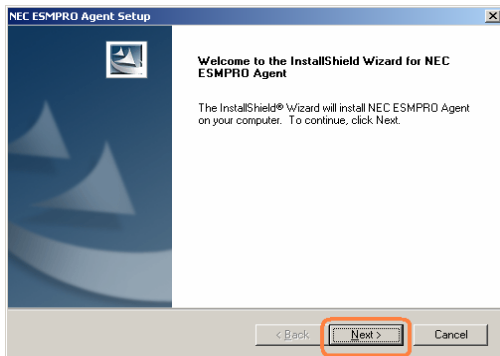
---

**IMPORTANT:**

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

---

6. Click the [Next] button.



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

The 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 ESMPRO Agent will be enabled after the system is restarted.

---

**IMPORTANT:**

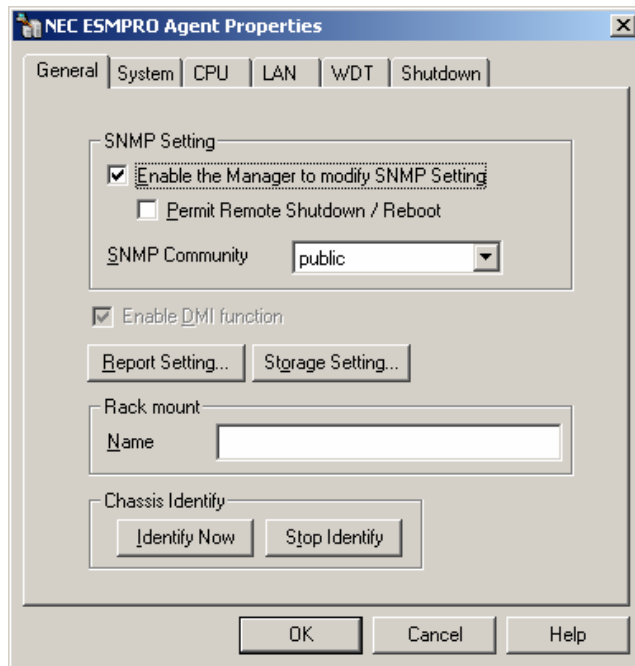
- After the installation of ESMPRO Agent, SNMP Service is stopped. The SNMP Services will be started when the OS is restarted.
  - Even if the installation of ESMPRO is completed, the main menu for the ESMPRO setup remains displayed. Note that the main menu may be hidden by another dialog box. To terminate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



## Setting up ESMPRO Agent

The settings of installed 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 [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

Configuring ESMPRO Agent and BMC and uninstalling BMC FW Update Service are described below.

### Uninstalling of ESMPRO Agent

The procedure of uninstalling ESMPRO Agent is described below.

---

#### IMPORTANT:

##### Uninstalling ESMPRO Agent

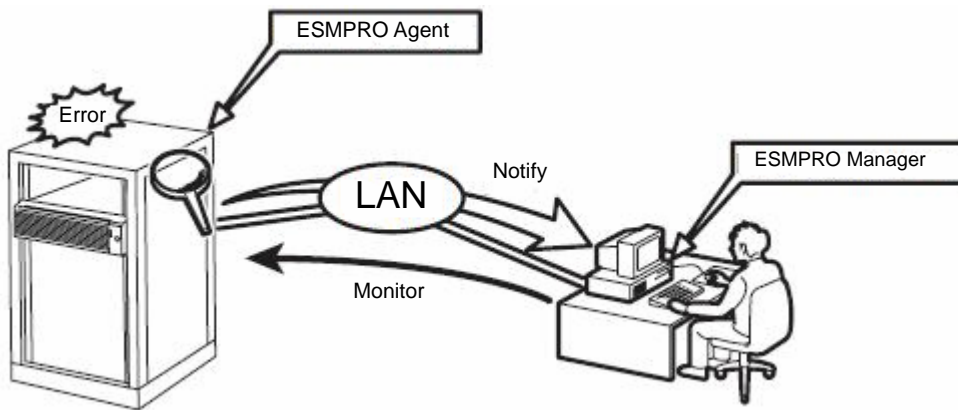
- Start uninstalling ESMPRO Agent after the system is started completely.
  - If ESMPRO Agent is uninstalled just after the system start-up, the setup program may freeze displaying the [Service Being Deleted...] dialog box. Shutdown the system by using "Task Manager" or other operation. Then uninstall ESMPRO Agent after the system is started completely.
  - In the system that operates Windows Server 2003, do not change the setting of “Local security policy” from the default.  
The error occurs by InstallShield if the uninstallation is executed with the setting changed, and the uninstallation fails.
-

- Using EXPRESSBUILDER:
  1. Make the main menu of the ESMPRO setup appear by referring to the section "Install" in this document.
  2. Click [ESMPRO Agent].  
The "Welcome" dialog box appears.
  3. Select [Delete] and then click the [Next] button.  
Now ESMPRO Agent is uninstalled.
- Without using EXPRESSBUILDER:
  1. Start [Add/Remove Programs] in [Control Panel].
  2. Select [ESMPRO Agent] and click [Change/Remove].  
The "Welcome" dialog box appears.
  3. Select [Remove] and click [Next].  
Now ESMPRO Agent is uninstalled.

---

## ESMPRO Manager

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



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

For the installation of ESMPRO Manager and notes on the operation, see the separate User Guide.

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## DianaScope

DianaScope is software to remotely manage the NovaScale/Fault Tolerant Server series. NovaScale/Fault Tolerant Server series can be managed remotely, only when ft Remote Management Card (optional for R620-LR) is installed.

For information on the functions and installation procedures of DianaScope, refer to the online documents.

## Verifying GeminiEngine Control Software Version

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

Check the version following the steps below:

1. Log in the system as an authorized Administrator.
2. Open Control Panel from the Start menu.
3. Open “Add or Remove Programs.”

You can verify the version that corresponds to the name of [GeminiEngine Control Software].

## Changing the Color Quality of the Display to 32-bit

The default color quality of the graphics driver is set to 16 bits for the NEC Express5800/ft series.

The server rarely displays the following message when accessing a floppy disk and becomes unable to access the floppy disk. The default color quality is 16 bit to prevent that from happening.

The volume does not contain a recognized file system. Please make sure that all required file system drivers are loaded and that the volume is not corrupted.

Even if this message is displayed and the server becomes unable to access the floppy disk, the processing completes by accessing the floppy disk again.

If you need to change the color quality to 32 bit knowing this limitation, apply a special graphic driver as described below:

1. Log on to Windows Server 2003 as a user with administrator authority.
2. Set the “NEC EXPRESSBUILDER” CD into the CD-ROM drive.
3. From the Start menu, select [Run...].
4. Enter “D:\HAS\W2K3\GA32SET.BAT” in the “Open” box (replace “D” with the drive letter of the CD-ROM drive), and click [OK].

Then, restart the server.

To change the color quality to the standard (16 bit), perform the above steps but run “GA16SET.BAT” in (4) instead of “GA32SET.BAT.”

## 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.

## Cautions for Applying Windows Service Pack

Do not use your own judgment and apply the Windows Service Pack to the NovaScale/Fault Tolerant Server series.

---

**IMPORTANT:**

If you want to apply service packs, contact your sales agent about the application status, and apply service packs to NovaScale/Fault Tolerant Server series.

---

## About Windows Update (Applying Security Patches)

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

- Under a support policy for security patches and QFE on NovaScale/Fault Tolerant Server series, security patches released by Microsoft are categorized into the following levels according to their importance:
- **IMPORTANT Patches (Considered as IMPORTANT and requiring immediate application):** Tests will be performed upon publication of new patches and the results will be informed to our 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 our 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 our sales agents.

Contact your sales agent if you have any questions or concerns regarding Windows Update.

# Chapter 6

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## Troubleshooting

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

## SYSTEM REPAIR

If the system cannot be operated for some reason, use Recovery Console to restore the system. However, this method is only recommended to users or administrators who have good knowledge of the system.

When you have restored a damaged file by using Recovery Console, always update the system as described later in this chapter.

### IMPORTANT:

If hard disks cannot be recognized, the system cannot be repaired.

### Cautions for using the Windows Server 2003 Recovery Console

To use the Recovery Console in a system where the system store disk is a dynamic disk, the following settings need to be configured beforehand.

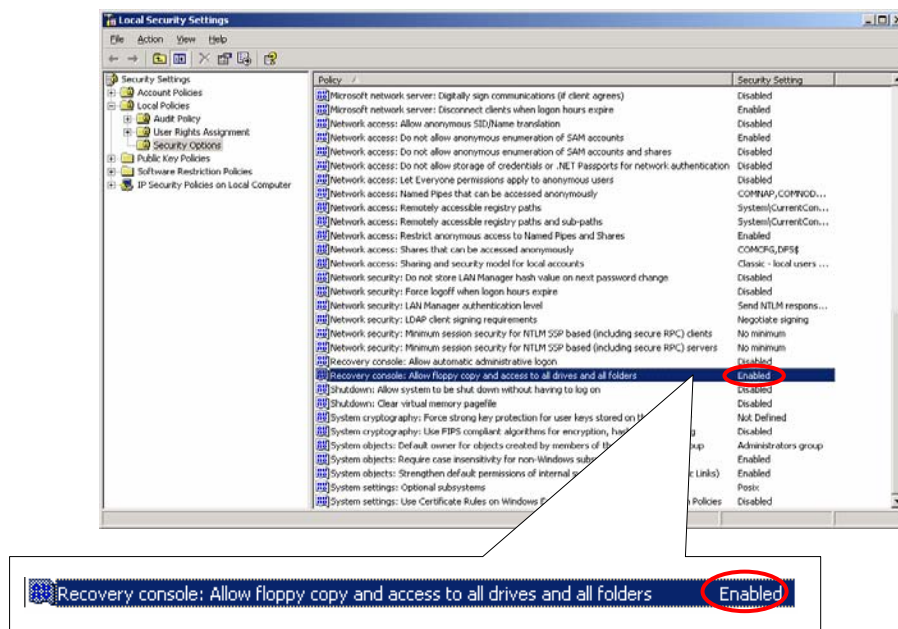
If these settings are not done, the files on the hard disk cannot be updated on the Recovery Console, and the message “Access is denied” appears.

#### 1. “Local Security Policy” setting

### IMPORTANT:

This setting should be made in advance on the Windows Server 2003.

- Start Windows Server 2003, and log on as a user with the administrator authority.
- From the Start menu, select [Administrative Tools] and select [Local Security Policy].
- Select [Local Policies] and then select [Security Options] in the left pane of the [Local Security Settings] window.
- Double-click [Recovery console: Allow floppy copy and access to all drives and all folders] in the right pane, and enable the Security Setting.



#### 2. Environment variable “AllowRemovableMedia” setting

### IMPORTANT:

This setting is made on the Windows Server 2003 Recovery Console when the Windows Server 2003 Recovery Console is in use. This should be set every time the Recovery Console is started.

- Start the Windows Server 2003 Recovery Console.  
For how to start the Recovery Console, see “Preparation” (page 6-3) and “Starting up Recovery Console” (page 6-5).

- (b) Log on to the Recovery Console, and execute the following command.  
(The default is FALSE)  
set AllowRemovableMedia = TRUE

**IMPORTANT:**

- The dynamic disk can be written from the Windows Server 2003 Recovery Console once the setting shown above is made.
- By default, the Windows Server 2003 Recovery Console is not allowed to write data from the basic/dynamic disk to a floppy disk. It becomes however possible once the setting shown above is made (copy, access).

Default setting:

Write (copy, access)		Basic disk	Dynamic disk
Copy From	Copy To access destination		
HDD	HDD	Copy available	Copy not available
FD	HDD	Copy available	Copy not available
CD	HDD	Copy available	Copy not available
CD	FD	Copy not available	Copy not available
HDD	FD	Copy not available	Copy not available



After the setting:

Write (copy, access)		Basic disk	Dynamic disk
Copy From	Copy To access destination		
HDD	HDD	Copy available	Copy available
FD	HDD	Copy available	Copy available
CD	HDD	Copy available	Copy available
CD	FD	Copy available	Copy available
HDD	FD	Copy available	Copy available

Note: HDD : Hard disk (SystemDrive, SystemRoot only)  
FD : Floppy disk  
CD : CD-ROM

## Preparation

You need a support disk, “Windows Server 2003 OEM-DISK for EXPRESSBUILDER” to start up the Recovery Console. Have “Windows Server 2003 OEM-DISK for EXPRESSBUILDER” ready before starting the Recovery Console.

### If you do not have a computer that runs Windows Server 2003 or Windows 2000/XP/NT.

Follow the steps below to create a “Windows Server 2003 OEM-DISK for EXPRESSBUILDER”:

1. Prepare a 3.5-inch floppy disk.
2. Power on the peripherals and then NovaScale/Fault Tolerant Server series.
3. Disable the configuration for boot monitoring function.

In the BIOS setup, select [Server] - [Monitoring Configuration] - [Boot Monitoring] and choose “Disabled.”

See “Step 3: Disable Boot Monitoring Function” (page 4-9) for details.

4. Insert the EXPRESSBUILDER CD-ROM into the drive of the server.
5. Then, reset (pressing **Ctrl + Alt + Delete**) or power off/on NovaScale/Fault Tolerant Server series to reboot it.  
The system will start up from the CD-ROM to start EXPRESSBUILDER.
6. From the [Tools] menu, select [Create Support Disk].
7. From the [Create Support Disk] menu, select [Windows Server 2003 OEM-DISK for EXPRESSBUILDER].
8. Follow the instructions on the screen to insert the floppy disk.  
“Windows Server 2003 OEM-DISK for EXPRESSBUILDER” will be created on the floppy disk. Write-protect and place a label on the disk and keep it in a safe place.

---

**IMPORTANT:**

Enable the configuration for boot monitoring function to deploy the system without performing the system repair which uses the Recovery Console. In the BIOS setup, select [Server] - [Monitoring Configuration] - [Boot Monitoring] and set appropriate time. See “Step 12: Enable Boot Monitoring Function” (page 4-33) for details.

---

**If you have a computer that runs Windows Server 2003 or Windows 2000/XP/NT.**

You can also create a “Windows Server 2003 OEM-DISK for EXPRESSBUILDER” by following the steps below:

1. Prepare a 3.5-inch floppy disk.
2. Insert the EXPRESSBUILDER CD-ROM into the drive of a computer that runs Windows Server 2003 or Windows 2000/XP/NT.
3. From [Setup], select [Make OEM-Disk].
4. Follow the instructions on the screen to insert the floppy disk.  
“Windows Server 2003 OEM-DISK for EXPRESSBUILDER” will be created on the floppy disk. Write-protect and place a label on the disk and keep it in a safe place.



## Starting up Recovery Console

You can start up Recovery Console in two ways:

- Start up Recovery Console installed on the system.
- Start up Recovery Console from the Windows Server 2003 CD-ROM.

### ■ Installing Recovery Console on the system

1. Start up the NovaScale/Fault Tolerant Server series and log on to Windows Server 2003.
2. Insert the Windows Server 2003 CD-ROM into the drive.
3. From [Start] of the taskbar, select [Run...] to run.  
CD-ROM drive:\i386\winnt32.exe /cmdcons /syspart:c: /tempdrive:c:
4. Follow the messages that appear on the screen to continue.

### ■ Starting up the Recovery Console

1. Disable the boot monitoring function.

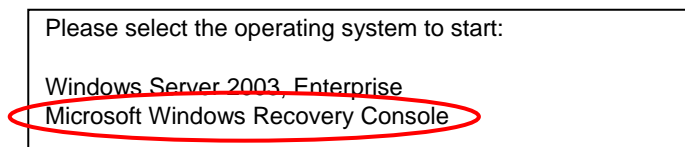
Select [Server] - [Monitoring Configuration] - [Boot Monitoring] and choose “Disabled”.

See “Step 3: Disable Boot Monitoring Function” (page 4-9) for details.

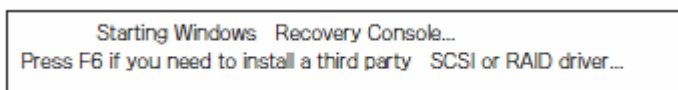
2. Power on the system.

#### <When starting up Recovery Console installed on the system>

- (a) Select Microsoft Windows Recovery Console in “Please select the operating system to start:”

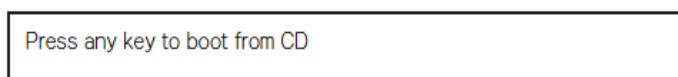


- (b) When the following message appears on the screen press **F6** quickly.



#### <When starting Recovery Console from Windows Server 2003 CD-ROM>

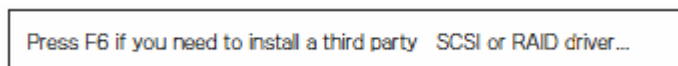
- (a) Insert the Windows Server 2003 CD-ROM into the drive.
- (b) When the CD is set, reset the system (press **Ctrl + Alt + Delete**) or press the power switch to power off and on to reboot the NovaScale/Fault Tolerant server series.
- (c) When the following message appears, press any key to start up from the CD-ROM.



#### IMPORTANT:

Press any key while the message is displayed. Otherwise the system will be started up from a hard disk and Recovery Console will not be started.

- (d) When the following message appears on the screen, press **F6** quickly.



3. When the screen to select SCSI drivers appears, follow the steps below.

- (a) Press the **S** key.

Setup could not determine the type of one or more mass storage devices installed in your system, or you have chosen to manually specify an adapter. Currently, Setup will load support for the following mass storage device(s):

<none>

\* To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disks from a mass storage device manufacturer, press S.

\* If you do not have any device support disks from a mass storage device manufacturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER.

- (b) Insert the “Windows Server 2003 OEM-DISK for EXPRESSBUILDER” into the floppy disk drive, and then press **Enter**.

Please insert the disk labeled  
Manufacture-supplied hardware support disk  
into Drive A:

\* Press ENTER when ready.

- (c) Select all SCSI adapter list in the floppy disk and then press **Enter**.  
[Adaptec Ultra320 SCSI Cards (WinXP/Server 2003 IA-32)]

- (d) When the following screen appears, press the **S** key.

The driver you provided seems to be newer than the windows default driver.

Windows already has a driver that you can use for  
\*Adaptec Ultra320 SCSI Cards (WinXP/Server 2003 IA-32)\*.

Unless the device manufacturer prefers that you use the driver on the floppy disk, you should use the driver in Windows.

- (e) When the following screen appears, remove the floppy disk from the floppy disk drive and press the **Enter** key.

Setup will load support for the following mass storage device(s):

Adaptec Ultra320 SCSI Cards (Win XP/Server 2003 IA-32)

Setup will load support for the following mass storage device(s);

Continue the operations by following the messages.

4. When you start up Recovery Console from Windows Server 2003 CD-ROM, the following message appears. Press the **R** key to boot Recovery Console.

Welcome to Setup.

This portion of the Setup program prepares Microsoft(R) Windows(R) to run on your computer.

- To set up Windows now, press ENTER.
- To repair a Windows installation using Recovery Console, press R.
- To quit Setup without installing Windows, press F3.

---

**IMPORTANT:**

- The message shown above does not appear when you have started up the Recovery Console installed on the system.
- 

5. Follow the messages on the screen to start up the Recovery Console.

---

**IMPORTANT:**

- When you restored a damaged file using the Recovery Console, update the system described in the next section.
  - If you run the system without restoring files, enable the boot monitoring function. When necessary for system operation, select [Server] - [Monitoring Configuration] - [Boot Monitoring] and set appropriate time. See “Step 12: Enable Boot Monitoring Function” (page 4-33) for details.
  - To write data to a dynamic disk, the settings described in “Cautions for using the Windows Recovery Console” in “System Repair” need to be configured in advance. For more information, see “Cautions for using the Windows Recovery Console” in “System Repair.”
-

---

## Updating the System

---

### IMPORTANT:

NovaScale/Fault Tolerant Server series is a precision instrument. You should ask maintenance personnel to update the system.

---

You will need to update the system after you repair the system using Recovery Console.

---

### IMPORTANT:

- Make sure to follow the steps below when you have restored the system by using Recovery Console.
  - Check the configuration for boot monitoring function.  
If [Boot Monitoring] selected in [Monitoring Configuration] of [Server] is not set to “Disabled”, disable it. See “Step 3: Disable Boot Monitoring Function” (page 4-9) for details.
  - When updating the system, considerations on the Power and Screen Saver settings are required.  
If the following settings are enabled when updating the system, the process may stop or the system update may not be applied properly. Disable the settings by clearing the checkboxes before updating the system. Reconfigure the following settings as necessary afterwards.
    - Settings of Screen Saver
    - Power Schemes (Turn off monitor, Turn off hard disks)
    - Hibernation (enable Hibernation)
- 

1. Log on to the system with OS installed as user with Administrative account.
- 

### IMPORTANT:

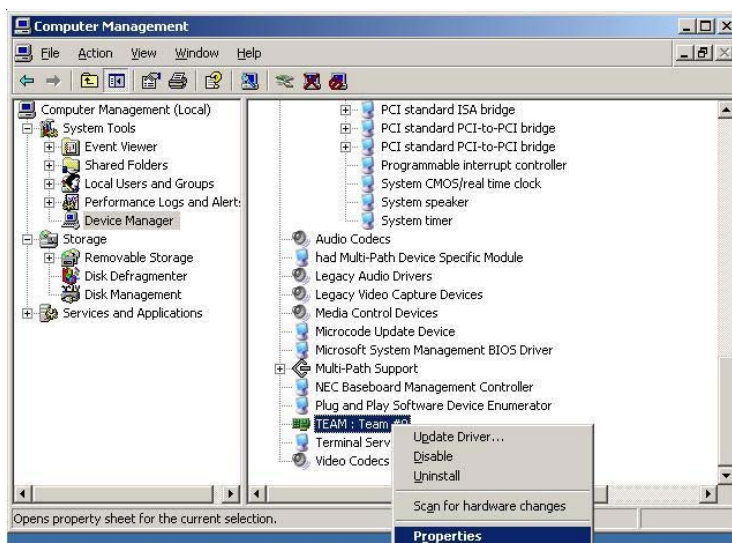
Check that the dual system is configured properly (Check that the FT STATUS LED on the front panel of the server lights green. See page 4-7 for location of the STATUS LED).

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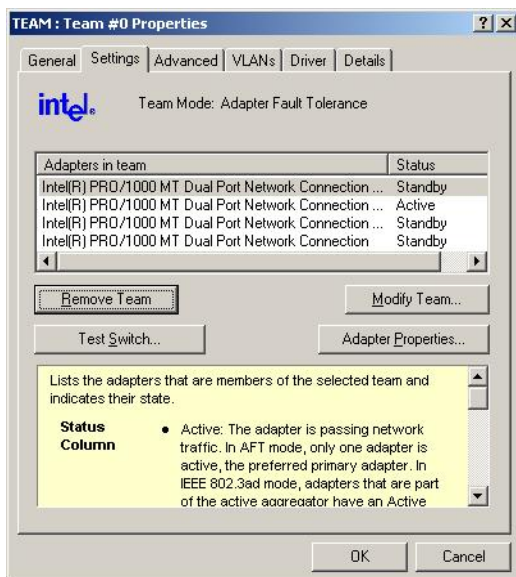
2. Remove duplications of all the LANs for both onboard and option boards.

When dual LAN is disabled, a setup of LAN will be deleted. Note down the setup information.

- (a) Start Device Manager.
- (b) Select the team adapter that you want to cancel duplication, and select [Properties] from the menu displayed by right-click, to display the Properties window.



- (c) Select the [Settings] tab in the Properties window, and click [Remove Team].



- (d) The confirmation dialog will be displayed. Click [Yes].



3. Follow the steps below to update the system:

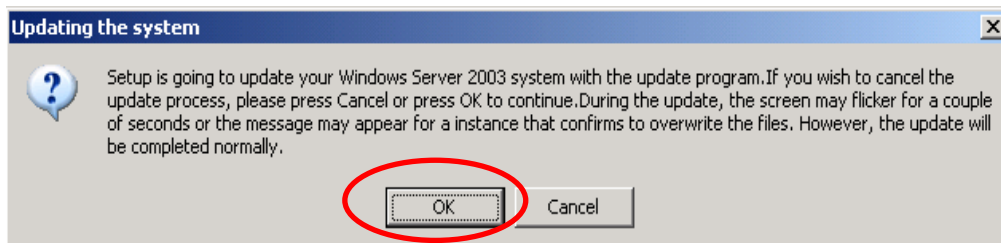
Do not input or output data during the update process.

- After logging on to the system as a user with the Administrative account, insert EXPRESSBUILDER CD-ROM into the drive of the server.
- When the “Master Control Menu” screen appears, click [Setup] and click [Update Express5800 system] on the menu.

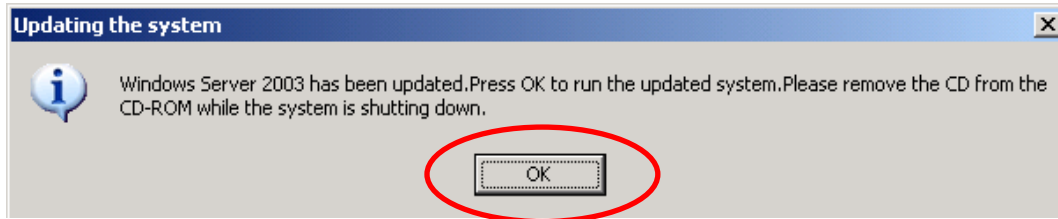
4. When the dialog box for confirmation of executing system update appears, click [OK].

The system update will start.

Follow the instructions.



5. After the system update is completed, the dialog box below will be displayed. Click [OK].  
The system will be rebooted. Eject a CD from CD-ROM drive after the reboot process starts.



---

**IMPORTANT:**

If the message, “Windows - FT Orphaning A disk that is part of a fault-tolerant volume can no longer be accessed” is displayed during the update process, an OS stop error may occur when restarting the OS. If an OS stop error occurs, Hold down the POWER switch, and turn off the system. In this case, the system will be successfully updated, however, disk mirroring is disabled. Make sure to check disk mirroring in 8. When “Found New Hardware” wizard appears at the reboot, click [Cancel]. If the same message appears again, click [Cancel] again.

---

6. Reinstall GeminiEngine Control Software.

Reinstall GeminiEngine Control Software referring to “Installing GeminiEngine Control Software” (page 6-11).

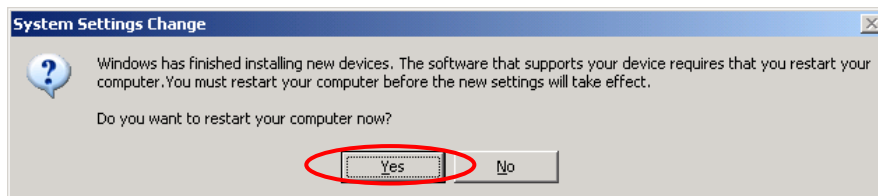
7. Check disk mirroring.

If the disk mirroring is disabled, enable the mirroring again. For the method to check disk mirroring, see “Step 6: Set Dual Disk Configuration.”

---

**IMPORTANT:**

- During disk re-synchronization, do not shut down the system until the resynchronization is completed.
- If the following dialog appears, confirm that the disk is mirrored and click [Yes] to restart the system.



- 
8. Reboot the system.  
9. After the system has rebooted, log on as a user with Administrative account.

---

**IMPORTANT:**

Check that the dual system is configured properly (confirm that the FT STATUS LED on the front panel of the server illuminates green. See page 4-7 for location of the STATUS LED).

---

10. Duplicate the LAN again for both onboard and option boards.

Refer to “Step 6: Set Dual LAN Configuration” on page 4-21 or “DUAL LAN CONFIGURATION” in Chapter 3 of the separate volume of User’s Guide. Reconfigure the LAN based on the memo you have taken.

11. When it is necessary for the system operation, enable [Boot Monitoring] selected in [Monitoring Configuration] of [Server]. See “Step 12: Enable Boot Monitoring Function” on page 4-33 for details.

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## Installing GeminiEngine Control Software

Install the GeminiEngine Control Software.

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### IMPORTANT:

- Terminate all programs before starting the installation.  
You must terminate all the programs because the software will not be installed successfully, especially when the Microsoft management console is running.
  - The LAN settings will be deleted during the installation. Write down these settings to reset the parameters after the installation as necessary.
  - Remove the dual LAN configuration before starting the installation.
- 

**1.** Follow the steps below to install GeminiEngine Control Software.

- a) After logging on to the system as a user with the Administrative account, insert the “EXPRESSBUILDER” CD-ROM into the CD-ROM drive of the server.
- b) When the “Master Control Menu” screen appears, click [Setup] and select [GeminiEngine Control Software] on the menu.

Follow the instructions to proceed with the installation. The message “GeminiEngine Control Software, Now Installing... Please Wait.” is displayed while GeminiEngine 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 CD from the CD-ROM drive once rebooting is started.

After the system is rebooted, log in again as the user logged in before rebooting. Installation of the GeminiEngine Control Software is continued.

**3.** The message “Installation finished.” is displayed.

Once installation is completed, the message “Installation finished.” is displayed and the rebooting starts.

Use the “GeminiEngine Control Software UPDATE CD-ROM” to update GeminiEngine Control Software: After installing the GeminiEngine Control Software, follow the procedure on the setup card attached to the “GeminiEngine Control Software UPDATE CD-ROM” and apply the update.

## TROUBLESHOOTING

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

### Problems with EXPRESSBUILDER

When the NovaScale/Fault Tolerant Server series is not booted from the EXPRESSBUILDER CD-ROM, check the following:

- ☐ Did you insert the EXPRESSBUILDER CD-ROM during POST and restart the server?
    - If you do not insert the EXPRESSBUILDER CD-ROM 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 CD-ROM drive first.
- <Menu to check: [Boot]>

When an error occurs while the EXPRESSBUILDER is in progress, the following message appears. After this message appears, check the error and take the appropriate corrective action according to the error codes listed in the table below.

Message	Cause and Remedy
This machine is not supported.	This EXPRESSBUILDER version is not designed for this server. Execute the EXPRESSBUILDER on the compliant server.
NvRAM access error	An access to the nonvolatile memory (NvRAM) is not acceptable.
Hard disk access error	The hard disk is not connected or it is failed. Check whether the hard disk is correctly connected.
Any device specific information does not exist on the mother board. Use [System Information Management] of 'Off-line Maintenance Utility' and list the backup information, or write the information. This operation should be executed only by maintenance personnel. Do you want to start the off-line maintenance utility?	This is displayed, if EXPRESSBUILDER can not detect the device specific information, when changing a motherboard, etc. Maintenance personnel should use the off-line maintenance utility and write the information.

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 message is displayed when the setup starts.

The specified disk is not found. Terminating SW

- The disk to install the system is not connected properly. Check if the hardware is properly installed and connected.

The following message is displayed while copying files from CD-ROM.

xxxxx : Not Ready xxxxxxxxxxxxxxxxxxxxxxxZ  
xxxxx(A), xxxxx(R), xxxxx(F)

- Press **R**. If this message still appears, perform the setup again. If the error persists, contact your sales agent to examine the CD-ROM drive.

**Failed to setup in detail for network adapter.**

- The detailed setup of network adapter is not available in setup of NovaScale/Fault Tolerant Server series. Open the control panel after starting Windows Server 2003 to configure the network adapter.

**Failed to install Windows Server 2003 correctly.**

- ☐ Have you checked instructions and information on installation?

- See “Step 1: Things Required for Setup” (page 4-4) and “Step 2: Prepare for Express Setup” (page 4-6).

**Rebooted during the setup.**

- See “Step 3: Disable Boot Monitoring Function” (page 4-9), and set the parameter of this machine’s boot monitoring function to correct value.

**GeminiEngine Control Software UPDATE CD-ROM is not included.**

- GeminiEngine Control Software UPDATE CD-ROM is used to update GeminiEngine Control Software; it may not be shipped with the equipment. (Not included if “EXPRESSBUILDER” CD-ROM contains the latest version of software programs at the time of shipment). For the latest release of GeminiEngine Control Software and purchase of the latest version of its GeminiEngine 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. (FT Status LED does not light 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 light amber.**

- ☐ Did you properly setup the duplex of HDDs?

- DISK Access LED will light amber, if a setup for duplex is not performed. (See “LEDs” in the separate User Guide for details about the indication status of LED.) See “Step 6: Set Dual Disk Configuration” 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 2 GB. 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”.

**Cannot specify a network path for the storage location of diagnosis information (collect log) in “Set Dr. Watson”.**

- You cannot specify a network path. Specify a path to a local computer.

**The Telnet Service is not installed.**

- Adjust the computer name to 14 characters or less, and then install the Telnet Service as explained below.

<How to install the Telnet Service>

1. Select [Run] from the Start menu.
2. Type “tlntsvr /service” in the [Open] box, and click [OK].
3. From the Start menu, point to [Control Panel], 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.

## About the Express Setup

The following message appeared when installation has been attempted by using a hard disk drive whose size is smaller than the specified partition size:

The specified partition size has exceeded the capacity of the hard disk. The setup created the partition at the maximum size that can be reserved on the hard disk. Setup will continue the process.

OK

→ The message does not mean there is a problem. Press the **Enter** key to continue the installation.

**The screen did not show image correctly while files were copied from the CD-ROM or the CD-ROM was being checked.**

→ Press the **R** key. If the problem persists after you have press the **R** key for several times, start the Express Setup from the beginning again. If you still see the same result, contact your service agent to check the CD-ROM drive.

**Automatic installation halted asking you to enter the setup information.**

→ The setup information you have configured is not correct. Enter correct values according to the message instructions. You do not need to cancel the installation. You may be required to press the **Enter** key again at the reboot at the end of a setup in Windows.

**[OK] appears on the [Role of Computer] window.**

→ When you click [Complete], in the rest of procedures, the default values of the Express Setup are automatically selected for the installation

<Default values>

Network protocol settings

Protocol: TCP/IP [DHCP specified]

Service: Selecting sharing files for Microsoft network and printer

Client: client for Microsoft networks

Component: SNMP

Application: ESM PRO Agent

**[OK] does not appear on the [Role of Computer] window.**

→ [OK] does not appear if the setup information file that has been created is loaded.

→ [OK] appears only when you have moved to the [Role of Computer] window. Once you have moved to the next window from the [Role of Computer] window, [OK] does not appear even if you use [Back].

**Entire disk area is used as the OS area though “Use Existing Partition” has been selected for “System Partition.”**

☐ Was there any partition other than the partition to be reused (except the maintenance area)?

→ If there was no area other than the partition to be reused, the entire area is reserved for Windows installation.

**The settings for joining a domain was made, but the server was installed as a member of a workgroup.**

→ Workgroup settings are made in the installation. Join a domain after the OS is started.

☐ Did you use any double-byte characters in the host name?

→ If you use any double-byte character in a host name on Windows Server 2003, joining a domain will fail. If you have failed joining a domain, select [System] from Control Panel to make settings to join a domain.

**Though a large value was specified for the partition size, it turned out when Windows started that the system partition created was 4095 MB.**

- ☐ Did you specify a value larger than the actual size of the area in the [Partition Size]?
  - If you want one partition for the entire area (except the maintenance area), select [All Area].
- ☐ Did you specify a value larger than 200 GB in the [Partition Size]?
  - Specify a value smaller than 200 GB in the [Partition Size].

**The cluster size is set to 512 bytes in the installation though installation was done on a partition whose size is 2 GB or greater by NTFS.**

- This is the specification of the Express Setup. If you want to perform installation with a cluster size other than 512 bytes, perform the manual setup.

**Windows started up with a different resolution than the resolution specified for display.**

- If the resolution you configured cannot be used, a resolution close to the one you specified or the default resolution will be used.

**A wrong product key has been entered.**

- Automatic installation begins even if you enter a wrong product key. However, the process stops during the automatic installation and you are asked to enter a product key. In this case, you are asked for entry at the reboot after the GUI setup in the automatic installation. If you successfully complete these two entries, entry of a wrong product key does not affect Windows setup.

**Detailed network adapter settings are not available.**

- You cannot make detailed network adapter settings in the Express Setup. Make the settings from Control Panel after starting up Windows.

**Windows started up with the network adapter settings that were not configured in the Express Setup.**

- Windows installs network adapters it recognizes and sets the default value to them. You can change the settings from Control Panel after Windows is started.  
When the Express Setup is performed but no adapter is actually connected, adapter settings will not be made, but protocols will be installed.

**Multiple network adapters have been installed with a different protocol set to each of them. However all protocols are set to all the adapters.**

- This is the specification, which makes all installed protocols available to each adapter. What cannot be configured by the Express Setup will have default values.

**When two or more network adapters have been set, the detailed settings of TCP/IP protocol are configured to use DHCP.**

- When two or more network adapters are set, protocol detailed settings may have default values. Configure the detailed settings from Control Panel.

**Default settings are used for the protocol detailed settings though not more than one network adapter is connected (for example, though IP address has been set to TCP/IP, DHCP is set).**

- ☐ Have you set two or more protocols?
  - In this case, the status is the same as the status where two or more network adapters are connected. Because of this default settings are used for the protocol detailed settings.  
Configure the detailed settings from Control Panel after the OS is started.

The event log below is recorded after executing Express Setup:

Source : HASSETUP  
 Type : Error  
 Event ID : 201  
 Description : HASSETUP: The module in one side is not recognized.

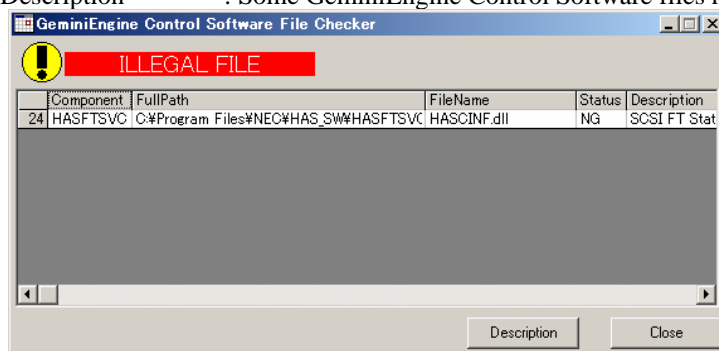
→ GeminiEngine Control Software is not properly installed because one of the CPU/IO modules could not be recognized during its installation. The possible reasons are:

- One of the CPU/IO modules is not mounted. (The screws that fix the removable handle of the CPU/IO module are not fastened properly, or the power is not supplied.)
- The CPU/IO module is faulty.

Take necessary actions such as checking the device status and mounting the CPU/IO module. Then, reinstall GeminiEngine Control Software with both CPU/IO modules mounted and the power supplied. For more information about installing procedure, see “Installing GeminiEngine Control Software” (page 6-11).

The event log below is recorded when starting the system, or the message “!ILLEGAL FILE” is displayed when logged on as a user who performed the installation.

Source : HASSETUP  
 Type : Warning  
 Event ID : 101  
 Description : Some GeminiEngine Control Software files have been illegally updated in the system.



→ Files of GeminiEngine Control Software installed on the system are updated to incorrect files. Refer to “Installing GeminiEngine Control Software” (page 6-11) and reinstall GeminiEngine Control Software.

→ If the “ILLEGAL FILE” message is displayed or only “adpu320.sys” is listed as invalid files in the event log, the SCSI driver file has been updated for some reason. In such a case, reinstallation of the entire GeminiEngine Control Software is not required. You only need to install the SCSI driver. For how to install it, refer to “SCSI Board” of the “Setup of Optional PCI Board” (page 8-38) in the separate User’s Guide.

If only “FC” is displayed as the component name, it may be that the dedicated driver has not been installed when the Fibre Channel board was mounted. See “Fibre Channel Board Set” of “Setup of Optional PCI Board” (page 8-39) in the separate User’s Guide.

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## **Problems with 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 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 ESMPRO Agent after the system is started completely.**

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

\* For installation procedure and detailed explanations on ESMPRO Manager, refer to the online document in the EXPRESSBUILDER CD-ROM.

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## Problems with System Repair

**“Press F6 if you need to install a third party SCSI or RAID driver...” was not displayed and there was no chance to enter F5 and F6 when “When starting Recovery Console from Windows Server 2003 CD-ROM” was performed.**

- Did you press any key when the message “Press any key to boot from CD” is displayed on top of the screen?
  - Start-up from Windows Server 2003 CD-ROM is required to start the Recovery Console from Windows Server 2003 CD-ROM. Press any key while the message “Press any key to boot from CD” is displayed on the screen. You cannot start the Recovery Console from the CD-ROM unless the any key is pressed while the message is being displayed. Restart the system when it does not start from CD-ROM and the message “Press F6 if you need to install a third party SCSI or RAID driver...” is not displayed. See “Starting up Recovery Console” in “SYSTEM REPAIR” in this chapter to start again.

**The screen turns out to be black for a while when booting the Recovery Console.**

- If you start the Recovery Console that is installed in the system, the screen turns out to be black for a while when booting the Recovery Console. Since the system is normally working, please wait for a while.

**When the system’s update is being processed, Operating System Stop Error occurred at the system reboot.**

- During the system update process, the message “Windows-FT Orphaning A disk that is part of a fault-tolerant volume can no longer be accessed” is displayed, and there is sometimes a case that OS Stop Error occurs on a reboot after this process. See IMPORTANT of step 6 in “Updating the System” in this chapter when OS Stop Error occurs, and reboot the system. In addition, the system’s update is successfully being performed when the message “Windows-FT Orphaning A disk that is part of a fault-tolerant volume can no longer be accessed” is displayed. However, the mirroring of HDD is not applied. Make sure to check the hard disk’s mirroring after the system start-up.

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