

# SIGMABLADE



N8405-024F  
Blade Enclosure (SIGMABLADE-H)  
User's Guide

855-900677-A  
PN# 456-01750-000  
2008 Apr. 2nd Edition

**Note**

Read this guide carefully before using this product.  
Always keep this guide at hand so that you can see it when necessary.

## FCC COMPLIANCE

This product 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 device is operated in a commercial environment. This device 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 device 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.

### Warning

To meet FCC rule, use the following rack with front and rear doors in place and closed.  
Never operate without doors and under doors are opened.

APC "NetShelter® VX 42U Enclosure w/Sides Black" [AR2100BLK]

## CE and C-Tick STATEMENTS

### Warning

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

## Trademarks

NEC EXPRESSBUILDER and NEC ESMPRO, NEC DianaScope, EXPRESSSCOPE, NEC ExpressCluster, SigmaSystemCenter, WebSAM, DeploymentManager and VALMOWare Network Manager are trademarks or registered trademarks of NEC Corporation.

Microsoft, Windows, Windows Server, Internet Explorer, .NET Framework are trademarks or registered trademarks of Microsoft Corporation in the United States and other countries.

Intel and Pentium are registered trademarks of Intel Corporation.

HP-UX is a registered trade mark of Hewlett-Packard Company.

Wake on LAN is a trade mark or registered trademark of International Business Machines Corporation.

Java and all logos related to Java are trademarks or registered trademarks of Sun Microsystems, Inc.

Tomcat is a trademark or registered trademark of Apache Software Foundation.

Linux is a trademark or registered trademark of LinusTorvalds in the United States and other countries.

All other product, brand or trade names mentioned in this publication are the trademarks or registered trademarks of their respective companies.

Microsoft® Windows Server™ 2003, Standard Edition, Microsoft® Windows Server™ 2003, Enterprise Edition, Microsoft® Windows Server™ 2003, Datacenter Edition, Windows Server™ 2003, Standard x64 Edition, Windows Server™ 2003, and Enterprise x64 Edition are called Windows Server 2003 in short.

Microsoft® Windows Server™ 2003 R2, Standard Edition, Microsoft® Windows Server™ 2003 R2, Enterprise Edition, Microsoft® Windows Server™ 2003 R2, Datacenter Edition, Microsoft® Windows Server™ 2003 R2, Standard x64 Edition, Microsoft® Windows Server™ 2003 R2, Enterprise x64 Edition, Microsoft® Windows Server™ 2003 R2, and Datacenter x64 Edition are called Windows Server 2003 R2 in short.

Microsoft® Windows® 2000 Server operating system, Microsoft® Windows® 2000 Advanced Server operating system, Microsoft® Windows® 2000 Professional operating system are called Windows 2000 in short.

Microsoft® Internet Explorer is called Internet Explorer for short.

Java Runtime Environment is called JRE for short.

Names used with sample applications are all fictitious. They are unrelated to any existing product names, names of organizations, or individual names.

## Notes

- (1) No part of this manual may be reproduced in any form without prior written permission of NEC Corporation
- (2) The contents of this manual are subject to change without prior notice.
- (3) The contents of this manual shall not be copied or altered without prior written permission of NEC Corporation
- (4) All efforts have been made to ensure the accuracy of all information in this manual. If you find any part unclear, incorrect, or omitted in this manual, contact the sales representative where you purchased this product.
- (5) NEC assumes no liability arising from the use of this product, nor any liability for incidental or consequential damage arising from the use of this manual regardless of (4) above.

## Note

Keep this User's Guide handy for quick reference when necessary.  
 Make sure to read "Notes for safe handling." When you relocate the product, make sure to take this guide with the product.

## Notes for safe handling

This section provides information for using the product safely.

### SAFETY INDICATIONS

To use this product safely, follow the instructions in this User's Guide.  
 This guide explains components that pose a danger, types of dangers caused by failing to follow the instructions, and actions taken to prevent them; such components are labeled warning.

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

|  |   |
|--|---|
|  <b>WARNING</b> | Indicates there is a risk of death or serious injury. |
|  <b>CAUTION</b> | Indicates there is a risk of burn or injury.          |

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

|   |                    |  |  |
|---|--------------------|--|--|
|  | Attention          | This symbol indicates the presence of a hazard. An image in the symbol illustrates the hazard type.                          | (Example)<br><br>(Electric shock)     |
|  | Prohibited actions | This symbol indicates prohibited actions. An image in the symbol illustrates a particular prohibited action.                 | (Example)<br><br>(Do not disassemble) |
|  | Mandatory actions  | This symbol indicates mandatory actions. An image in the symbol illustrates a mandatory action to avoid a particular hazard. | (Example)<br><br>(Unplug)             |

Example of indications in this guide

| Symbol indicating attention   | Description of a danger   | Term indicating degree of danger |
|---|---|----------------------------------|
|    |   | <b>CAUTION</b>                   |
|   | Do not plug the cord into a nonconforming outlet.<br>Use wall outlets with specified voltage and power type. Failure to observe this caution could result in a fire or current leakage. |                                  |

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

### Attention

|   |   |   |  |
|---|---|---|--|
|  | Indicates the risk of electric shock.   |  | Indicates the risk of explosion.                         |
|  | Indicates the risk of injury due to a caught hand or finger.                  |  | Indicates the risk of smoke emission or fire outbreak.   |
|  | Indicates the risk of burn due to hot surface.                                |  | Indicates the risk of injury due to rotation of objects. |
|  | Indicates a general notice or warning that cannot be specifically identified. |   |  |

### Prohibited actions

|   |   |   |  |
|---|---|---|--|
|  | Indicates prohibition of disassembling or reconfiguring the unit. |  | Avoid using water or liquid nearby. If it spills on the card, there is a risk of electric shock or fire. |
|  | Do not touch with wet hands. There is a risk of electric shock.   |  | Indicates notice of general prohibition.   |

### Mandatory actions

|   |   |   |   |
|---|---|---|---|
|  | Indicates instructions to pull power plug from outlet and to turn off main circuit breaker. |  | Indicates required general actions for operators. |
|---|---|---|---|

# Precautions for safety

Observe the precautions for safety described in this section. The blade enclosure (SIGMABLADE-H) on which this card is installed has power units. Carefully use them to avoid any electric shock.

## General precautions

|  <b>WARNING</b>  |  |
|---|--|
|    | <p><b>Do not use this product for services where critical high availability may directly affect human lives.</b></p> <p>This product is not intended to be used with or control facilities or devices concerning human lives, including medical devices, nuclear facilities and devices, aeronautics and space devices, transportation facilities and devices; and facilities and devices requiring high reliability. NEC assumes no liability for any accident resulting in personal injury, death, or property damage if this product has been used in the above conditions.</p> |
| <br><br> | <p><b>Do not disassemble, repair, or alter this product.</b></p> <p>Never disassemble, repair, or alter this product on any occasion other than described in this manual, otherwise it may cause an electric shock or fire as well as malfunctions of this product.</p>  |
|    | <p><b>Do not use this product if any smoke, odor, or noise is present.</b></p> <p>If smoke, odor, or noise is present, immediately turn off the POWER of the CPU blades and disconnect the power plug from the outlet, then contact your sales representative. Using this product in such conditions may cause a fire.</p>   |
| <br>  | <p><b>Do not insert a wire or metal object.</b></p> <p>Do not insert a wire or metal objects into a vent or a slot. There is a risk of electric shock.</p>   |
|    | <p><b>Do not install or remove multiple CPU blades at the same time.</b></p> <p>Install or remove CPU blades one at a time. If you install or remove two or more CPU blades, or install a CPU blade while the cover of another slot is removed, there is a risk of electric shock.</p>   |



## CAUTION



### **Prevent water or foreign objects from the product.**

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



### **Connect firmly.**

Connect interface cables, option boards, and modules to the CPU blade securely. Install the card securely on the blade enclosure. Failure to connect or install securely may result in poor contact that can cause a fire or smoke.



### **Do not use any unauthorized interface cable.**

Use only the interface cable that comes with this product. Use of an unauthorized interface cable may cause a fire when the electric current exceeds the rated flow. Also, observe the following to prevent an electric shock or fire caused by a damaged cord.



### **Do not touch the fan blades when moving.**

Keep your hands or hair away from the cooling fans on the rear of the blade enclosure; otherwise they may get caught in the fan, resulting in injury. Do not insert an object in the fan. Doing so may cause personal injury as well as the malfunction of the device.



### **Do not touch the heated objects.**

Immediately after the blade enclosure is powered off, components in the blade enclosure and CPU blades are very hot. Leave the blade enclosure until those components fully cool down before installing/removing any component. In addition, hot air is exhausted from the power supply fan. Keep your face and hands away from the air outlet.



### **Avoid contact with the blade enclosure during thunderstorms.**

Disconnect the power plug from the outlet when a thunderstorm is approaching. If it starts thundering before you disconnect the power plug, do not touch any part of the blade enclosure including the cables, otherwise it may cause a fire or an electric shock.



### **Keep animals away.**

Keep animals away from the product. Animal waste or hair may get inside the product, causing a fire or electric shock.



### **Do not use a cellular phone or pager near the product.**

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

## Power Supply and Power Cord



### WARNING



#### **Do not hold the power plug with wet hands.**

Do not disconnect/connect the plug while your hands are wet, otherwise it may cause an electric shock.



#### **Do not connect the protective earthing conductor to a gas pipe.**

Never connect the protective earthing conductor to a gas pipe; otherwise it may cause a gas explosion.



### CAUTION



#### **Plug into a proper power source.**

Use a proper wall outlet. Use of an improper power source may cause a fire or a leak. Do not install the blade enclosure where you need an extension cord. Use of a cord that does not meet the power specifications of the blade enclosure may heat up the cord and cause a fire. The maximum power consumption per power unit is 3000 VA. Note the capacity of a power unit when it is connected to CPU blades.



#### **Do not connect many loads on one electrical outlet.**

The electric current exceeding the rated flow overheats the outlet, which may cause a fire.



#### **Place the power supply tap in a place where it is noticeable and easy to access.**

Place the power supply tap in a place where it is noticeable and easy to access so that power can be shut off in emergency.



#### **Insert the power plug completely.**

Heat generation resulting from a halfway inserted power plug (imperfect contact) may cause a fire. Heat will also be generated if condensation is formed on dusty blades of the halfway inserted plug, increasing the possibility of fire.



#### **Use the proper power cord only**

Use of an improper power cord may cause a fire when the electric current exceeds the rated flow. Also, observe the following to prevent an electric shock or fire caused by a damaged cord.

- Do not stretch the cord harness.
- Do not pinch the power cord.
- Do not bend the power cord.
- Keep chemicals away from the power cord.
- Do not twist the power cord.
- Do not place any object on the power cord.
- Do not bundle power cords.
- Do not alter, modify, or repair the power cord.
- Do not secure the power cord with staples or equivalents.

Do not use any damaged power cord. (Replace a damaged power cord with a new one of the same specifications. Ask your sales representative for detailed information on power code.)

## Installation and handling of the rack



**WARNING**



### **Install the server rack ONLY in a specified or designated environment**

Do not install the rack on which the blade enclosure is installed in an unsuitable place.

Other devices installed on the blade enclosure or the rack may be affected, a fire may occur, or the rack may fall, causing injury. For details about installation environment and quake-resistant engineering, see the manual attached to the rack or contact your maintenance service agent.



### **Do not install the blade enclosure in a non-conforming rack**

Install the blade enclosure in a 19-inch rack conforming to the EIA standard. Do not install the blade enclosure in a nonconforming rack, otherwise devices on the blade enclosure may not function properly, and there is a risk of injuries or damage to physical assets. For more information about suitable racks on which the blade enclosure can be installed, contact your sales representative.



### **Set up noise treatment**

The blade enclosure may emit loud noises from fans when it is operating. It is recommended to install the blade enclosure in a dedicated room that is distant from people. Arrange acoustic noise treatment such as partitions if you work near the operating blade enclosure for a long period of time.



## CAUTION



### **Do not carry or install alone.**

Carry or install a rack with two or more people. If the rack is carried by one person, the rack may fall and cause injury or damage to physical assets. A tall rack such as a 44 U rack, in particular, is unstable if it is not fixed by stabilizers. Make sure to support the rack with two or more people to carry and/or fix it.



### **Do not install the rack in such a manner that weight is imposed on a single spot.**

Avoid concentration of weight loads of the rack and units installed on a single spot. Use stabilizers or connect two or more racks to balance loads. If not, the rack may fall over and cause injury.



### **Do not carry or remove parts alone.**

Do not work alone to install or remove a part such as a rack door and tray. The part may fall and be damaged, and there is a risk of injury.



### **Use a lifter to install a unit.**

Use a lifter to install/remove a unit. Otherwise, the unit may fall and be damaged, and there is a risk of injury especially when you are working with a tall rack (such as 44U rack).



### **Do not pull out a unit when the rack is not stabilized.**

When you pull out a unit from the device, make sure that the rack is fixed (by using stabilizers or quake-resistant engineering).



### **Do not pull out two or more units from the rack at the same time.**

When two or more units are pulled out from the rack, the rack may fall over. Pull out one unit at a time.



### **Do not install excessive wiring beyond the rated power supply.**

To prevent burns, fires, and damage to the rack, 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.



**WARNING**



**Separate the blade enclosure into two components and carry each component with two or more people.**

When you want to carry the blade enclosure, separate the rear cage from the module to make the blade enclosure into two components. With no modules such as a CPU blade or power unit installed, the enclosure and the rear cage weigh 35.5kg and 31.5kg respectively. Carrying the enclosure or rear cage alone may result in injury. Carry the enclosure/rear cage with two or more people and firmly hold the handles of the enclosure or any designated areas. Do not carry the blade enclosure if any module, such as a CPU blade or power unit, is installed.



**Do not install the blade enclosure in a place other than specified.**

Do not install the blade enclosure in a place other than specified in this guide. Avoid the following locations. There is a risk of fire.

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



**Do not use or store the blade enclosure in a corrosive environment.**

Avoid using or storing the blade enclosure in an environment which may be exposed to corrosive gases, such as those including but not limited to: sulfur dioxide, hydrogen sulfide, nitrogen dioxide, chlorine, ammonia and/or ozone. Avoid installing the blade enclosure in a dusty environment or a place that may be exposed to corrosive materials such as sodium chloride and/or sulfur.

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

Such environments may cause corrosion or short circuits within the blade enclosure, resulting in damage to the blade enclosure and possibly a fire hazard.

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



**Do not use the blade enclosure with its covers and fan units removed.**

Do not use the blade enclosure with its covers and fans removed. If you use the blade enclosure without them, the cooling efficiency inside the blade enclosure degrades, causing malfunction. Also, dust may get in and cause a fire or electric shock.



**Be careful not to hurt your fingers.**

Take precautions to avoid pinching your fingers when installing or removing the blade server on or from the rack.



**Be careful not to drop the blade enclosure.**

Firmly hold the handles on both sides of the blade enclosure to install or remove it on the rack. Since brackets on the rack have no mechanism to prevent the device from falling off, such as a stopper or lock, pulling a device fully out of the rack can result in the device falling and causing injury. When you install or remove the blade enclosure, hold the handles on both sides firmly or use a lifter.



## WARNING



### **Do not impose loads on the blade enclosure while it is pulled out of the rack.**

Do not impose loads on the top of the blade enclosure while it is pulled out from the rack. The frame may be damaged, and you may not be able to install the blade enclosure on the rack. There is a risk of the blade enclosure falling and causing injury as well.



### **Do not cover ventilation openings.**

Do not cover ventilation openings of the blade enclosure. Additionally, do not cover rack openings. If they are covered, the temperature of devices on the blade enclosure may rise, which may result in a fire.



## CAUTION



### **Do not leave the blade enclosure pulled out of the rack.**

Do not operate or perform maintenance with the blade enclosure pulled out. Since the brackets on the rack have no mechanism to prevent the blade enclosure from falling off, such as a stopper or lock, pulling the blade enclosure fully out of the rack can result in the blade enclosure falling and causing injury.



### **Do not hold any installed module or power unit cover.**

When you carry the blade enclosure, do not hold any installed module or power unit cover. Because they are movable, you might drop the blade enclosure if you hold them.



### **Wear a wrist strap to eliminate static electricity.**

Installed modules and peripheral devices contain parts that are sensitive to electrostatic discharge. Wear a wrist strap to eliminate static electricity when you install or remove the modules or peripheral devices or connect interface cables.

---

## Failure action

|  <b>WARNING</b> |  |
|--|--|
|                 | <b>Failure action.</b>   |
|                 | When the device fails, shut off the branch circuit breaker of the power distribution board, unplug the device, and contact your sales maintenance personnel. |

---

## Disposal

|  <b>CAUTION</b> |   |
|--|---|
|                 | <b>Lithium battery.</b>   |
|                 | The EM card installed on the blade enclosure uses a lithium battery (the battery is not replaceable). Contact your NEC sales representative before disposing the EM card. |
|                 | <b>Disposal and recycling.</b>  |
|  | Contact your NEC sales representative before disposal, collection, or recycling of the device.  |

---

## Maintenance, cleaning and handling of internal devices

|  <b>WARNING</b> |  |
|--|--|
|                 | <p><b>Do not place your hands inside the blade enclosure.</b></p> <p>Do not place your hands inside the blade enclosure when you install or remove it. There is a risk of electric shock. Do not remove the cover attached to the blade enclosure except when necessary, such as when installing a device. Installation/removal of a device should be done one by one.</p> |

|  <b>CAUTION</b>  |   |
|---|---|
| <br><br> | <p><b>Unplug power cords before maintenance.</b></p> <p>Before maintenance, power off all devices installed on the blade enclosure and unplug the power cords. Even if devices are powered off, there is a risk of electric shock or fire as well as malfunction when maintenance is performed on the devices on the blade enclosure with their power cords plugged in. Disconnect the power plugs from the outlet occasionally and clean the plugs with a dry cloth. Heat will be generated if condensation is formed on a dusty plug, which may cause a fire.</p> |

---

## During operation

|  <b>CAUTION</b>  |  |
|---|--|
| <br><br> | <p><b>Do not touch when it thunders.</b></p> <p>Unplug the power plugs when a thunderstorm is approaching. If it starts to thunder before you unplug them, do not touch the blade enclosure and cables. There is a risk of fire or electric shock.</p>               |
| <br>  | <p><b>Keep animals away.</b></p> <p>Keep animals away from the blade enclosure. Animal waste or hair may get inside the blade enclosure and cause a fire or electric shock.</p>  |
|    | <p><b>Do not pull out the blade enclosure from the rack while it is running.</b></p> <p>Do not pull out or remove the blade enclosure from the rack while a device on the blade enclosure is running. The device may malfunction, and there is a risk of injury.</p> |
|    | <p><b>Do not place any unfixed equipment on the top of the blade enclosure.</b></p> <p>To avoid the risk of personal injury or damage to the equipment, never place unfixed equipment on top of the blade enclosure.</p>   |

# Disposing of your used NEC product



**In the European Union**

EU-wide legislation as implemented in each Member State requires that used electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. When disposing of used NEC products, you should comply with applicable legislation or such terms which may have been agreed between NEC and your company regarding used products. The mark on the electrical and electronic products only applies to the current European Union Member States.

**Outside the European Union**

If you wish to dispose of used electrical and electronic products outside the European Union, please contact your local authority and ask for the correct method of disposal.

## Warning labels

Warning labels are placed in certain parts of the blade enclosure so that the user stays alert to possible risks that may arise.

(Do not remove or damage these labels).

If a label is missing, peeling off, or illegible, contact your sales representative.

For information on symbols in the labels, see "Safety indications" at the top of this document.

|   |   |
|---|---|
| <p style="text-align: center;"> <b>注▲意 CAUTION</b></p> <p>感電の危険があります。開かないでください。<br/>Risk of electric shock. Do not open.</p> <p>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。保守をする前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。<br/>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 power is down. Some internal components may still be operational on battery power. Refer to instruction manual for this system as well as options prior to maintenance.</p> <p>ボード及びオプション機器の接続の際は、必ずユーザーガイドを参照し、正しく接続してください。誤った接続は、故障や火災の原因となります。オプションの取り付け、取外し時は電源プラグをコンセントから抜き、外部装置と接続しているケーブルを外してください。<br/>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. Disconnect all AC power cords from both system and external peripherals prior to installing/removing options.</p> <p>蓋をはさんで、ぶつたりしないように注意してください。<br/>To avoid the risk of personal injury, be careful when accessing the inside of the system.</p> <p>ネジは本体内部へ落とさない様、十分ご注意ください。<br/>Do not drop any screws inside the system.</p> <p>危険が生じた際には全ての電源コードをコンセントから引き抜いてください。<br/>Disconnect all power plugs from the outlet if any hazard is presented.</p> | <p style="text-align: center;"> <b>警告 WARNING</b></p> <p>筐体およびリヤケースを移動または持ち上げる際は装置を空にして下さい。<br/>Empty enclosure and rear case before removing or lifting.</p> <p>身体への障害や設備への損害を及ぼす恐れがあります。装置はラックやレールブラケットに固定されていないため、取り付けや取り外しの際には装置を確実に保持して下さい。<br/>Risk of personal injury or damage to the equipment. You must adequately support the system shelf during installation and removal. It is not secured to the rack/frame or mounted on rails.</p> <p style="text-align: center;"><b>重量物注意</b><br/><b>WARNING : HEAVY ITEM</b></p> <p>ざっくり腰や落下防止のため移動の際は、必ずすべてのCPUファン、電源ユニットを取り外して重量を軽くして2人以上で、装置のハンドル部分をしっかりと持って作業を行ってください。<br/>To avoid the risk of personal injury or damage to the system, always remove all CPU blades and power supply units in order to reduce weight. Move the system with at least two or more people.</p> |
|---|---|

 **注意：複数受電**  
この機器は2系統以上の電源から受電する場合がある。サービスの前に切り離す電源系統数をマニュアルで確認の上、当該電源を切り離せ。

**CAUTION : MULTIPLE POWER SUPPLY SOURCES**  
This unit may have more than one power supply source. Before servicing, confirm with the manual the number of power sources to disconnect, and disconnect them.

**ATTENTION : ALIMENTATION ELECTRIQUE MULTIPLE**  
Cet appareil peut posséder plusieurs alimentations électriques. Avant toute intervention d'entretien, voir les manuels pour contrôler le nombre d'alimentations puis les débrancher.

067

# Handling precautions to use the device correctly

Observe the following precautions to use the blade enclosure device correctly. Failure to observe the precautions can result in malfunction or mechanical error.



Hint

About maintenance services

Diagnostic and maintenance services by personnel with expertise on maintenance of the blade enclosure are available.

- Blade enclosure

- Use a rack that allows installation of the blade enclosure.
- This product must be installed in a restricted access location.
- Make sure to install or remove parts, such as fan units, correctly when a module is installed or removed.
- Remove the dust on the exterior and fans located at the front and rear of the blade enclosure regularly. Regular cleaning prevents various failures from occurring.
- The voltage may drop momentarily due to lightning. It is recommended to use a device such as an uninterruptible power supply system to prevent this problem.

- Adding optional power supplies and other electronic parts

- These products are made of very static-sensitive parts. Eliminate static electricity before handling the products. Do not touch plug terminals or parts with your hands. Do not place the products directly on a desk.
- Do not use any optional devices other than those shipped with the blade enclosure or specified by NEC. Even if such optional devices can be installed on or connected to the blade enclosure, they may not work properly or can damage the blade enclosure.
- It is recommended to use genuine NEC products for optional devices. Some optional devices from other manufacturers are supported in the blade enclosure. However, services for repairing malfunctions or damage caused by them are provided at your expense, even in the warranty period.

# Contents

|  |    |  |    |
|--|----|--|----|
| Notes for safety handling .....  | 3  | Installing a switch module or<br>pass-through card.....  | 38 |
| SAFETY INDICATIONS.....  | 3  | Removing a switch module or<br>pass-through card.....    | 40 |
| Symbols and their descriptions used in<br>this User's Guide and warning labels ar<br>as follows: ..... | 4  | Installing a CPU blade.....                              | 41 |
| Precautions for safety .....   | 5  | Installable CPU blades.....                              | 45 |
| General precautions.....   | 5  | Installing a CPU blade.....                              | 46 |
| Power Supply and Power Cord.....   | 7  | Removing a CPU blade.....                                | 48 |
| Installation and handling of the<br>rack.....  | 8  | Assembling a full-height CPU<br>blade slot cover.....    | 49 |
| Installation, relocation and storag<br>of the blade enclosure.....                                     | 10 | Disassembling a full-height CPU<br>blade slot cover..... | 53 |
| Failure action .....   | 12 | Installing the EM card.....                              | 54 |
| Disposal.....  | 12 | Installing an EM card.....                               | 55 |
| Maintenance, cleaning and<br>handling of internal devices.....   | 13 | Removing an EM card.....                                 | 56 |
| During operation .....   | 13 | Installing a fan unit .....                              | 57 |
| Disposing of your used NEC product.....  | 14 | Installing a fan unit .....                              | 61 |
| Warning labels .....   | 14 | Removing a fan unit .....                                | 62 |
| Handling precautions to use the device corre<br>ctly .....   | 15 | Installing the front bezel .....                         | 63 |
| Preface .....  | 21 | Filter cleaning.....                                     | 63 |
| Overview .....   | 21 | Opening the front bezel.....                             | 64 |
| Accessories .....  | 21 | Closing the front bezel.....                             | 65 |
| Components .....   | 22 | Connecting cables .....                                  | 66 |
| Front view .....   | 22 | Front.....   | 66 |
| Rear view.....   | 23 | Local console.....                                       | 66 |
| Installation .....   | 24 | Rear.....  | 68 |
| Checking components .....  | 24 | EM serial console.....                                   | 68 |
| Installing the blade enclosure on a<br>rack.....   | 24 | EM console.....  | 69 |
| Check components to install.....   | 24 | LAN console.....   | 70 |
| Required Tools.....  | 25 | SFP connector (switch module).....                       | 71 |
| Installation Procedure .....   | 25 | SFP connector (pass-through card) .                      | 71 |
| Removing the blade enclosure<br>from the rack.....   | 29 | Power connector.....                                     | 72 |
| Installing a switch module or<br>pass-through card.....  | 31 | Installing cable clamps .....                            | 74 |
| Installable switch modules and<br>pass-through cards .....   | 32 | Removing a power cord form<br>a cable clamp.....         | 77 |
|  |    | Emergency power off (EPO) .....                          | 79 |
|  |    | Power supply tap.....                                    | 79 |
|  |    | Emergency power off switch.....                          | 80 |
|  |    | Power unit.....  | 81 |
|  |    | Installing a power unit.....                             | 84 |

|   |     |                                      |     |
|---|-----|--------------------------------------|-----|
| Removing a power unit.....                  | 85  | an user (EM card).....               | 108 |
| Power unit cover .....                      | 86  | Power unit settings (EM card).....   | 109 |
| Opening the power unit cover.....           | 86  | Verifying, backing up, and           |     |
| Closing the power unit cover .....          | 87  | restoring the EM card                |     |
| Moving the key box .....                    | 87  | configuration .....                  | 110 |
| Power on and off.....                       | 88  | DianaScope settings (EM card).....   | 112 |
| Powering on and off the blade               |     | Other settings (CPU blade) .....     | 112 |
| enclosure.....                              | 88  | Console connection to switch         |     |
| Powering on and off the blade               |     | module/pass-through card .....       | 112 |
| enclosure without uninterruptible           |     | Other settings                       |     |
| power supply system (UPS).....              | 88  | (switch module/through card).....    | 113 |
| Powering on and off the blade               |     | Checking operational status.....     | 114 |
| enclosure with uninterruptible              |     | Blade enclosure .....                | 114 |
| power supply system (UPS).....              | 89  | Fan unit.....                        | 114 |
| Powering on and off a CPU blade.....        | 90  | Power unit.....                      | 115 |
| Powering on and off a CPU                   |     | Updating the enclosure manager       |     |
| blade by its power switch.....              | 91  | firmware.....                        | 116 |
| Powering on a CPU blade                     |     | Setting EM firmware image .....      | 117 |
| by the blade enclosure .....                | 91  | Updating the EM firmware.....        | 118 |
| Powering on a CPU blade via a               |     | Password recovery .....              | 120 |
| network (switch module/pass-                |     | Replacing modules .....              | 121 |
| through card)/serial connector              |     | Switch module/pass-through card..... | 121 |
| (CPU blade).....                            | 91  | CPU blade .....                      | 122 |
| Powering on a CPU blade by the net          |     | EM card .....                        | 123 |
| work serial (COM) port of an EM card        |     | Fan unit.....                        | 125 |
| .....                                       | 92  | Power unit.....                      | 126 |
| Command-line interface (CLI) (EM card)..... | 97  | Command input Specifications.....    | 131 |
| Connecting a cable to a console.....        | 97  | How to start a CLI.....              | 131 |
| Starting a console .....                    | 97  | How to start.....                    | 131 |
| EM serial console (serial                   |     | Via the EM serial console .....      | 131 |
| connection) .....                           | 97  | Telnet/SSH .....                     | 132 |
| EM console (Telnet connection) .....        | 98  | How to enter a command .....         | 133 |
| EM console (SSH connection).....            | 98  | Basics .....                         | 133 |
| Initial settings .....                      | 99  | How to enter a command .....         | 133 |
| Date and time settings                      |     | Prompt.....                          | 134 |
| (EM card) .....                             | 99  | Key operation for entering a         |     |
| User settings (EM card).....                | 100 | command.....                         | 134 |
| Rack settings (EM card).....                | 101 | User account management.....         | 136 |
| Blade enclosure settings                    |     | Overview.....                        | 136 |
| (EM card) .....                             | 101 | Default user.....                    | 136 |
| Network settings (EM card) .....            | 103 | User account.....                    | 136 |
| SNMP settings (EM card).....                | 106 | Access right .....                   | 136 |
| Setting module access right for             |     | Administrator.....                   | 136 |

|  |     |                                       |
|--|-----|---------------------------------------|
| CLI additional user .....              | 137 | 62                                    |
| Commands .....                         | 138 | PING .....                            |
| Commands .....                         | 138 | Initializing the configuration data   |
| Command specification .....            | 147 | (restoring default values).....       |
| Description.....                       | 147 | Enclosure network commands.....       |
| General commands.....                  | 148 | Registering DNS servers.....          |
| Clearing the CLI terminal              |     | Registering addresses to allow IP acc |
| screen .....                           | 148 | ess .....                             |
| Terminating CLI .....                  | 148 | Registering SNMP trap                 |
| Displaying a help message.....         | 148 | destinations.....                     |
| Displaying command entry               |     | Disabling the IP-based access         |
| history .....                          | 149 | control function.....                 |
| Rack management commands .....         | 151 | Disabling the NTP functions.....      |
| Naming a rack.....                     | 151 | Disabling the functions for the       |
| Displaying a rack name .....           | 151 | SSH connection .....                  |
| Configuring the unique ID for the rack |     | Disabling the SNMP functions.....     |
| .....                                  | 152 | Disabling the SNMP TrapAck            |
| Displaying the rack unique ID.....     | 152 | functions .....                       |
| Displaying connection status of        |     | Disabling the functions for           |
| blade enclosures in the same           |     | Telnet connection.....                |
| rack.....                              | 152 | Enabling the IP-based access          |
| User management commands .....         | 154 | control function.....                 |
| Adding a user .....                    | 154 | Enabling the NTP functions.....       |
| Assigning a user (for CPU blades/swit  |     | Enabling the functions for the        |
| ch modules) .....                      | 154 | SSH connection .....                  |
| Assigning a user (for EM card) .....   | 155 | Enabling the SNMP functions.....      |
| Disabling a registered user.....       | 156 | Enabling the SNMP TrapAck             |
| Enabling a disabled user .....         | 156 | functions .....                       |
| Deleting users .....                   | 156 | Enabling the functions for Telnet     |
| Configuring a password .....           | 157 | connection .....                      |
| Registering a user contact             |     | Deleting a registered DNS             |
| information .....                      | 157 | server.....                           |
| Configuring a full user name.....      | 158 | Deleting a registered IP              |
| Configuring a password .....           | 159 | address.....                          |
| Configuring the access right.....      | 159 | Deleting a registered SNMP trap desti |
| Displaying registered users.....       | 160 | nation.....                           |
| Cancelling user assignment             |     | Configuring IP addresses.....         |
| (for CPU blade/switch module) .....    | 160 | Configuring a domain name .....       |
| Cancelling user assignment             |     | Configuring the default gateway.....  |
| (for EM card) .....                    | 161 | Configuring NTP refresh               |
| System management commands.....        | 162 | intervals .....                       |
| Forcefully disconnecting access to the |     | Configuring the IP address of the pri |
| EM serial console of switch module 1   |     | mary NTP server.....                  |

|   |     |  |     |
|---|-----|--|-----|
| Configuring the IP address of the secondary NTP server.....                   | 173 | Configuring a time zone .....  | 187 |
| Configuring the name of an SNMP community allowing the Get operation.....     | 173 | Displaying all information about configuration of the blade enclosure..... | 187 |
| Configuring the name of an SNMP community allowing the Get/Set operation..... | 174 | Displaying the configuration of the CLI auto termination function .....    | 188 |
| Configuring the name of an SNMP community allowing the Trap operation.....    | 174 | Displaying the configuration information in the CLI command format .....   | 188 |
| Configuring a SNMP contact .....  | 175 | Displaying date and time .....   | 190 |
| Configuring an SNMP location .....  | 175 | Displaying the configuration of the function to display events.....        | 190 |
| Configuring the blade enclosure location in the rack .....                    | 176 | Displaying the fan information .....                                       | 190 |
| Configuring the rack height.....  | 176 | Displaying the blade enclosure information.....                            | 193 |
| Configuring a SNMP TrapAck port number.....                                   | 177 | Displaying the power unit information.....                                 | 194 |
| Displaying the network settings.....  | 177 | Displaying the blade enclosure status .....                                | 196 |
| Displaying the SNMP settings .....  | 178 | Displays the blade enclosure temperature .....                             | 197 |
| SNMP Trap test.....   | 179 | Displaying the settings on the power management function.....              | 197 |
| Enclosure management command .....  | 180 | Displaying the EM card /EM firmware version.....                           | 198 |
| Downloading the configuration settings (restoration) .....                    | 180 | Updating EM firmware.....  | 198 |
| Switching active EM .....   | 181 | Uploading (backing up) the configuration information.....                  | 199 |
| Restarting the EM firmware.....   | 182 | Configuring the power saving mode.....                                     | 200 |
| Configuring the function to automatically terminate CLI.....                  | 182 | Configuring the maximum consumable power setting .....                     | 200 |
| Configuring date and time .....   | 182 | CPU blade management commands.....   | 202 |
| Configuring the function to display events .....                              | 183 | Power off CPU blades .....   | 202 |
| Configuring the asset tag of the blade enclosure .....                        | 184 | Power on CPU blades .....  | 202 |
| Configuring the machine serial number of the blade enclosure .....            | 184 | Resetting CPU blades.....  | 203 |
| Configuring the blade enclosure name.....                                     | 185 | Controlling the CPU blade ID LED .....                                     | 203 |
| Configuring the ID LED of the blade enclosure.....                            | 185 | Displaying CPU blade information.....                                      | 203 |
| Configuring the power control policy .....                                    | 186 | Listing the CPU blade information in a list .....                          | 206 |
| Configuring the power redundancy mode.....                                    | 186 | Displaying the CPU blade port map information                              |     |

|   |     |   |     |
|---|-----|---|-----|
| (E-Keying information) .....  | 207 | Configuring the language type for EM cards .....  | 223 |
| Displaying CPU blade status .....   | 207 | NEC Diana Scope control commands .....            | 225 |
| Configuring the power-on delay time of the CPU blade .....                | 208 | Configuring an NEC DianaScope user password ..... | 225 |
| Displaying the power-on delay time of the CPU blade .....                 | 209 | Command name .....                                | 225 |
| Switch module management command .....                                    | 211 | Argument .....                                    | 225 |
| Connecting to the EM serial console of the switch module .....            | 211 | Default value .....                               | 225 |
| Powering off switch modules .....   | 213 | Supplementary information .....                   | 225 |
| Powering on switch modules .....  | 214 | Displaying an NEC DianaScope user password .....  | 225 |
| Restarting a switch module .....  | 214 | Configuring the DSG status .....                  | 226 |
| Configuring a User Assigned Name of a switch module .....                 | 215 | Default value .....                               | 226 |
| Controlling the ID LED of a switch module .....                           | 215 | Supplementary information .....                   | 226 |
| Displaying information on switch modules .....                            | 216 | Displaying the DSG status .....                   | 226 |
| Displaying the list of switch modules .....                               | 216 | Default value .....                               | 227 |
| Displaying the switch module map information (E-Keying information) ..... | 217 | Supplementary information .....                   | 227 |
| Displaying the status of switch modules .....                             | 218 | Configuration management .....                    | 228 |
| EM management commands .....  | 221 | Overview .....                                    | 228 |
| Configuring the unique name of an EM card .....                           | 221 | Backing up configuration .....                    | 228 |
| Controlling the EM card LED .....   | 221 | Restoring configuration .....                     | 228 |
| Displaying information about the EM card(s) .....                         | 222 | Appendix .....                                    | 229 |
| Displaying EM card status .....   | 222 | Time zone .....                                   | 229 |
|   |     | NEC ESMPRO Manager and Agent .....                | 230 |
|   |     | NEC DianaScope Manager, Agent .....               | 231 |
|   |     | Troubleshooting .....                             | 232 |
|   |     | Power supply .....                                | 232 |
|   |     | Input/output .....                                | 233 |
|   |     | Disposal .....                                    | 238 |
|   |     | Transfer to third party .....                     | 238 |
|   |     | Specification .....                               | 238 |

# Preface

Thank you for purchasing the N8405-024F Blade Enclosure (SIGMABLADE-H).

The blade enclosure houses modules such as CPU blades, switch modules, pass-through cards, EM cards, power units, and fan units to integrate their functions and to allow CPU blades to function as servers.

Read this guide before you start using the blade enclosure. Also, refer to the "User's Guide" and "Startup Guide" that come with the SIGMABLADE series.

\* This guide can be used for the Slot Cover (Power Unit) N8405-036, Slot Cover (Fan) N8405-037 and the Slot Cover (Switch Module) N8405-038 as well.

# Overview

This blade enclosure can integrate a maximum of 16 servers' functions into one blade enclosure by housing a maximum of 16 CPU blades and 8 pass-through cards or switch modules in a case of 10U (about 445mm).

N8405-025F Power Unit (option) can be optionally added to the power units that are equipped as standard. A maximum of six power units can be mounted. The power units support the N+1 redundant mode or the N+N redundant mode. These modes allow for continuous operation even if one power unit or one power unit system fails. The EM card on the blade enclosure allows for management of fan units, power units, and CPU blades.

You can use remote KVM of CPU blades by connecting the LAN connector on an EM card to an external console (such as a PC).

# Accessories

This product is shipped with various accessories. See the attached components list to check that everything is included and not damaged. If any accessory is missing or damaged, contact your sales representative.



Important

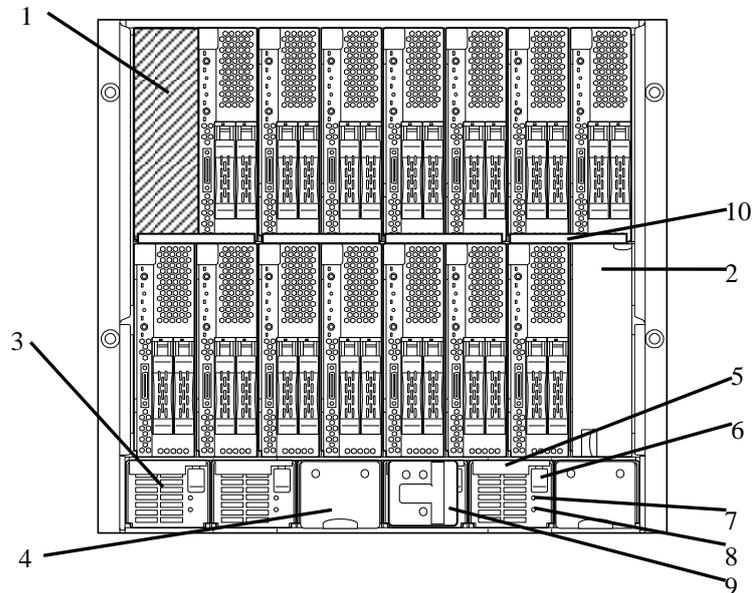
Keep the accessories in a safe place. You may need them when an optional device is added or when the blade enclosure experiences a failure.

# Components

The following illustration depicts the blade enclosure components. The illustration depicts optional modules attached to the blade enclosure that are not included as standard.

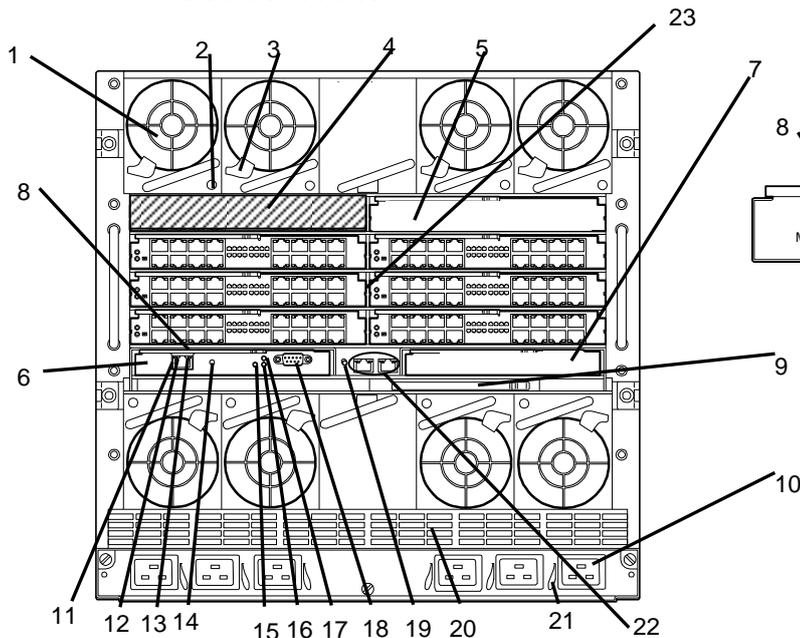
## Front view

(When the front bezel and the power unit cover are opened)

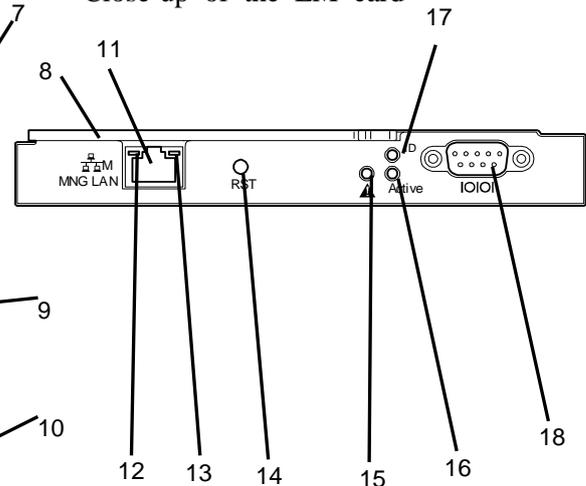


1. Blade slot  
From the upper left: Slot 1 – Slot 8  
From the lower left: Slot 9 – Slot 16
2. CPU blade slot cover  
A plate to cover a slot where no optional CPU blade is installed
3. Power unit  
From the left: Power unit 1 - Power unit 6
4. Power unit slot cover  
A cover for a slot where no optional power unit is installed
5. Power unit ejector  
Turn this ejector and pull the handle to remove a power unit.
6. Power unit lock  
Pull this lock forward to release the lock of a power unit ejector.
7. Power LED (green)  
This LED is green when AC power is supplied.
8. Power STATUS LED (amber)  
This LED is amber when an error occurs.
9. Key box  
A box to fix and lock the power unit cover (can be slid toward left and right)
10. Separator  
A plate to separate the blade slot into the upper and lower tier (when installing a full-height blade, remove this plate)

## Rear view



## Close-up of the EM card



1. Fan unit  
From the upper left: Fan unit 1 – Fan unit 5  
From the lower left: Fan unit 6 – Fan unit 10
2. Fan LED  
(green/amber)  
This LED is green when the status is normal. When an error occurs, it is amber.
3. Fan unit ejector  
Pull this ejector to remove a fan unit.
4. Switch module slot  
From the top left: Slot 1, Slot 2  
From the second tier left: Slot 3, Slot 4  
From the third tier left: Slot 5, Slot 6  
From the bottom left: Slot 7, Slot 8
5. Switch module cover  
A cover for a slot where no optional switch module is installed.
6. EM card  
From the left: EM card1, EM card 2
7. EM card slot cover  
A cover for a slot where no optional additional EM card is installed.
8. EM card release lever  
Pull this lever forward to remove the EM card.
9. EM tray release lever  
Pull this lever forward to remove the EM tray.  
\*This module should not be removed by anyone except maintenance staff.
10. AC inlet  
A socket to which a power cord is connected  
AC inlets correspond to the power units 1 – 6 on the front side from right
11. Dedicated Management LAN connector (EM card)  
Connected to a network system that supports 10BASE-T/100BASE-TX (auto-negotiation only)
12. SPEED LED (green) (EM card)  
Green when the management LAN is operating in 100BASE-TX
13. LINK/ACT LED (green) (EM card)  
Green when the management LAN connector is connected to a network. When there is access, it flashes green.
14. RESET switch (EM card)  
A switch to reboot the EM card
15. STATUS LED (green/amber) (EM card)  
Green when the status is normal. When an error occurs, it is amber.
16. ACTIVE LED (green) (EM card)  
Green on the active EM card. Off on the standby EM card
17. ID LED (blue) (EM Card)  
Used to identify EM card
18. Serial (COM) port (EM card)  
A port to connect the EM serial console
19. ID LED (blue) (the blade enclosure)  
Used to identify blade enclosure
20. Power fan vent  
Ejects exhaust air from a power fan
21. Power retention tie  
A tie to fix a power cord  
\* These parts may not be installed.
22. Connector for maintenance  
\* These ports are for maintenance only.
23. Support stay  
A plate to separate the switch module slot into the left and right side.

# Installation

## Checking components

See the attached list to check that you have all the accessories and components.

## Installing the blade enclosure on a rack

Install the blade enclosure on a rack. This section also describes how to remove the blade enclosure as well.

|  <b>WARNING</b> |  |
|--|--|
|                 | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There is a risk of death or serious injury. For more information, see the descriptions on page 3.</p> <ul style="list-style-type: none"><li>• Do not install the blade enclosure on a nonstandard rack.</li><li>• Do not use the blade enclosure in a place other than specified.</li></ul> |

|  <b>CAUTION</b>   |   |
|--|---|
| <br><br><br> | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There are risks of a burn, injury, or damage to physical assets. For more information, see the descriptions on page 3.</p> <ul style="list-style-type: none"><li>• Separate the blade enclosure into two components and carry each component with two or more people.</li><li>• Do not install the blade enclosure in a place other than specified</li><li>• Do not use the blade enclosure with its covers and fan units removed.</li><li>• Be careful not to hurt your fingers.</li><li>• Do not impose loads on the blade enclosure while it is pulled out of the rack.</li><li>• Do not cover air vents.</li></ul> |

### Check components to install

You need the following components:

- Rail bracket (L) (1) (Shipped with the blade enclosure)
- Rail bracket (R) (1) (Shipped with the blade enclosure)
- Core nut (square hole) or clip nut (circular hole) (4) (Shipped with the blade enclosure)



Check

The shapes of rail brackets (L) and (R) are not the same. See the illustrations on the following pages to check the locations and directions they should be installed. The rail brackets (L) and (R) can be distinguished from each other by their marks.

---

## Required Tools

A torx driver (T25) is necessary to install the blade enclosure on a rack.

---

## Installation Procedure

Complete the following steps to install the blade enclosure on a rack. See the instructions that come with the rack as well.

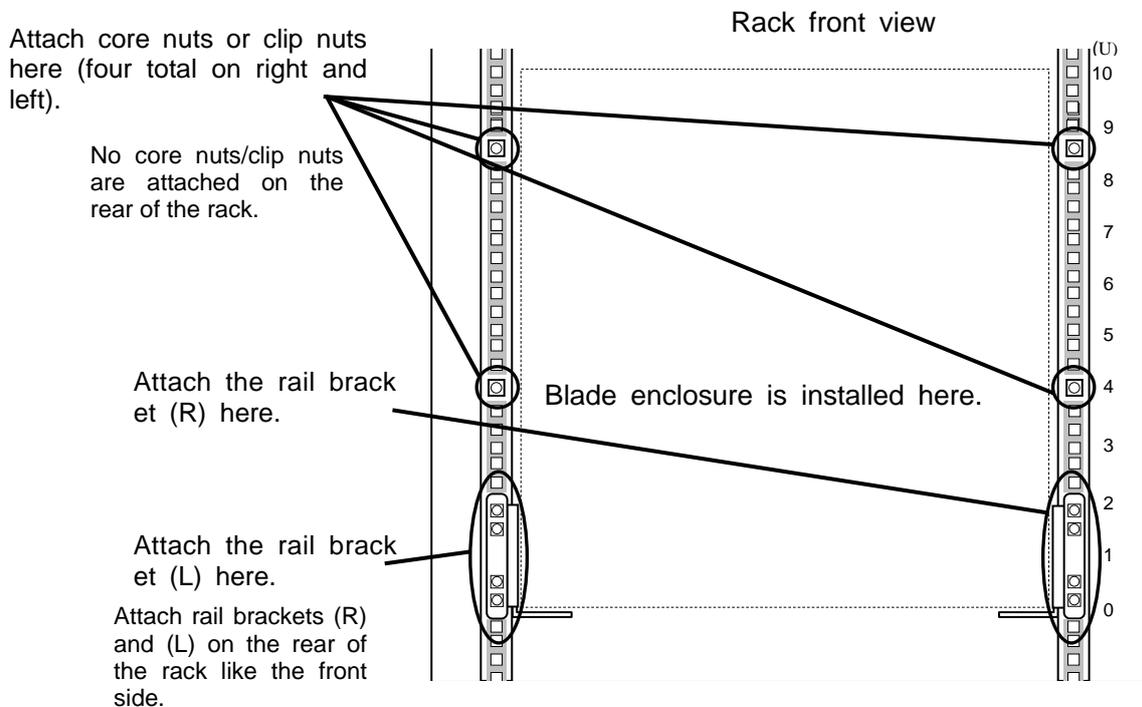


Check

- Before you install the blade enclosure on a rack, remove the doors at the front and rear of the rack. For information on removing the rack doors, see the instructions that come with the rack.

- Check where the blade enclosure will be installed.

Attach core nuts or clip nuts as shown in the illustration below and attach the rail brackets (L)/(R) to the rack to install the blade enclosure. Check where the blade enclosure, rail brackets, and core nuts/clip nuts will be attached and installed.



Next to the rack holes, there are marks that are spaced by 1U (a unit to represent rack height). Because the height of the blade enclosure is 10U (approximately 445mm), install the blade enclosure in a space with a 10U height.

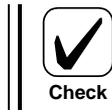


Check

- Holes on the rack frame are not spaced evenly. Check that the four projections on each rail bracket's end match with holes on the rack frame where the rail bracket is attached before installing the blade enclosure.

- Attach core nuts/clip nuts.

Attach core nuts or clip nuts included with the blade enclosure at the positions determined in "Check where the blade enclosure is installed." Attach a total of four core nuts or clip nuts on the rack front (two each on the right and left side).

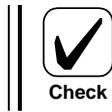


Check that the core nuts/clip nuts are attached on the same height on the right and left side of the rack.

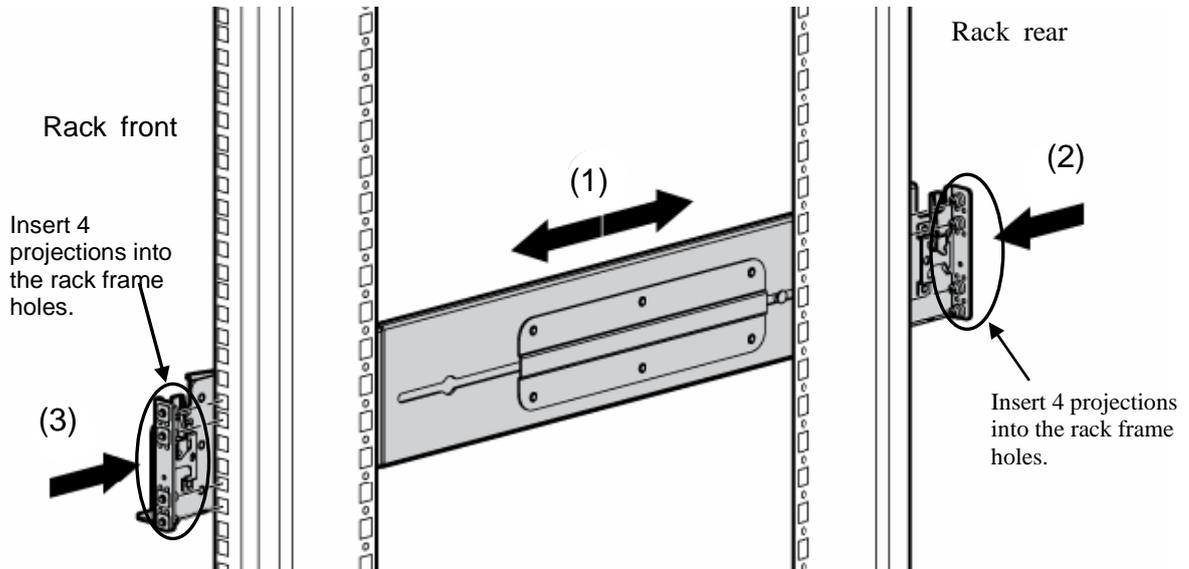
- Attach rail brackets.

Attach rail brackets to the rack.

When you attach a rail bracket, make sure that the four projections at its bent end are inserted into the holes on the rear frame of the rack from the outside. Slide the rail according to the rack depth and insert the four projections on the other end into the holes on the front frame of the rack as well. The illustration below shows how the rail bracket (R) is attached. Attach the rail bracket (L) in the same way.



Check that the rails are installed on the same level at the front and rear of the rack. Check that the right and left rails are installed in parallel.

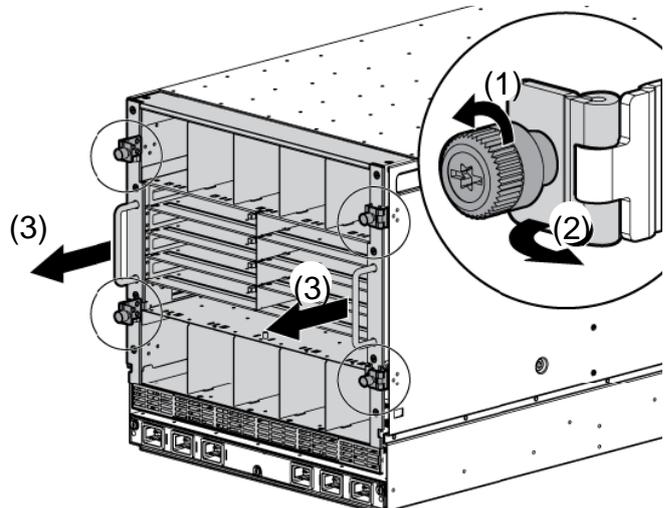


Attaching the rail bracket (R)

- Separate the blade enclosure into two components.

Remove the rear cage from the enclosure.

1. If any modules such as CPU blades or power units are installed on the blade enclosure, remove them. For information on removing installed modules, see their instructions for removal.



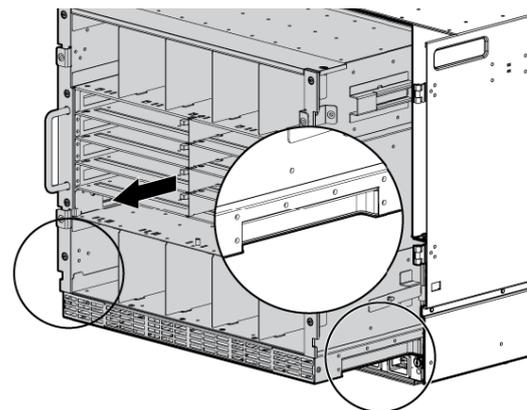
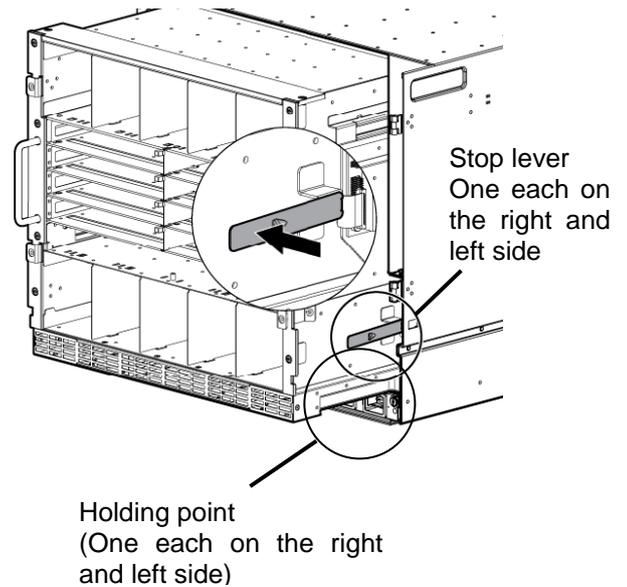
2. Use a torx driver (T25) to remove the screws at the rear of the blade enclosure (two each on the right and left side for a total of four), and then bend the hinges outward so that the rear cage will not hit them when it is removed.

3. Firmly hold the handles of the blade enclosure, which are located at its rear, on the right and left side and slowly slide the enclosure out approximately 10 cm. This step should be done by two or more people.

4. Firmly hold the handles of the rear cage and the holding points at the bottom (one each on the right and left side) as shown in the right illustration with two or more people and pull out the rear cage slowly until the tips of the stop levers located at the side of the rear cage are shown.

5. Keep pressing the two stop levers on both the right and left sides and hold the handles of the rear cage and slowly pull out the rear cage until the stop levers are fully shown.

6. Firmly hold the handles of the rear cage and the holding points at the bottom with two or more people and slowly remove the rear cage from the enclosure.



**Important**

- When you carry the rear cage, hold the two handles at the rear of the enclosure (one each on both the right and left side) and the holding points at the bottom (one each on the right and left side).
- When you remove the rear cage, make sure not to bump or bend the connectors and pins of the rear cage that are located at the section connecting to the enclosure (midplane) against the enclosure or rack frame. The midplane is the board to connect the CPU blades to switch modules or pass-through cards inside the blade enclosure.
- Do not touch any connectors and pins of the rear cage.



**Hint**

The rear cage is heavy, especially the side of the section connecting to the enclosure of the blade enclosure (midplane). When you hold the holding points at the bottom to carry the rear cage, hold the midplane side as much as possible.

- Install the blade enclosure on the rack.

Hold the blade enclosure with its front facing front with 2 or more people. Slowly put the L-shaped frames on both the right and left side of the blade enclosure on the L-shaped frames of the rail brackets that have been attached to the rack.



**Important**

- When you carry the enclosure, hold the four handles at both sides of the enclosure (two each on the right and left side).
- When you install the enclosure, stow the four handles at both sides of the enclosure (two each on the right and left side) to prevent them from bumping against the rack frames.



**Check**

Check that the enclosure is correctly mounted on the L-shaped frames of the rail brackets during the installation.

Push the enclosure into the rack until it stops. Use a torx driver (T25) to tighten the front screws of the blade enclosure (four screws, two each on the right and left) and secure the blade enclosure to the rack.

- Install the rear cage.



**Check**

Before installing the rear cage, bend the hinges to the outward direction to prevent the screws at the rear of the blade enclosure (four screws, two each on the right and left side) from hitting the rear cage.

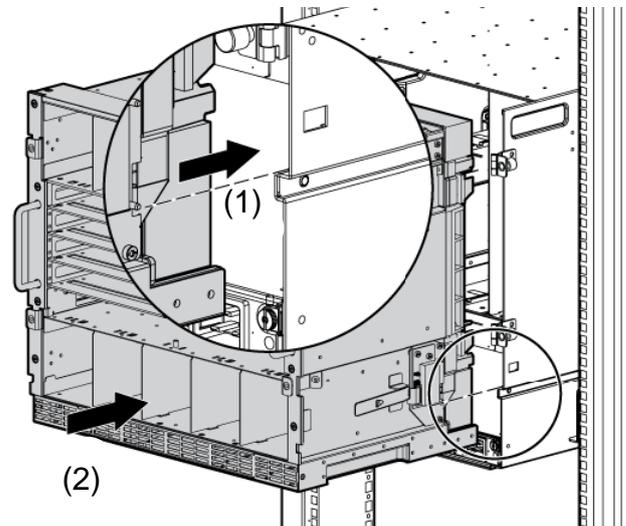
1. Firmly hold the handles at both sides of the rear cage (one each on the right and left side) and slowly put the rear cage on the rails of the enclosure. This step should be done by two or more people.



**Check**

Check that the rear cage is correctly mounted on the rails of the enclosure during the installation.

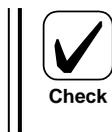
2. Push the rear cage into the enclosure with two or more people until it stops.
3. Bend the hinges to the inward direction. Then, use a torx driver (T25) to tighten the rear screws of the blade enclosure (four screws, two each on right and left side) and secure the rear cage to the enclosure.



## Removing the blade enclosure from the rack

Follow the steps below to remove the blade enclosure from the rack.

|  <b>CAUTION</b>   |  |
|--|--|
| <br><br><br> | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There are risks of a burn, injury, or damage to physical assets. For more information, see the descriptions on page 3</p> <ul style="list-style-type: none"><li>• Separate the blade enclosure into two components and carry them with two or more people.</li><li>• Be careful not to hurt your fingers.</li><li>• Do not impose loads on the top of equipment that is pulled out.</li><li>• Do not pull out equipment when the rack is not stabilized.</li><li>• Do not pull out two or more modules from the rack at the same time.</li><li>• Do not pull out the equipment from the rack while it is running.</li></ul> |



Before you remove the blade enclosure from its rack, remove the doors at the front and rear of the rack. For information on removing the rack doors, see the instructions that come with the rack.

1. Shut down all devices installed on the blade enclosure to power them off.
2. Disconnect the power cords of the blade enclosure and then disconnect all the interface cables.
3. Remove all modules, such as CPU blades and power units, installed on the blade enclosure. For information on removing installed modules, see their instructions for removal.
4. Use a torx driver (T25) to remove four screws (two each on the right and left) at the rear of the blade enclosure.
5. Slowly pull out the rear cage from the enclosure.
6. Firmly hold the rear cage and remove it from the enclosure.



Important

- Do not impose loads on the top of equipment that is pulled out. There is a risk of equipment falling off.
- When you pull out the rear cage from the enclosure or carry it, firmly hold the holding points located at the bottom (one each on the right and left) and the two rear handles (one each on the right and left) so that you will not drop the rear cage.

7. Use a torx driver (T25) to remove four screws (two each on the right and left) on the front of the blade enclosure.
8. Slowly pull the blade enclosure out of the rack.



Important

- Do not impose loads on the top of equipment that is pulled out. There is a risk of equipment falling off.
- The blade enclosure has no stopper or lock mechanism that prevents it from being pulled out of the rack. Firmly hold the handles at the bottom and sides of the blade enclosure when removing it so you will not drop it.

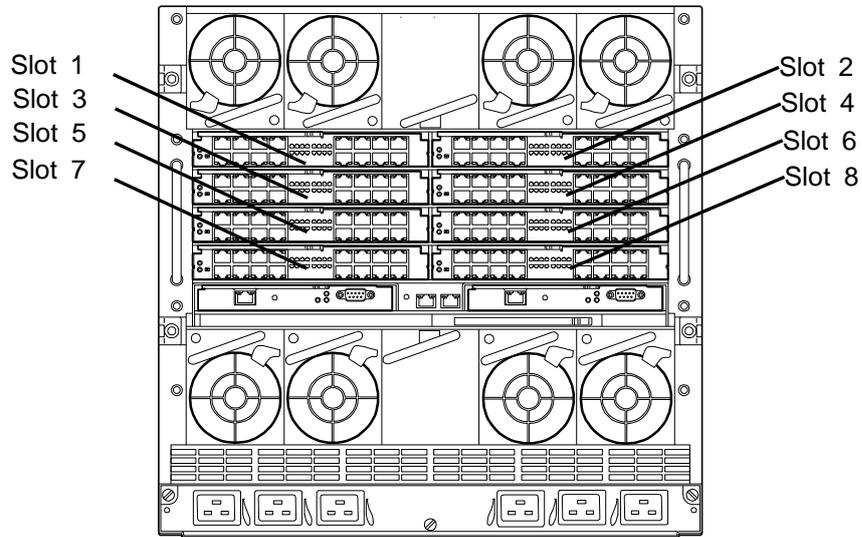
- Hold the four handles at both sides of the enclosure (two each on the right and left) for carrying.

9. Firmly hold the blade enclosure and remove it from the rack.

To remove any parts attached to the rack, see the description in "Installing the blade enclosure." To install the rear cage on the enclosure, see "Installing the blade enclosure."

# Installing a switch module or pass-through card

The following illustration shows slots where switch modules and pass-through cards can be installed:



Install switch modules and pass-through cards according to the specifications described on the following pages. Slots without switch modules or pass-through cards should have slot covers installed.

---

## Installable switch modules and pass-through cards

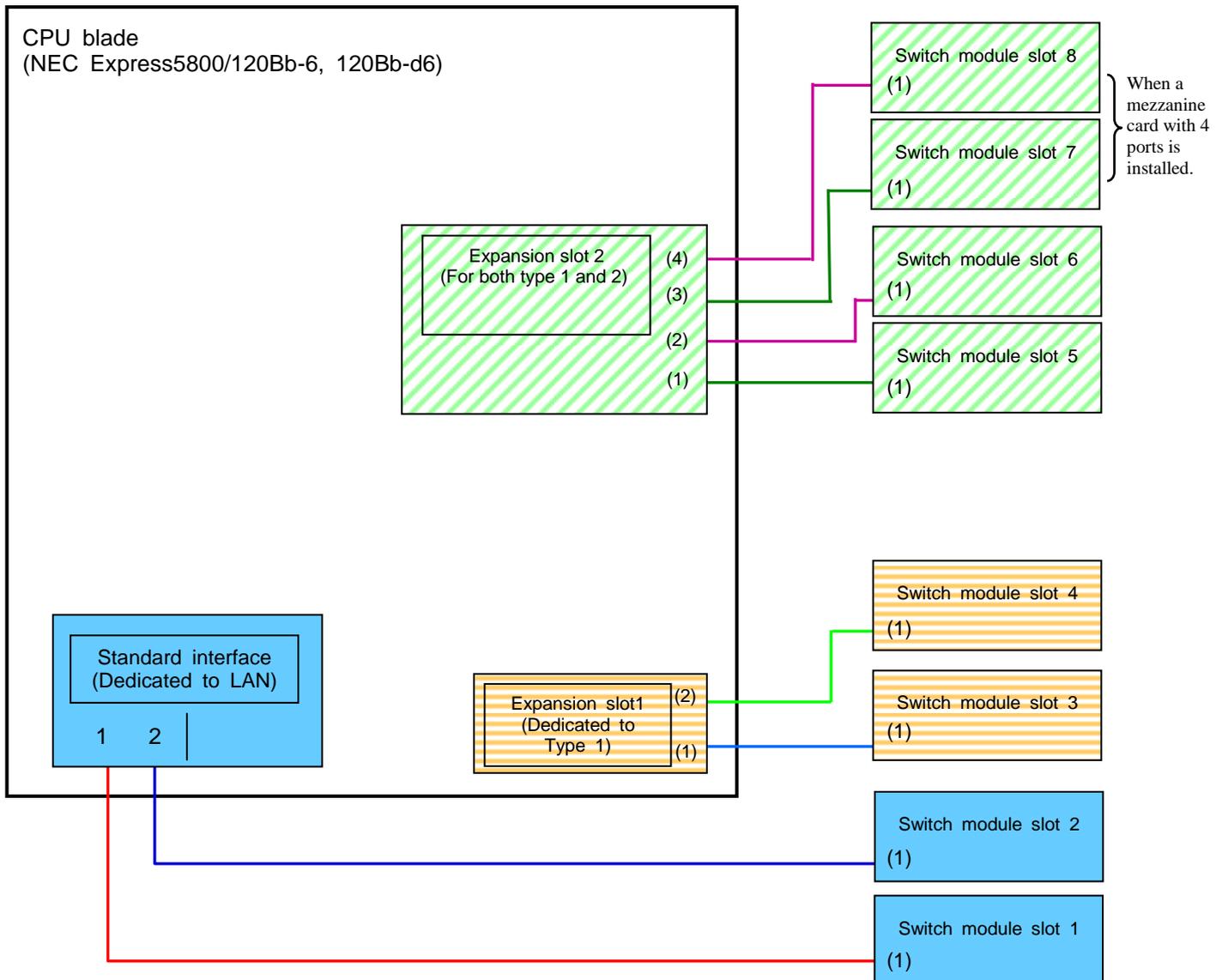
A maximum of eight switch modules and pass-through cards can be installed on this blade enclosure (a maximum of six 4G FC switch modules (12 ports/24 ports) and FC pass-through cards can be installed). The number and combination of switch module slots that can be used depends on the types and combination of switch modules, pass-through cards, and mezzanine cards. For information on communication between switch slots, standard CPU blade slots, and mezzanine slots, see the following pages.

If there is no description for your product, contact your NEC sales representative to obtain the latest User's Guide.

- N8406-022 1Gb Intelligent L2 Switch
- N8406-023 1Gb Intelligent L3 Switch
- N8406-016 1Gb Pass-Through Card
- N8406-019 4G FC Switch (12 ports)
- N8406-020 4G FC Switch (24 ports)
- N8406-017 FC Pass-Through Card

# Internal connection between CPU blades and switch modules

If there is no description for the products that support your CPU blades, contact your NEC sales representative to obtain the latest User's Guide.



The numbers with parentheses in the figure represent port numbers of mezzanine cards or switch modules.

(Switch module port numbers are an example when a CPU blade is installed on the slot 1.

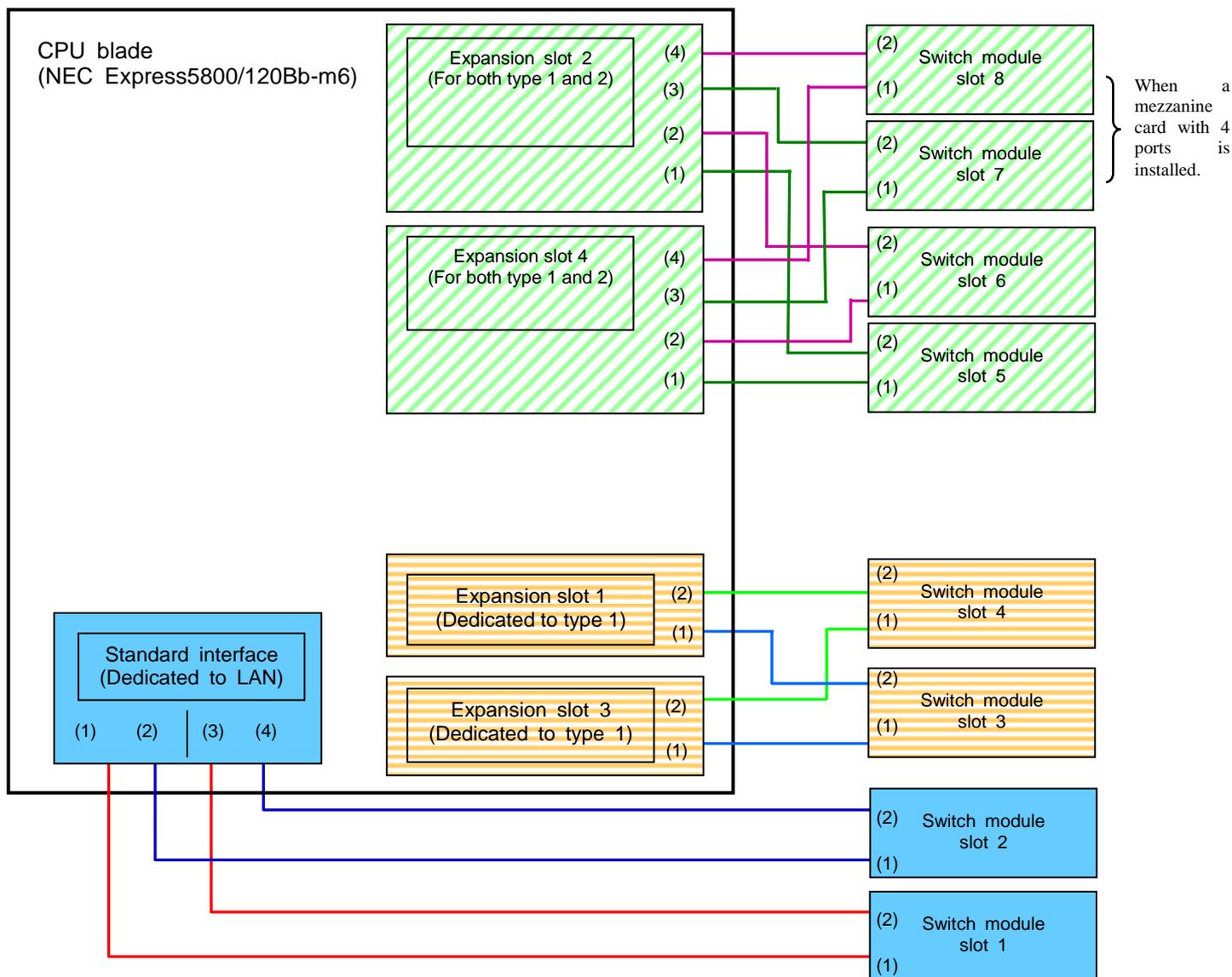
When you install a CPU blade on the other slots, you need to replace the port number of the switch modules.

Examples:

When you install a CPU blade on the slot 2, you need to replace the port number '(1)' of the switch modules with '(2)'.

When you install a CPU blade on the slot 16, you need to replace the port number '(1)' of the switch modules with '(16)'.

Because switch modules installed on the blade enclosure are shared among CPU blades, any mezzanine card with a different interface cannot be installed on corresponding CPU blade mezzanine slots. For example, if 4G FC switches are installed on the switch modules 3 and 4, 1000BASE-T Adapter (2ch) cannot be installed on their corresponding mezzanine slot (for 120Bb-6 and 120Bb-d6, the mezzanine slot 1).



The numbers with parentheses in the figure represent port numbers of mezzanine cards or switch modules. (Switch module port numbers are examples when a CPU blade is installed on the slot 1 and 2. When you install a CPU blade on the other slots, you need to replace the port number of the switch modules.

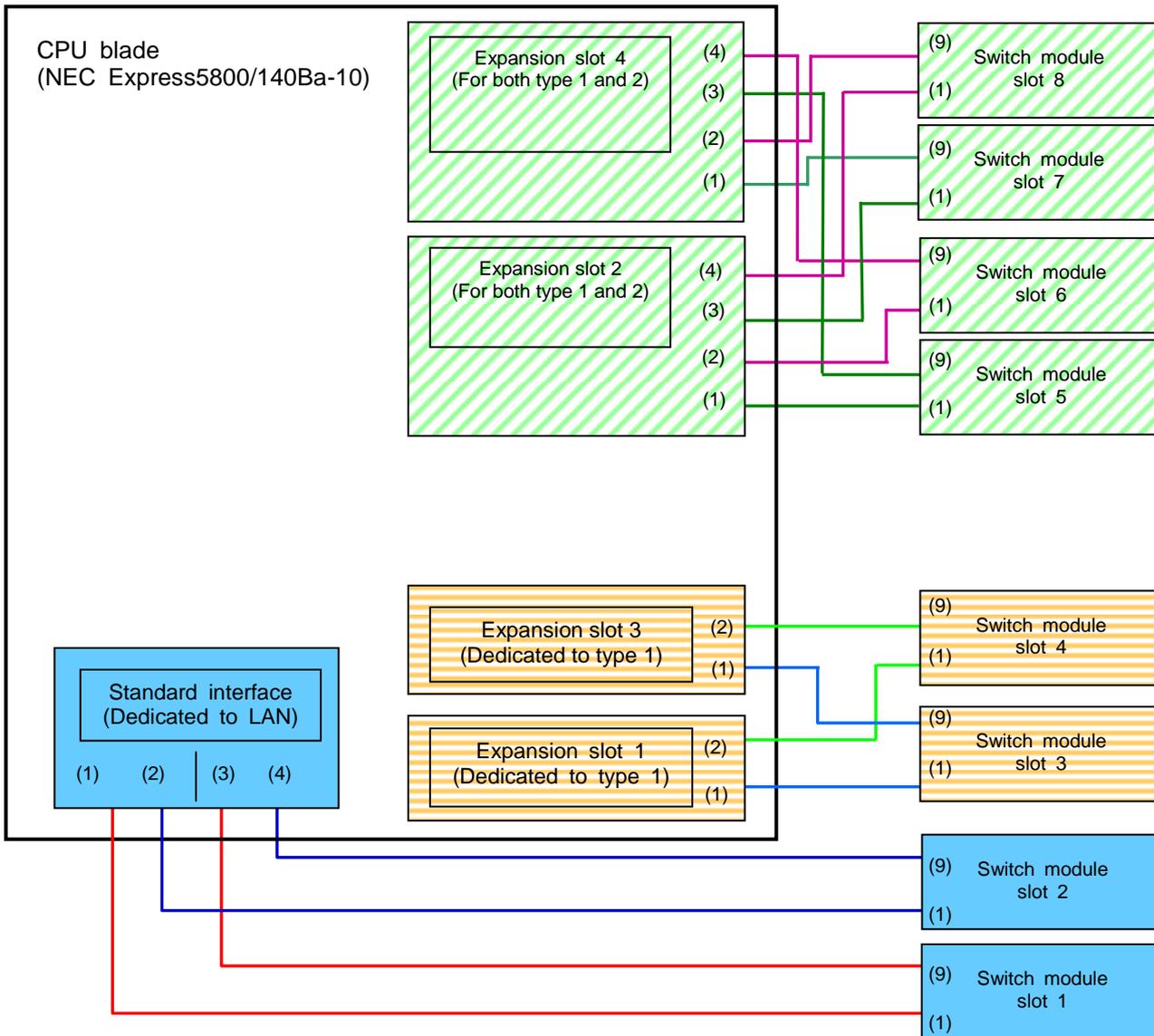
Examples:

When you install a CPU blade on the slot 3 and 4, you need to replace the port number '(1)' of the switch modules with '(3)', and '(2)' with '(4)'.

When you install a CPU blade on the slot 15 and 16, you need to replace the port number '(1)' of the switch modules with '(15)', and '(2)' with '(16)'.

Because switch modules installed on the blade enclosure are shared among CPU blades, any mezzanine card with a different interface cannot be installed on corresponding CPU blade mezzanine slots. For example, if 4G FC switches are installed on the switch modules 3 and 4, 1000BASE-T Adapter (2ch) cannot be installed on their corresponding mezzanine slots (for 120Bb-m6, mezzanine slot 1 and 3).

Mezzanine cards with different types (interface) cannot occupy mezzanine slots 1 and 3.  
Mezzanine cards with different types (interface) cannot occupy mezzanine slots 2 and 4.



The numbers with parentheses in the figure represent port numbers of mezzanine cards or switch modules. (Switch module port numbers are examples when a CPU blade is installed on the slot 1 and 9. When you install a CPU blade on the other slots, you need to replace the port number of the switch modules.

Examples:

When you install a CPU blade on the slot 2 and 10, you need to replace the port number ' (1)' of the switch modules with '(2)', and '(9)' with '(10)'.

When you install a CPU blade on the slot 8 and 16, you need to replace the port number '(1)' of the switch modules with '(8)', and '(9)' with '(16)'.

Because switch modules installed on the blade enclosure are shared among CPU blades, any mezzanine card with a different interface cannot be installed on corresponding CPU blade mezzanine slots. For example, if 4G FC switches are installed on the switch modules 3 and 4, 1000BASE-T Adapter (2ch) cannot be installed on their corresponding mezzanine slots (for 140Ba-10, mezzanine slot 1 and 3).

Only when other CPU blades in the same blade enclosure have no 1000BASE-T Adapters (4ch), can you install a mezzanine card with a different interface on the mezzanine slot 4 of the 140Ba-10.

Mezzanine cards with different types (interface) cannot occupy mezzanine slots 1 and 3.

Mezzanine cards with different types (interface) can occupy mezzanine slots 2 and 4.

(Only the combination of a 1000BASE-T Adapter (2ch) and a Fibre Channel Controller is available.)

When you use a N8406-019 4G FC Switch (12ports), a mezzanine card with 2 ports on the slot 2 or 4 of the NEC Express5800/140Ba-10 cannot connect to the switch.

The following table lists mezzanine cards and their supported modules. Find your mezzanine card on the table and check its supported module to see appropriate combinations. Before you install a mezzanine card, check its type and number of ports to mount it on an appropriate slot.

| Mezzanine card                       | Type | Number of ports | Supported switch module/<br>pass-through card |      | Supported CPU blade |          |          |          |
|--------------------------------------|------|-----------------|---|------|---------------------|----------|----------|----------|
|                                      |      |                 |   |      | NEC Express5800     |          |          |          |
|                                      |      |                 | 1Gb*1   | FC*2 | 120Bb-6             | 120Bb-d6 | 120Bb-m6 | 140Ba-10 |
| 1000BASE-T Adapter (2ch) (N8403-017) | 1    | 2               | Y   | N    | Y                   | Y        | Y        | Y        |
| 1000BASE-T Adapter (4ch) (N8403-020) | 2    | 4               | Y   | N    | Y                   | Y        | Y        | Y        |
| Fibre Channel controller (N8403-018) | 1    | 2               | N   | Y    | Y                   | Y        | Y        | Y        |

Y: Supported

N: Not supported

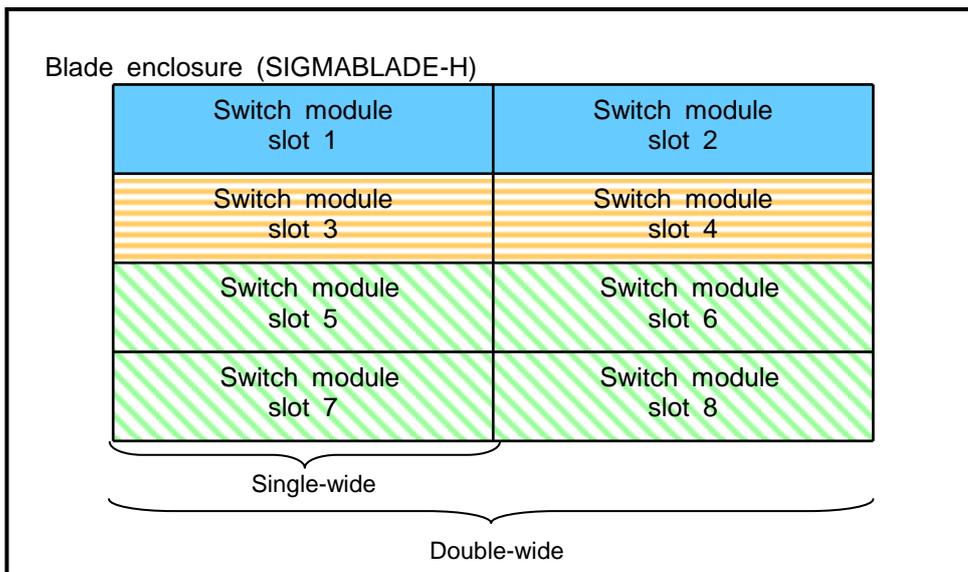
\*1 Corresponds to 1Gb Intelligent L2 Switch (N8406-022), 1Gb Intelligent L3 Switch (N8406-023) and 1Gb Pass-Through Card (N8406-016).

\*2 Corresponds to 4G FC Switch (12ports)(N8406-019), 4G FC Switch (24ports)(N8406-020) and FC Pass-Through Card (N8406-017).

(When a 4G FC Switch (12ports)(N8406-019) is installed, there may be restrictions in CPU blade slots which can be connected and corresponding mezzanine slots. For information on restrictions in CPU blade slots which can be connected, see "Installing a CPU blade." For information on restrictions in supported mezzanine slots, see the illustrations shown on previous pages to find information on correspondence to your CPU blades.)

If there is no description for your product, contact your NEC sales representative to obtain the latest User's Guide. Mezzanine cards that have no connection with a switch module are not listed above. In principle, such mezzanine cards can be installed without considering the interface with other mezzanine cards. For details, see the User's Guides and manuals of the mezzanine cards and CPU blades to be installed.

## Alignment of switch module slots



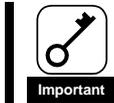
- Since a standard LAN of CPU blades is connected to slots 1 and 2, select and install 1Gb intelligent L2 switch, 1Gb intelligent L3 switch, or 1Gb pass-through card. Other switch modules and pass-through cards, such as 4G FC switch module (12 ports/24ports) and FC pass-through card, cannot be connected.
- If you use 2 switch modules or pass-through cards in the neighboring slots (slot 1 and 2, 3 and 4, 5 and 6, or 7 and 8), install the same product.
- Connection from NEC Express5800/120Bb-6, 120Bb-d6, or 120Bb-m6 to switch modules 7 and 8 can be established only when a mezzanine card with 4 ports is installed on the mezzanine slot corresponding to the switch module.
- A double-wide switch module occupies neighboring slots (slot 1 and 2, 3 and 4, 5 and 6, or 7 and 8).

## Installing a switch module or pass-through card

Follow the steps below to install a switch module or pass-through card. A switch module or pass-through card can be installed or removed even if the blade enclosure is powered on (switch modules/pass-through cards in other slots are working). This section provides an example of installation. Follow the same steps for installation on other slots.

Depending on the switch module/pass-through card type, a different operation may be required and/or different steps may be taken. In this case, descriptions in the User's Guide of the switch module/pass-through card should be used instead.

|  |  |
|--|--|
|  <b>WARNING</b> |  |
|                 | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There is a risk of death or serious injury. For more information, see the descriptions on page 3.</p> <ul style="list-style-type: none"><li>• Do not install/remove two or more switch modules/pass-through cards at the same time.</li><li>• Do not place your hands inside the blade enclosure.</li></ul> |

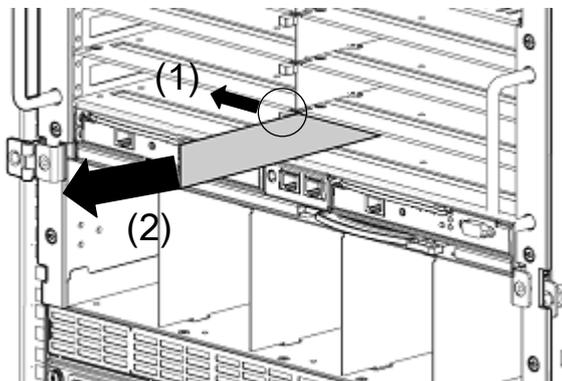


Do not remove the blade enclosure from the rack to install a CPU blade, switch module, pass-through card, or other optional device.

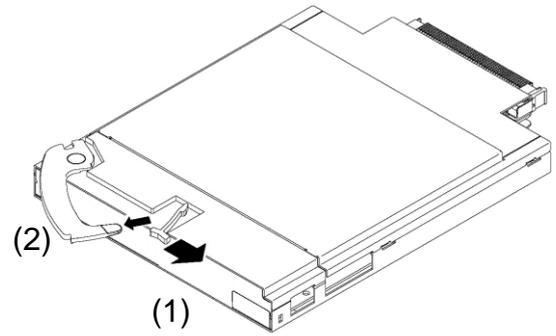
1. See "Installing a switch module or pass-through card" on page 31 to check the slot where the switch module/pass-through card will be installed.
2. If the slot where you wish to install the switch module/pass-through card has a slot cover, pull the ejector located at the upper part of the slot cover and remove the cover. In addition, when you install a double-wide switch module / pass-through card, remove the support stay. For safety reasons, removal of the support stay should be done only by sales maintenance personnel. Contact your sales maintenance personnel for the removal of the support stay.



- Keep the slot cover that has been removed in a safe place.
- Do not remove any slot covers and support stays other than the ones attached to the slot where you wish to install the switch module/pass-through card.



- Place the switch module/pass-through card carefully on a clean, flat table and open (release) the ejector. When you open the ejector, press the stopper locking the ejector rightward. The illustration depicts a device with a stopper. If there is no stopper, the action indicated by (1) is not necessary.

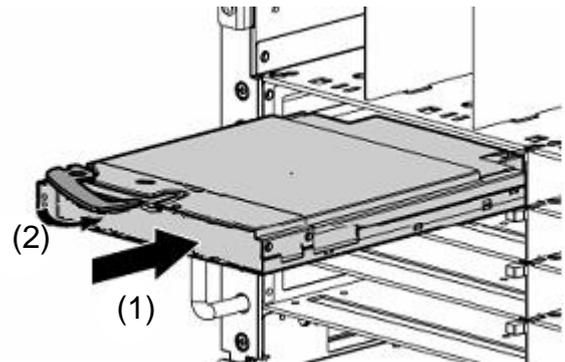


- Hold both sides of the switch module/pass-through card with its ejector side facing the top and slowly insert the switch module/pass-through card halfway into the blade enclosure (about 20 cm).



**Important**

Do not hold the ejector. Otherwise, the ejector and the switch module/pass-through card may be damaged.



- Press the frame of the module front with your thumbs with the ejector fully opened slowly into the blade enclosure.



**Hint**

Push the front side of the switch module/pass-through card carefully until it is inserted into the blade enclosure and the ejector closes slightly.

- Close the ejector slowly.  
The midplane connector of the switch module/pass-through card is connected to the midplane of the blade enclosure.

If you cannot close the ejector successfully, check the stopper.

If you close the ejector while it is not correctly locked, the ejector or the blade enclosure may be damaged.

---

## Removing a switch module or pass-through card

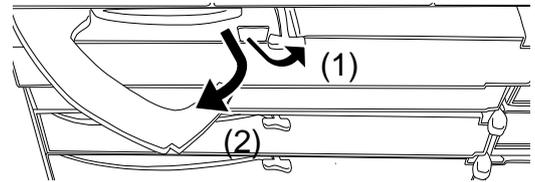
Follow the steps below to remove a switch module/pass-through card.

Depending on the switch module/pass-through card type, a different procedure may be required. In this case, follow the instructions in the User's Guide of the switch module/pass-through card instead.

1. If any interface cables are connected to the switch module/pass-through card, remove them.

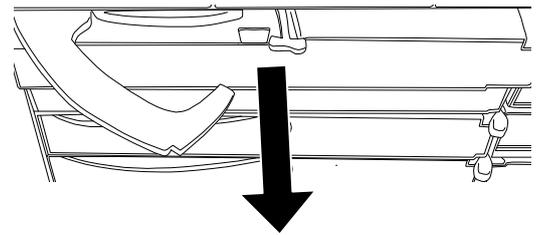
2. Open the ejector. When you open the ejector, press the stopper locking the ejector rightward.

The illustration depicts a switch module/pass-through card with a stopper. If there is no stopper the action indicated by (1) is not necessary.



Fully open the ejector until it stops.

3. Hold the ejector and pull the switch module/pass-through card out of the blade enclosure until you can hold its frame with both of your hands (approximately 10 cm).



**Important**

Do not hold the ejector to remove the switch module/pass-through card. Otherwise, the ejector and the switch module/pass-through card may be damaged.

4. Firmly grip both sides of the frame of the switch module/pass-through card to remove it from the blade enclosure.

If you want to run the system with the switch module/pass-through card removed, attach a slot cover.

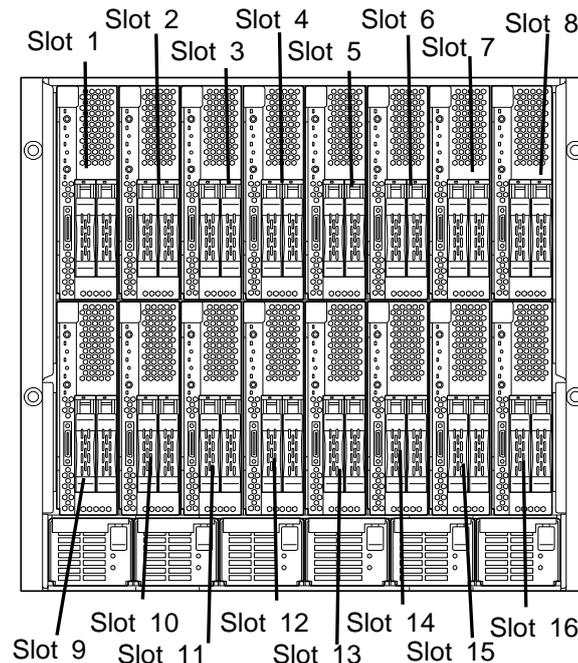
In addition, if you do not use a double-wide switch module/pass-through card for this slot, attach a support stay.

For safety reasons, installation of the support stay should be done only by sales maintenance personnel. Contact your sales maintenance personnel for the installation of the support stay.

5. Close the ejector of the switch module/pass-through card.

# Installing a CPU blade

The following illustration shows slots where CPU blades can be installed:

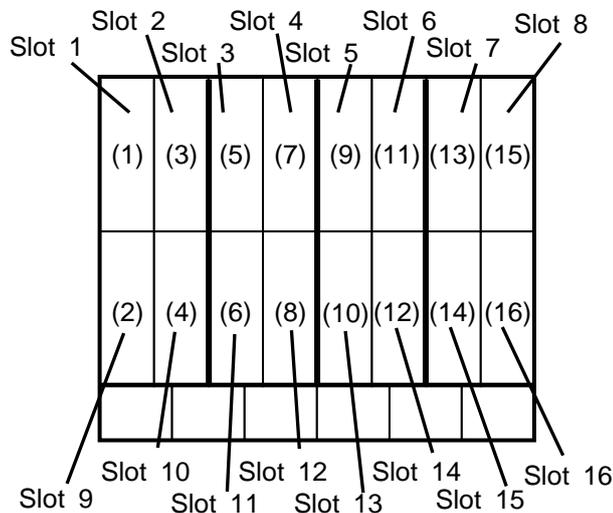


Install CPU blades sequentially in the slots (1 to 16) in the following illustration. Install slot covers on slots with no CPU blades. Note the following for the installation:

- When you install a half-height double-wide blade, it should be installed on slots that are neighboring horizontally with the left slot having an odd number (e.g., Slot 1 and Slot 2). Start from a left slot with a smaller number in the following illustration. You cannot install it on horizontally neighboring slots with the left slot having an even number (e.g., Slot 2 and Slot 3).
- When you install a full-height single-wide blade, it should be installed on slots that are neighboring vertically (e.g., Slot 1 and Slot 9). Start from an upper slot with a smaller number in the following illustration. Blade slots are separated into blocks that are full-height and double-wide (Slots 1, 2, 9, and 10; Slots 3, 4, 11, and 12; Slots 5, 6, 13, and 14; and Slots 7, 8, 15, and 16). You cannot have blades of different heights in a single block. However, you can have blades with different widths in a single block.

For information on blade sizes, see "Installable CPU blades" on page 45.

The installation procedure shown above may not apply to some module types. In this case, follow the instructions in the User's Guides of the modules should be instead.

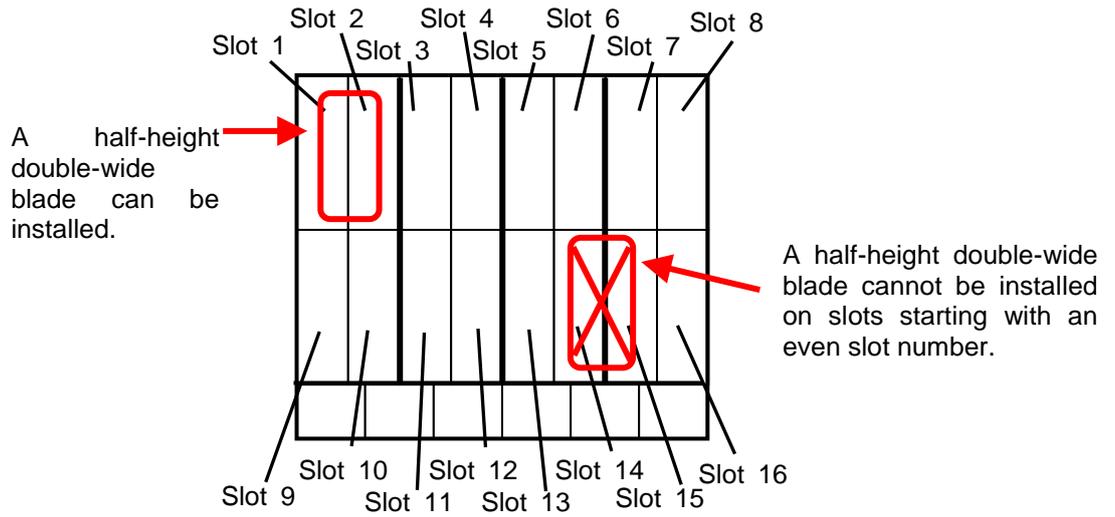




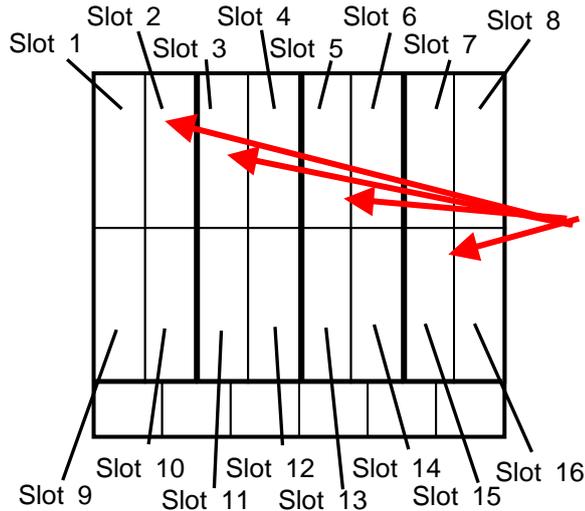
**Important**

- The CPU blade blank cover that can be installed on the blade enclosure is N8405-030.
- To install a full-height blade, remove the separator dividing the target blade slots. For safety reasons, removal of the separator should be done only by sales maintenance personnel. Contact your sales maintenance personnel to remove the separator.
- To install a half-height blade, a separator should be installed on the target blade slots. The blade enclosure is shipped with separators installed.
- If one full-height blade is installed on a full-height double-wide block (Slots 1, 2, 9 and 10; Slots 3, 4, 11, and 12; Slots 5, 6, 13, and 14; or Slots 7, 8, 15, and 16), combine 2 CPU blade slot covers with screws (screws are shipped with CPU blade slot covers) and attach them to the blank space of the slots. For information on the blocks, see the illustrations on the following pages. For information on combining CPU blade slot covers to make a full-height CPU blade slot cover, see "Assembling a full-height CPU blade slot cover."
- A half-height blade and a full-height blade cannot occupy the same block (Slots 1, 2, 9, and 10; Slots 3, 4, 11, and 12; Slots 5, 6, 13, and 14; and Slots 7, 8, 15, and 16)
- If more than one 4G FC switch (12 ports) N8406-019 is installed on the blade enclosure, install CPU blades connected to 4G FC switch modules (12ports) according to the order (1➤3➤5➤. . .➤13➤15) shown on the previous page on the upper level of the blade enclosure. Then, install CPU blades that are not connected to 4G FC switch modules (12ports) according to the instructions on the previous page. 4G FC switch modules (12 ports) are connected only to the upper level of the blade enclosure.

Notes for installation of a half-height double-wide blade:



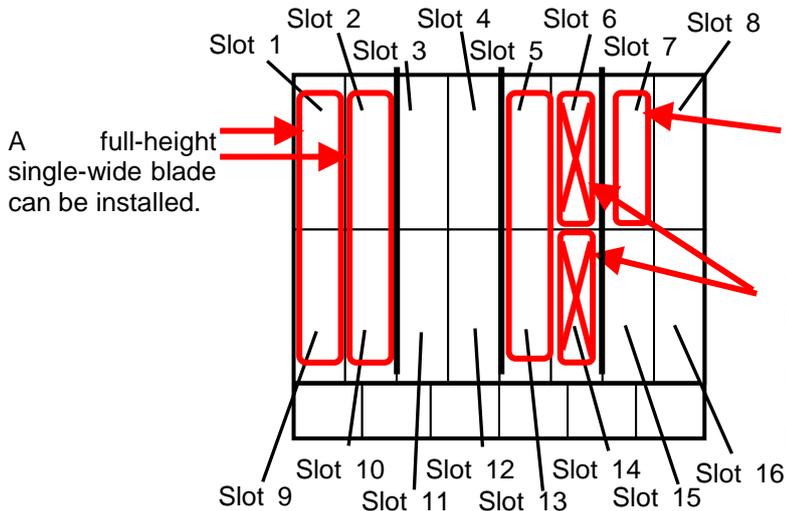
Notes for installation of a full-height and single-wide blade:



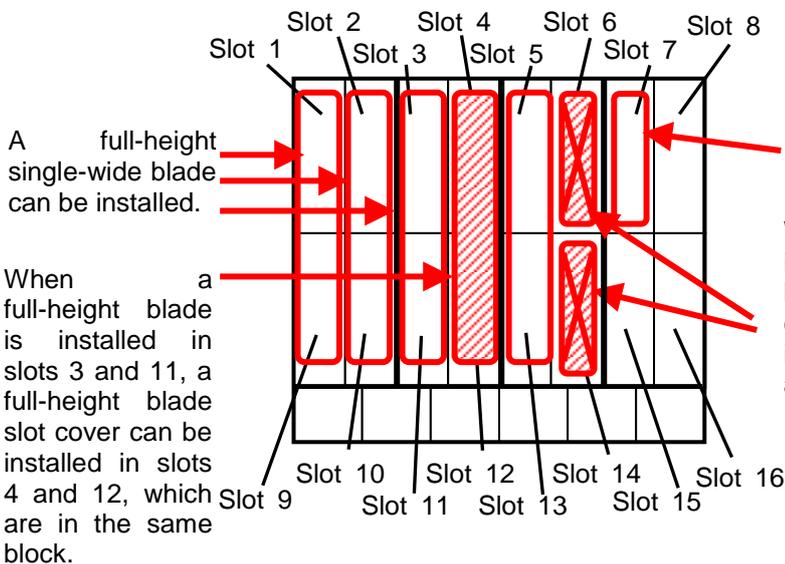
Blade slot "block"

Blocks are separated by a non-removable frame and are full-height and double wide.

A half-height blade and a full-height blade cannot occupy the same block.



When a full-height blade is installed in slots 5 and 13, a half-height blade cannot be installed in slots 6 and 14, which are in the same block.



A half-height blade can be installed because it is in a block where a full-height blade is not installed.

When a full-height blade is installed in slots 5 and 13, half-height CPU blade slot covers cannot be installed in slots 6 and 14, which are in the same block.

---

## Installable CPU blades

A maximum of 16 CPU blades shown below can be installed in this blade enclosure. CPU blades of different types can be installed in one blade enclosure.

If there is no description for your product, contact your NEC sales representative to obtain the latest User's Guide.

The following are half-height single-wide blades:

- NEC Express5800/120Bb-6
- NEC Express5800/120Bb-d6

The following is a half-height double-wide blade:

- NEC Express5800/120Bb-m6

The following is a full-height single-wide blade:

- NEC Express5800/140Ba-10

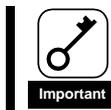
## Installing a CPU blade

Follow the steps below to install a CPU blade. A CPU blade can be installed or removed even if the blade enclosure is powered on (CPU blades in other slots are working).

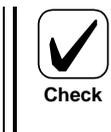
An example of installation is provided. Follow the same steps for installation on other slots.

Depending on the CPU blade type, a different procedure may be required. In this case, follow the instructions in the User's Guide of the CPU blade instead.

|  |  |
|--|--|
|  <b>WARNING</b> |  |
|                 | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There is a risk of death or serious injury. For more information, see the descriptions on page 3.</p> <ul style="list-style-type: none"><li>• Do not install or remove two or more CPU blades at the same time.</li><li>• Do not place your hands inside the blade enclosure.</li></ul> |



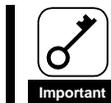
Do not remove the blade enclosure from the rack to install a CPU blade, switch module, pass-through card, or other optional module.



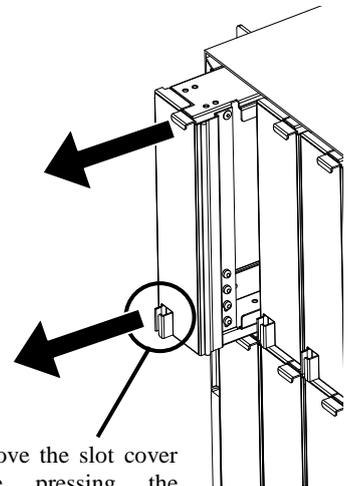
Before installing a CPU blade, check whether any required optional devices, such as mezzanine cards or memory modules, are installed on the CPU blade. For information on how to check and install optional devices, see the User's Guide of the CPU blade.

1. See "Installing a CPU blade" on page 41 to check the slot where the CPU blade is to be installed.

2. If the slot where you wish to install the CPU blade has a slot cover, remove it. To remove a slot cover from the blade enclosure, pull the upper hook and the lower stopper forward while pressing the lower stopper from the right and left. If a full-height CPU blade slot cover is attached, press the upper hook on the upper level (blank slots from 1 to 8) and the lower stopper on the lower level (blank slots from 9 to 16) forward while pressing the lower stopper on the lower level (blank slots from 9 to 16) from the right and left to remove it from the blade enclosure.



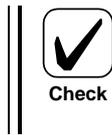
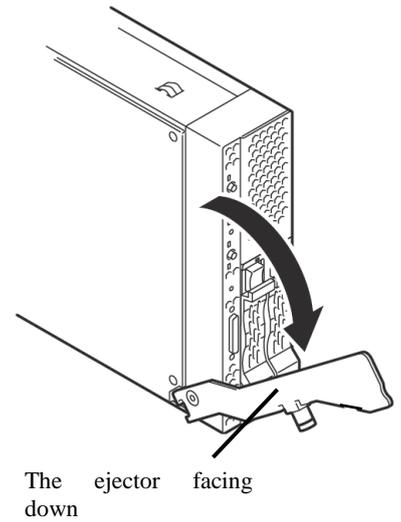
- Keep the slot cover that has been removed in a safe place.
- Do not remove any slot covers other than the one attached to the slot where you wish to install the CPU blade.



Remove the slot cover while pressing the stopper from the right and left.

The illustration depicts a half-height CPU blade.

3. If the CPU blade has any covers on the connectors on the side that is inserted into the blade enclosure, remove them.
4. Open the CPU blade ejector. If the ejector is secured by a screw, loosen it.
5. Hold the CPU blade with its midplane connector facing the blade enclosure and the ejector facing down.
6. Put the end of CPU blade board on the guide rails located at the upper and lower sides of the blade enclosure and slowly push the CPU blade into the blade enclosure.



When you insert the CPU blade into the blade enclosure, make sure the pins on the blade enclosure frame and the ejector of the CPU blade fit correctly.



- If the pins on the blade enclosure frame and the ejector of the CPU blade do not fit correctly, move the CPU blade right and left to adjust the position.
- When you install a half-height blade, a separator should be installed. When you install a full-height blade, remove the separator if it is installed.

7. Press the ejector firmly to lock it. Tighten the screws to secure the CPU blade.
8. Write down the information of the installed CPU blade on the blade management sheet that comes with the blade enclosure.

If a sticker is attached, write down the information on the sticker and affix it to the management sheet. Keep the management sheet in a safe place.

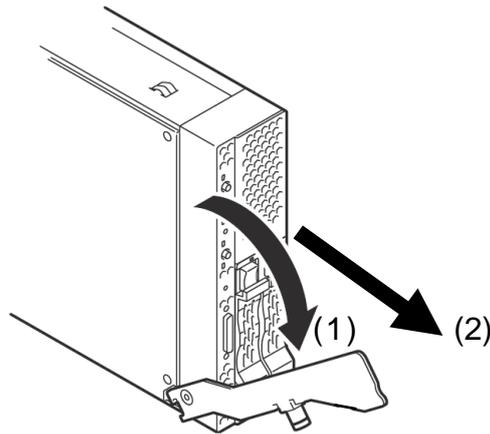
---

## Removing a CPU blade

Follow the steps below to remove a CPU blade.

Depending on the CPU blade type, a different procedure may be required. In this case, follow the instructions in the User's Guide of the CPU blade instead.

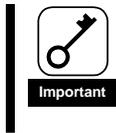
1. Shut down the OS of the CPU blade and turn the power off. For information on how to shut down the OS of a CPU blade and how to turn the power off, see "Powering on and off a CPU blade" and the User's Guide of the CPU blade.
2. Loosen the screws securing the CPU blade.
3. Open the ejector to remove the CPU blade from the blade enclosure.  
If you want to run the system with the CPU blade removed, attach a slot cover. When a full-height CPU blade is removed, a full-height CPU slot cover may need to be installed on a blank slot. For details, see "Notes for installation of a full-height and single-wide blade" in "Installing a CPU blade." For information on a full-height CPU blade slot cover, see "Assembling a full-height CPU blade slot cover."



---

## Assembling a full-height CPU blade slot cover

When a full-height CPU blade is installed on a blade slot block, one full-height CPU blade slot cover should be installed on the blank slot in the same block. By combining two half-height CPU blade slot covers, a full-height CPU blade slot cover can be assembled. See the following instructions to assemble a full-height CPU blade slot cover.

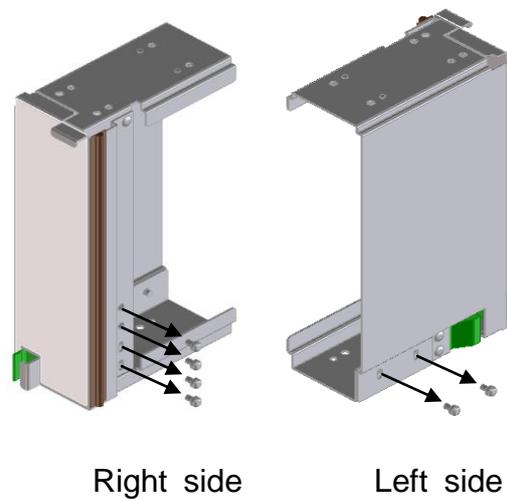


- Keep all screws.
- To avoid screws and parts falling into the cabinet, device, or module, do not assemble a full-height CPU blade slot cover near any cabinet, device, or module.

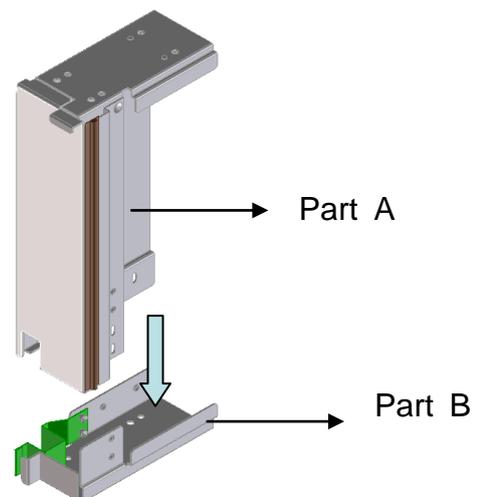
Use one of the two CPU blade slot covers for the upper level and the other for the lower level.

Start with the CPU blade slot cover for the upper level.

1. Remove 4 screws from the right side and 2 screws from the left side.



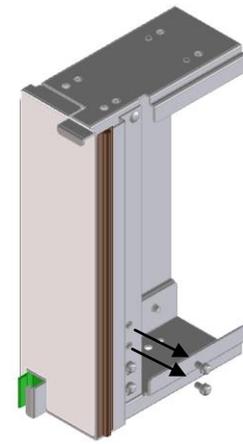
2. Separate the slot cover into two components (hereafter referred to as Part A and Part B).



The CPU blade slot cover for the upper level is now ready to be combined.

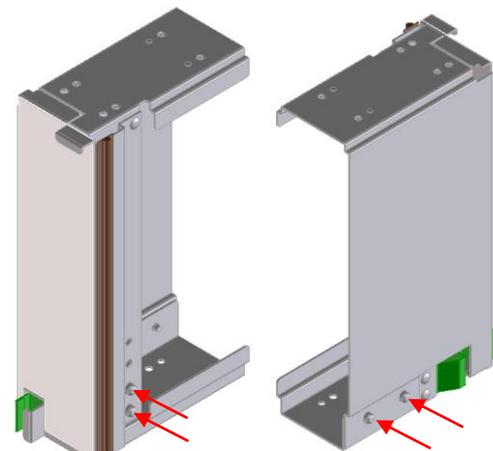
Move on to the CPU blade slot cover for the lower level.

3. Remove the top 2 screws from the right side.



Right side

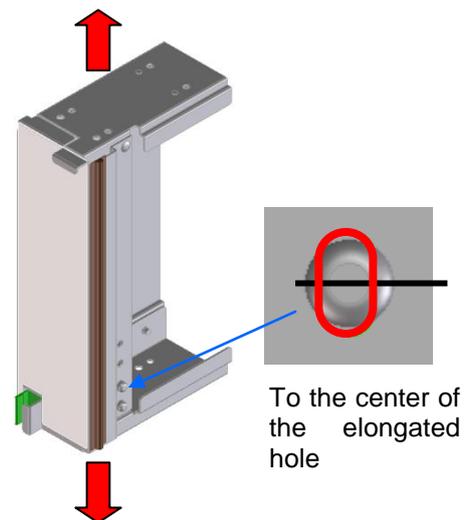
4. Loosen the lower 2 screws on the right side and the 2 screws on the left side.



Right side

Left side

5. Extend the CPU blade slot cover until the 2 screws on the right side line up with the center of the elongated hole. Tighten the 4 screws to secure the blade slot cover.

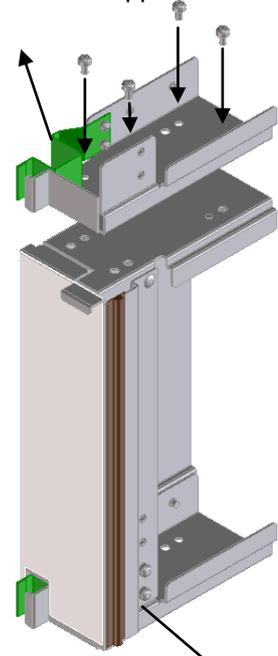


To the center of the elongated hole

The CPU blade slot cover for the lower level is now ready to be combined.

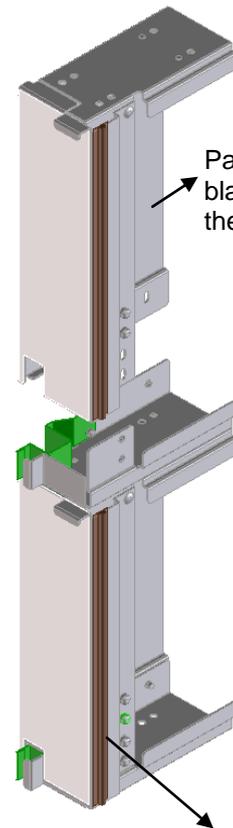
- Use the screws removed in Step 1 to connect Part B of the CPU blade slot cover for the upper blade (described in Step 2) to the CPU blade slot cover for the lower level.

Part B of the CPU blade slot cover for the upper level



CPU blade slot cover for the lower level

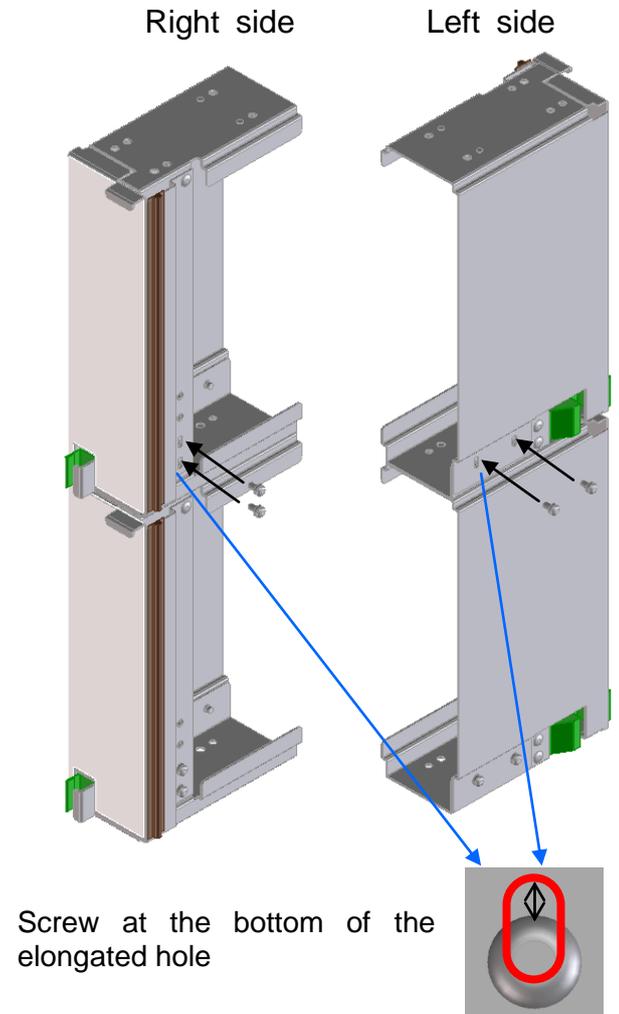
- Connect Part A of the CPU blade slot cover for the upper level to the blade slot cover assembled in Step 6.



Part A of the CPU blade slot cover for the upper level

CPU blade slot cover for the lower level  
(includes Part B of the CPU blade slot cover for the upper level)

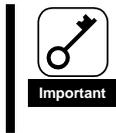
8. Use the 4 screws removed in Step 1 and 3 to fasten 4 places in the right and left (2 each in the right and left) to secure the blade slot covers. The screws should be tightened at the bottom of the elongated holes (the position where a CPU blade slot cover is extended most) as shown in the figure.



---

## Disassembling a full-height CPU blade slot cover

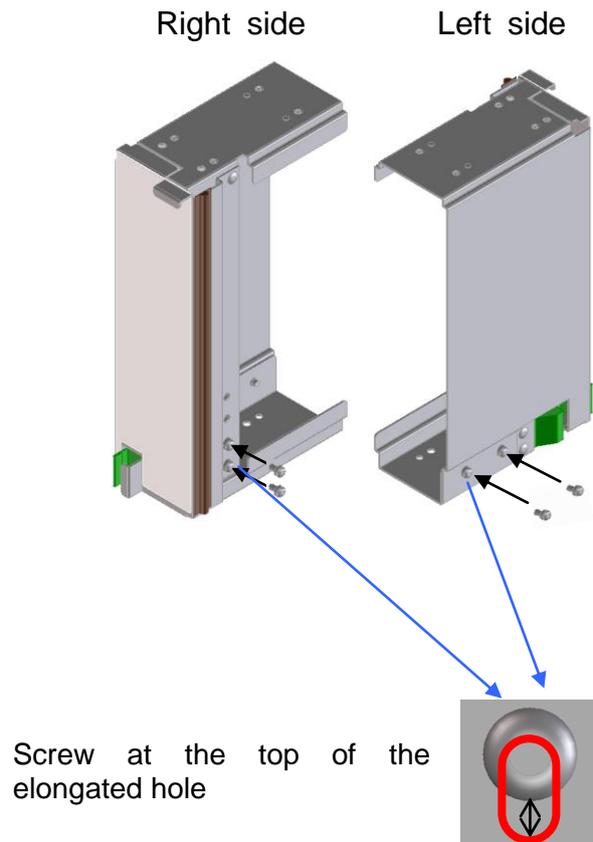
To disassemble a full-height CPU blade slot cover into the original two CPU blade slot covers, see the "Assembling a full-height CPU blade slot cover" and reverse the steps.



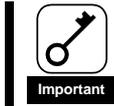
- Keep all screws.
- To avoid screws and parts falling into the cabinet, device, or module, do not disassemble a full-height CPU blade slot cover near any cabinet, device, or module.

When you disassemble a full-height CPU blade slot cover into the original CPU blade slot covers, note the following.

- To restore the original CPU blade slot covers, both of the blade slot covers should be secured by screws at the top of the elongated holes (the position where a CPU blade slot cover is shrunk most) as shown in the figure.

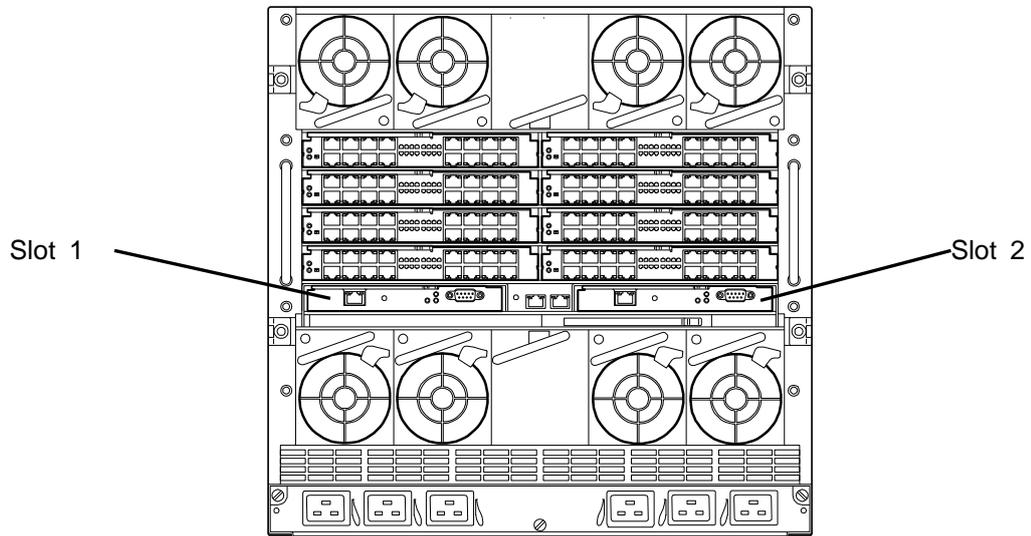


# Installing the EM card

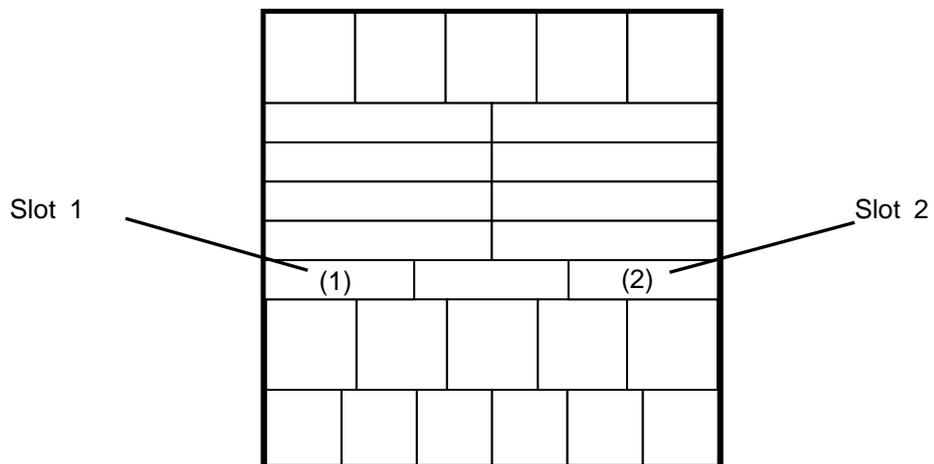


The EM card that can be installed on the blade enclosure is N8405-027.

The following illustration shows where EM cards can be installed:



The EM card that is included as standard should be installed on (1) in the illustration below. If you add another EM card, it should be installed on (2). Attach a slot cover to a slot where no EM card is installed.



Installing another EM card on the blade enclosure in addition to the EM card included as standard on the blade enclosure allows for auto switching between the active and the standby EM card for redundancy functions. For details, see "Replacing modules."

---

## Installing an EM card

Follow the steps below to install an EM card. An EM card can be installed or removed even if the blade enclosure is powered on. An example of installation is provided. Follow the same steps for installation on another slot.

|  |  |
|--|--|
|  <b>WARNING</b> |  |
|                 | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There is a risk of death or serious injury. For more information, see the descriptions on page 3.</p> <ul style="list-style-type: none"><li>• Do not place your hands inside the blade enclosure.</li><li>• Do not install or remove two or more EM cards at the same time.</li></ul> |

1. When the slot where you wish to install an EM card has a slot cover, pull the release lever located at the top to remove the slot cover.



**Important**

Keep the removed slot cover in a safe place.

2. Hold the left and right sides of the EM card with the release lever side facing up and slowly insert it into the blade enclosure.



**Important**

Do not hold the release lever to install the EM card. If you hold the release lever, it may be damaged.

3. Press the frame of the EM card front with your thumbs while the release lever is fully opened to slowly insert the EM card into the end of the blade enclosure.



**Hint**

Push the front side of the EM card carefully until it is inserted into the end of the blade enclosure and the release lever closes slightly.

4. Close the release lever slowly while carefully pressing the front of the EM card. The midplane connector of the EM card is connected to the midplane connector of the blade enclosure.

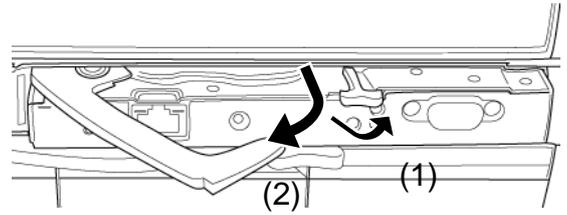
---

## Removing an EM card

Follow the steps below to remove an EM card.

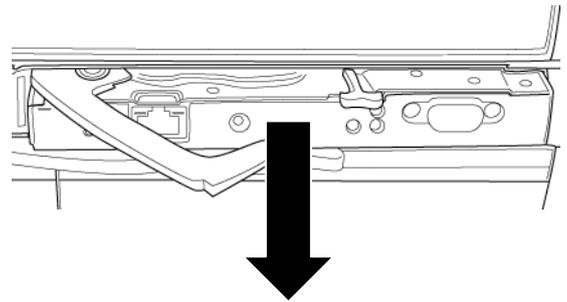
1. If any cables are connected to the EM card, remove them.

2. Open the release lever. When you open the release lever, press the stopper securing the release lever rightward.



Fully open the release lever until it stops.

3. Hold the release lever and pull the EM card out of the blade enclosure until you can hold its frame with both of your hands (approximately 10cm).



Important

Do not hold the release lever to remove the EM card. If you hold the release lever, it may be damaged.

4. Firmly grip the right and left sides of the EM card to remove it from the blade enclosure. If you want to use the blade enclosure with the EM card removed, attach a slot cover.
5. Close the release lever of the EM card.

# Installing a fan unit

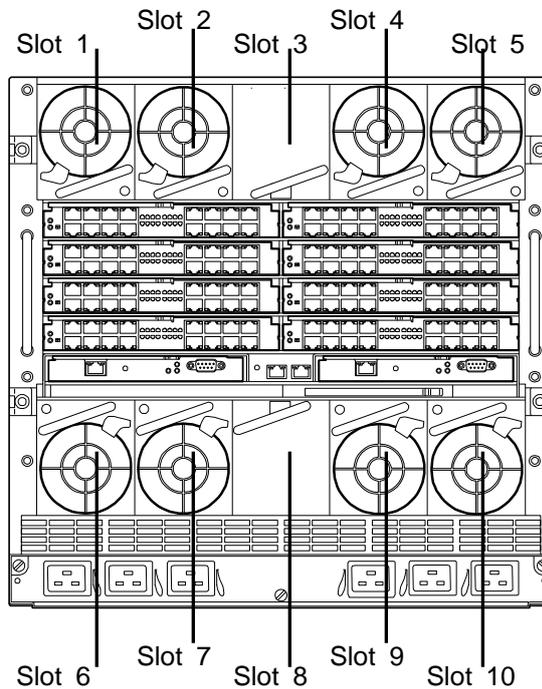
Additional fan units are options that can be installed when more fans are needed according to the number of CPU blades or other modules installed on the blade enclosure. See "Components" described earlier.



**Important**

- The fan unit that can be installed on the blade enclosure is N8405-026. The fan unit N8405-026 is a set of two fan units.
- The number of fan units required depends on the number of modules, such as CPU blades. See "Fan unit installation guide" to add fan units as necessary. The blade enclosure is equipped with four fan units as standard.

The following illustration shows slots where fan units can be installed:

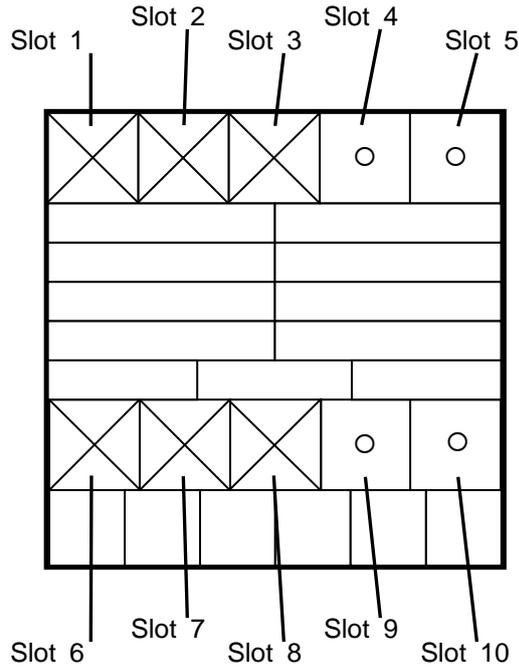


Slots on which fan units are installed depend on the total number of fan units installed on the blade enclosure. Install fan units on the slots with the "o" mark in the following illustrations according to the number of fan units you are installing. Attach slot covers to slots with no fan units. The total number of fan units that should be installed is determined by the number and types of modules that are installed. For information on the number of fan units that should be installed, see "Fan unit installation guide."

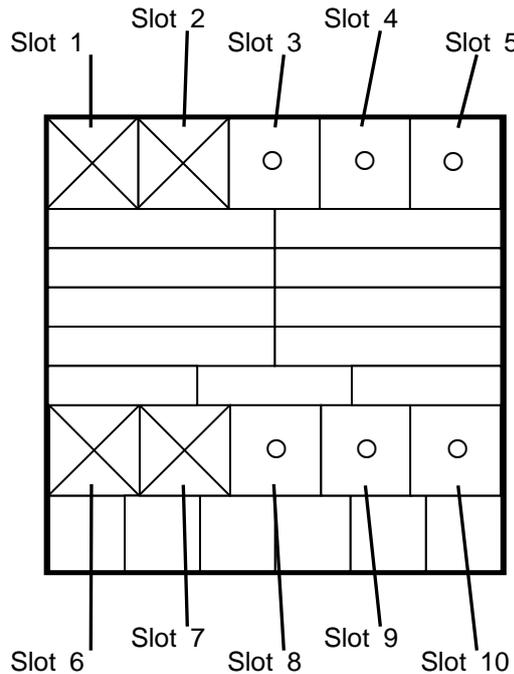


Slot covers that can be installed on fan unit slots of the blade enclosure are fan slot covers N8405-037.

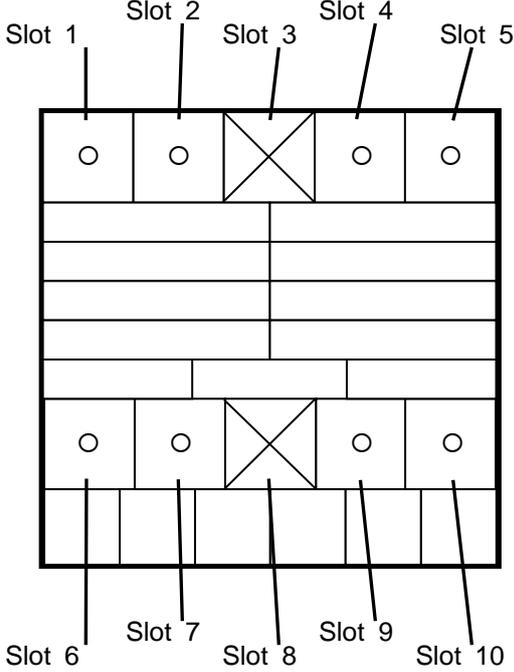
When four fan units (factory default) are installed



When six fan units are installed (four units as factory default plus two additional units)



When eight fan units are installed (four units as factory default plus four additional units)



# Fan unit installation guide

In principle, blades are installed on slots starting from the far-left slot, although there are exceptions depending on the number and types of blades. See the User's Guides of the blades.

With four fan units (factory default), blades in section A in the following illustration (blade slots 1 and 9) can be cooled; with six fan units, blades in sections A and B (blade slots 1 to 4 and 9 to 12) can be cooled; with eight fan units, blades in sections A, B, and C (all blade slots) can be cooled.

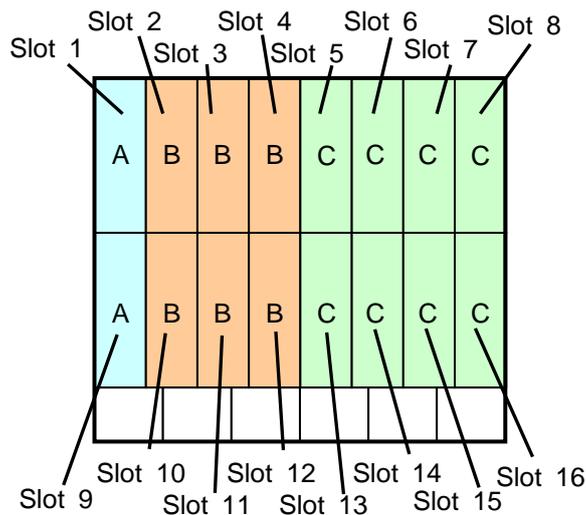
- When a N8406-019 4G FC switch (12 ports) is installed, up to eight CPU blades can be connected to the FC switch (12 ports). These CPU blades are installed on the blade slots 1 to 8. CPU blades on the blade slots 9 to 16 cannot connect to a FC switch (12 ports).
- When a N8406-019 4G FC switch (12 ports) is installed, full-height blades can connect to the FC switch (12 port). However, there are restrictions of mezzanine slots to which the blades can connect and slot ports. For details, see "Internal connection between CPU blades and switch modules" on page 32.
- When a CPU blade is installed on any of blade slots 5 to 8 or 13 to 16, eight fan units are required whether or not there is CPU blade in the blade slots 1 to 4 and 9 to 12.
- When the blade enclosure has a N8406-019 4G FC switch (12 ports), four blades with Fibre channel mezzanines on the blade slots 1 to 4, and four blades without Fibre channel mezzanines on the blade slots 9 to 12, six fan units are required for cooling.

When an even number of fan units are installed, the redundancy mode is N+1. For example, eight fans are installed for 16 blades. If one of the fans fails (i.e., seven fans are working) successful operation can continue. If two of the fans fail (i.e., six fans are working), operation may stop due to a temperature abnormality detected by a server or switch module.

If only one NEC Express5800/120Bb-m6 is installed, it will use the blade slots 1 and 2 with nothing on the blade slot 9. However, six fan units are required because the blade slot 2 is used.

When you add a fan unit, you may have to relocate fan units that are already installed. Install fan units in the correct slots by referring to the instructions described on previous pages.

For information on the number of slots used by blade products, see "Installable CPU blades" and the User's Guides of the blades.



## Installing a fan unit

A fan unit can be installed/removed even if the blade enclosure is powered on. The following section is an example of installing a fan unit. Use the same method to install fan units to other slots.

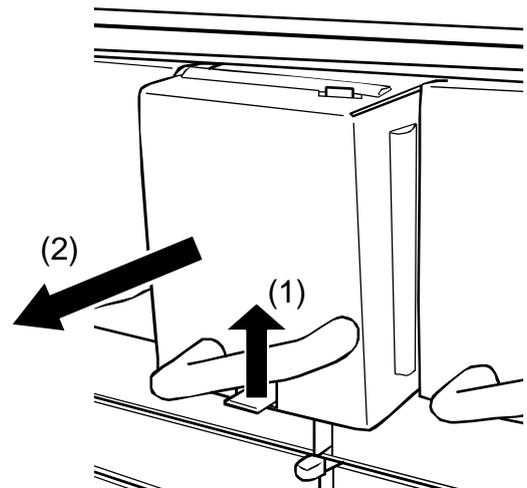
|  |   |
|--|---|
|  <b>WARNING</b> |   |
|                 | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There is a risk of death or serious injury. For more information, see the descriptions on page 3.</p> <ul style="list-style-type: none"><li>• Do not place your hands inside the blade enclosure.</li><li>• Do not install or remove two or more fan units at the same time.</li></ul> |



**Important**

The upside and downside of a fan unit are inverted on the upper level (fan unit slots 1 to 5) and the lower level (fan unit slots 6 to 10) of the blade enclosure. Even if you attempt to install a fan unit in the wrong direction, you cannot install it, and the connector may be damaged.

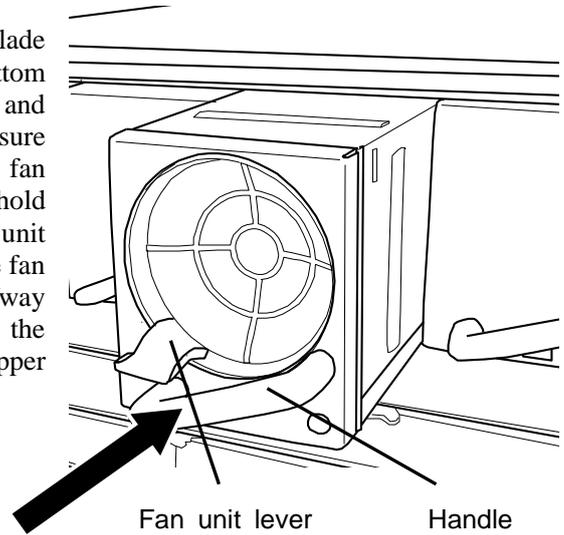
1. If there is a slot cover on the slot where you wish to install the fan unit, remove the slot cover. If the slot cover is on a slot on the upper level of the blade enclosure (fan unit slots 1 to 5), push the slot cover ejector upward. If the slot cover is on the lower level (fan unit slots 6 to 10), push the ejector downward. The illustration on the right depicts removal from the upper level. Push the ejector downward if you remove a slot cover from the lower level.



**Important**

Keep the removed slot cover in a safe place.

- To install a fan unit on the upper level of the blade enclosure, hold the fan unit handle and the bottom of the unit firmly with the handle facing down and insert the fan unit slowly into the blade enclosure halfway (approximately 10 cm). To install a fan unit on the lower level of the blade enclosure, hold the fan unit handle and the bottom of the unit firmly with the handle facing up and insert the fan unit slowly into the blade enclosure halfway (approximately 10 cm). The illustration on the right depicts installing a fan unit on the upper level. For installation on the lower level, the fan unit is turned upside down.



**Important**

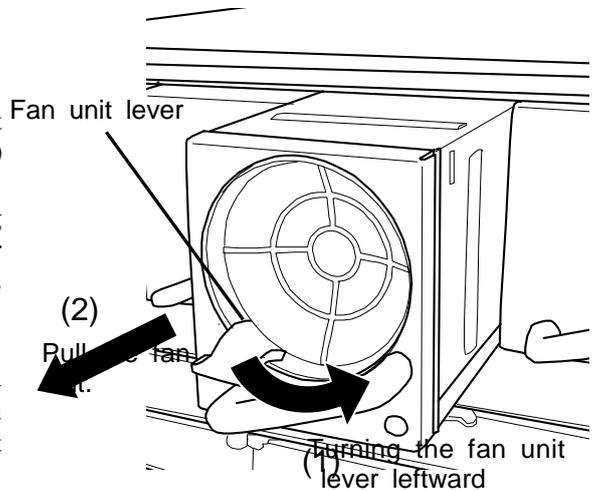
Do not hold the fan unit lever to install the fan unit. If you hold the fan unit lever, it may be damaged.

- Slowly push the fan unit handle to insert the fan unit into the blade enclosure.

## Removing a fan unit

Follow the steps below to remove a fan unit:

- Check which fan unit you wish to remove.
- Hold the fan unit handle to pull the fan unit out of the blade enclosure approximately 10 cm while turning the fan unit lever leftward. The illustration on the right depicts pulling out a fan unit from the upper level. For removal from the lower level, the fan unit is turned upside down.
- Hold the bottom of the fan unit firmly and remove it from the blade enclosure. If you want to use the blade enclosure without installing a new fan unit on the fan unit slot, attach a slot cover.



**Important**

- Do not hold the fan unit lever to remove the fan unit. If you hold the fan unit lever, it may be damaged.
- Turn the fan unit lever toward the indicated direction. If you turn the fan lever toward the wrong direction, the fan lever may be damaged.

## Installing the front bezel

The front bezel is a recommended option to protect the CPU blades installed on the blade enclosure.

Installation and removal of the front bezel and its filter should be done only by sales maintenance personnel. Contact your sales maintenance personnel to install or remove the front bezel and its filter.



### Important

- The front bezel that can be installed on the blade enclosure is N8405-028.
- When the front bezel is attached to the blade enclosure, a front door cannot be attached to the rack on which the blade enclosure is installed.

---

### Filter cleaning

The front bezel has a filter on its backside. Frequency of filter cleaning depends on how the blade enclosure is used and the environment where the blade enclosure is installed. It is recommended to clean the filter at least once every three months. Check the filter and clean it as necessary. Open the front bezel and clean the filter by using a vacuum cleaner. For information on how to open the front bezel, see "How to open the front bezel."

## Opening the front bezel

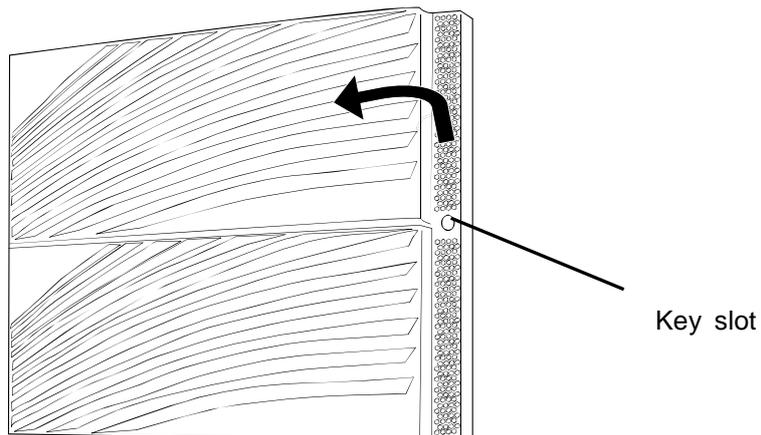
The front bezel can be opened even if the blade enclosure is powered on. To remove a CPU blade installed on the blade enclosure, keep the front bezel open (the front bezel is a recommended option).

For information on how to remove a CPU blade, see "Installing a CPU blade" on page 41.

|  |  |
|--|--|
|  <b>CAUTION</b> |  |
|                 | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There are risks of a burn, injury, or damage to physical assets. For more information, see the descriptions on page 3.</p> <ul style="list-style-type: none"><li>● Be careful not to hurt your fingers.</li></ul> |

The following description assumes the front bezel is already attached to the blade enclosure.

1. If the front bezel is locked, insert the included key into the key slot of the front bezel and push it lightly to unlock.
2. Open the front bezel.



---

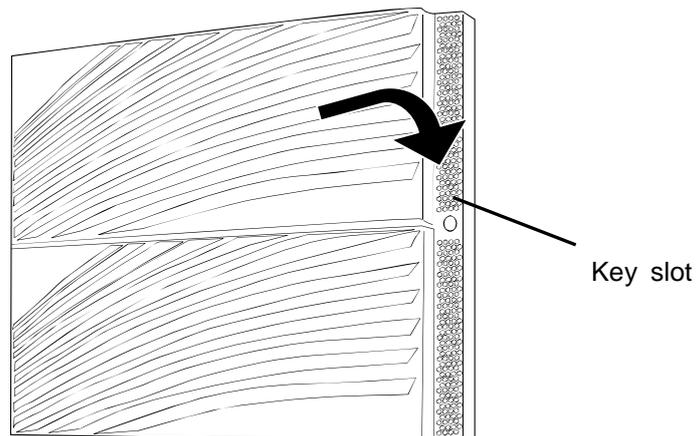
## Closing the front bezel

Follow the steps below to close the front bezel. The front bezel can be closed even if the blade enclosure is powered on. Close the front bezel after installing CPU blades.

For information on installing a CPU blade, see "Installing a CPU blade" on page 41.

The following description assumes the front bezel is already attached to the blade enclosure.

1. Close the front bezel.



2. If you want to lock the front bezel, insert the included key into the key slot of the front bezel and push it lightly to lock.

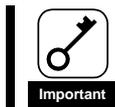
# Connecting cables

Connect cables according to the requirements of your environment. For information on connecting cables, see the manuals of the installed devices.

## Front

Use a K410-150(00) SUV cable, which is sold separately, to connect the SUV connector located on the front side of a CPU blade to the local console.

- \* The SUV connector and the local console are not supported by some CPU blades. For details, see the User's Guide of the CPU blade. Even if there is an SUV connector present, the local console may not be supported.



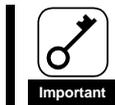
The SUV cable that can be connected to a CPU blade is K410-150(00).

---

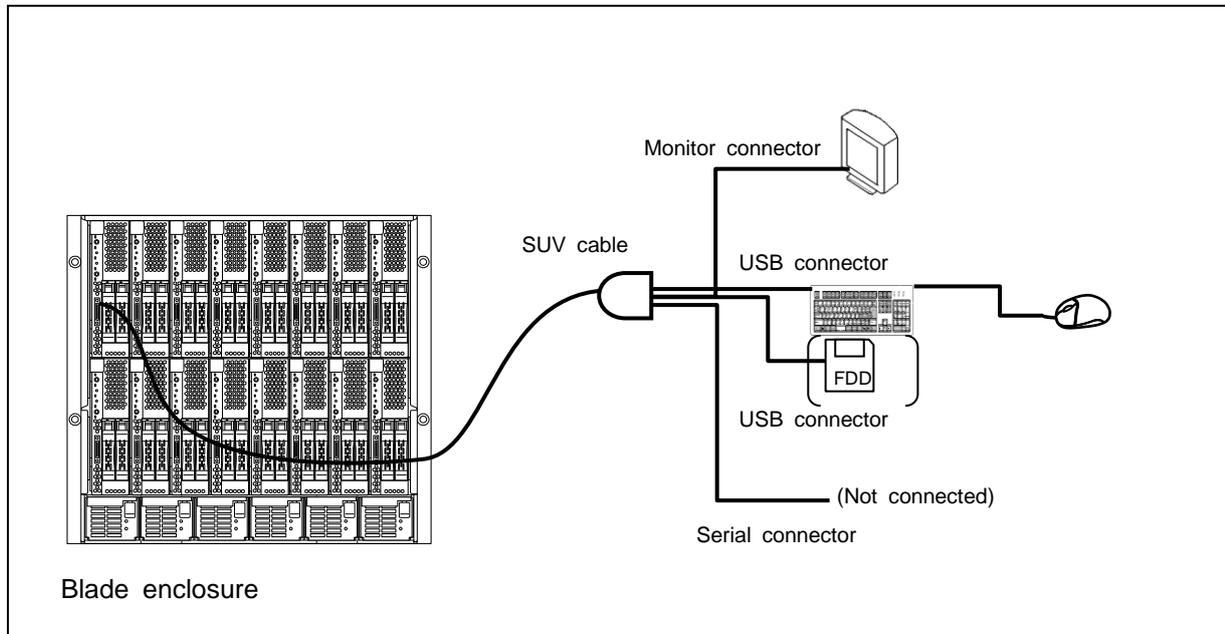
## Local console

Connect a USB keyboard to the keyboard/mouse connector of the SUV cable, and then connect a USB mouse to the USB connector of the keyboard. The cable of the display device should be connected to the monitor connector of the SUV cable. See the User's Guide of the CPU blade as well.

It is assumed that the local console is used for installation of an OS and for emergency operation. For general operation, do not use CPU blades with a SUV cable connected. Some CPU blades do not support installation of an OS through the SUV cable. For details, see the User's Guide of the CPU blade.



- For general operation, do not use CPU blades with a SUV cable connected. If you always use CPU blades with a SUV cable, there is a risk of damage to the SUV cable or connector.
- Make sure not to snag or pinch the SUV cable. There is a risk of damage to the SUV cable, CPU blades and the blade enclosure, and other modules.



These input and output devices are collectively called "local console." CPU blades on the blade enclosure can be directly operated when they are connected to a keyboard, video monitor, and mouse via the SUV cable attached to the blade enclosure.

The following devices are recommended for the local console:

Note: Some CPU blades may require a local console different from the one described in this guide.

In this case, follow the instructions in the User's Guide of the CPU blade instead.

#### Recommended models

- 104-key Keyboard (USB) (N8870-002AF)
- Mouse (USB) (N8870-010A)
- External Floppy Disk Drive Unit (N8160-74)

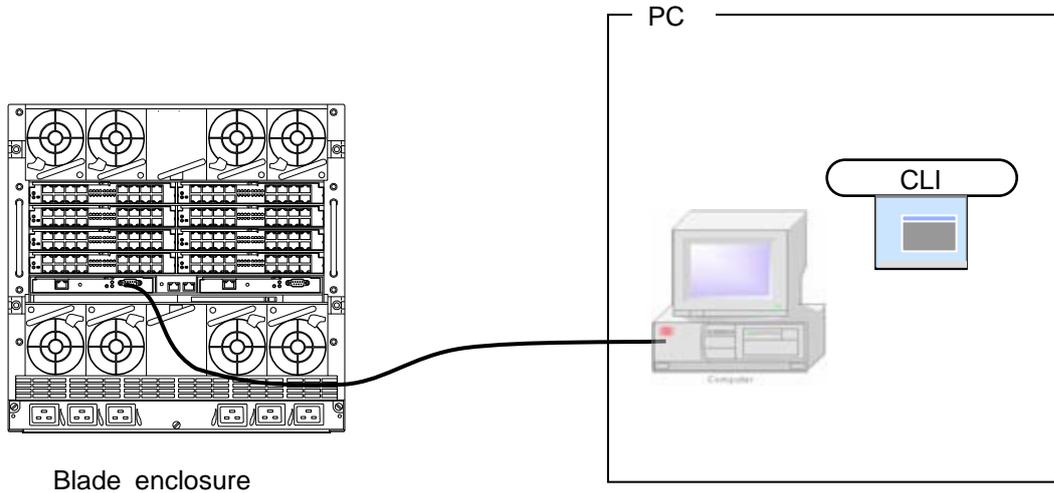
# Rear

Connect network cables (RJ-45), interface cables to be connected to switch modules, and power cords to the rear of the blade enclosure.

---

## EM serial console

When the serial (COM) port of an EM card is connected to a PC by a serial cable (D-Sub 9-pin connector, crossover cable), you can operate the CPU blades and check their status.



These input and output devices are called "EM serial console." You can operate and check the status of CPU blades and other modules on the blade enclosure on a PC via the serial (COM) port. Use a crossover cable for serial cable connection.

Use a device satisfying the following recommended specifications for the EM serial console (the EM serial console, EM console, and LAN console can share one PC).

### Recommended specifications

- CPU : Pentium processor (600MHz) or faster
- Memory : 1GB or larger
- Hard disk drive : 400MB or larger
- LAN : 1 port (100Mbps or faster)
- Serial : 1 port

### Recommended OS

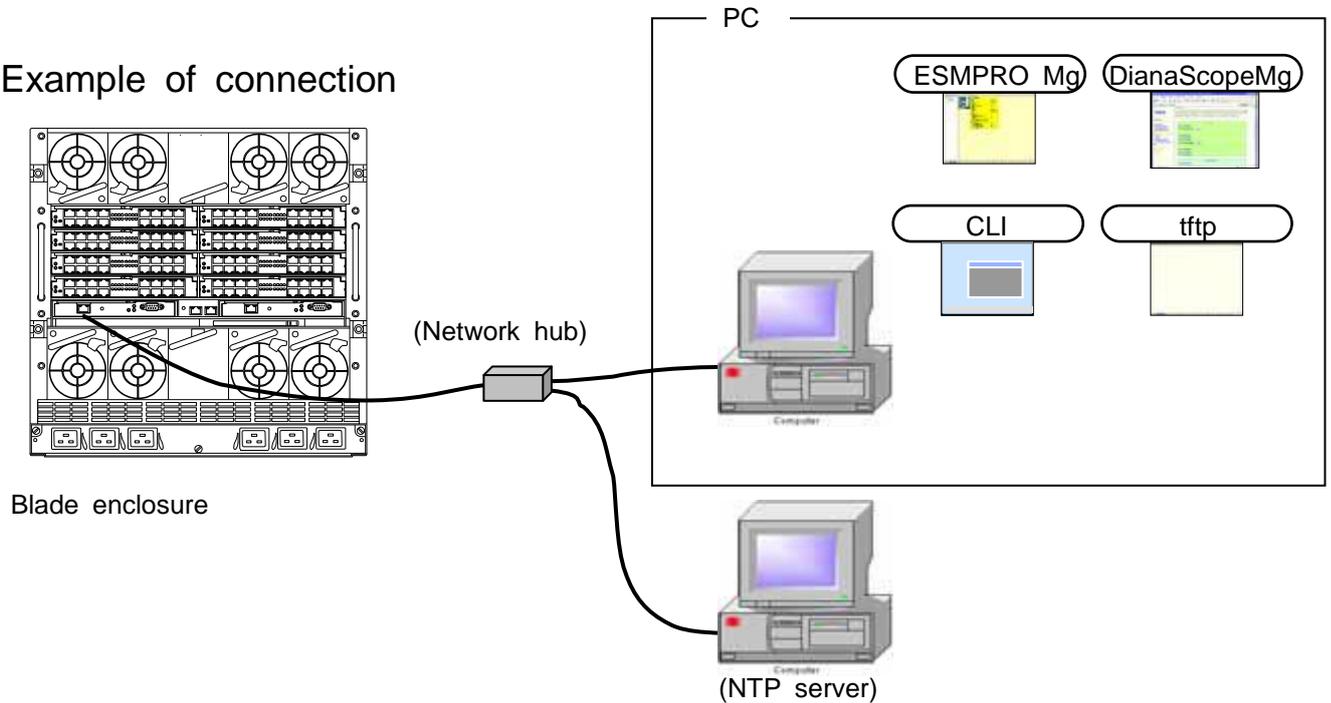
- : Windows Server 2003 Standard Edition SP1 or Enterprise Edition R2
- Windows 2000 Server, Advanced Server, or Professional (SP4 or later required)
- Java Runtime Environment: JRE 1.4.2\_03 recommended (contained in NEC EXPRESSBUIDER)
- Web server/servlet container: TOMCAT 4.1.29 recommended (contained in NEC EXPRESSBUIDER)

- Browser : Internet Explorer 6.0 or later

## EM console

When the LAN connector (management LAN connector) of an EM card is connected to a PC by a network cable (RJ-45), you can remotely control the CPU blades. You can virtually allocate modules, such as DVD, CD, and floppy disk drives on the PC to the CPU blades (i.e., remote media), and operate and check the status of the CPU blades.

### Example of connection



These input and output devices are collectively called "EM console" and the network is called "management LAN." You can operate and check the status of CPU blades and other modules on the blade enclosure on a PC via a LAN network.



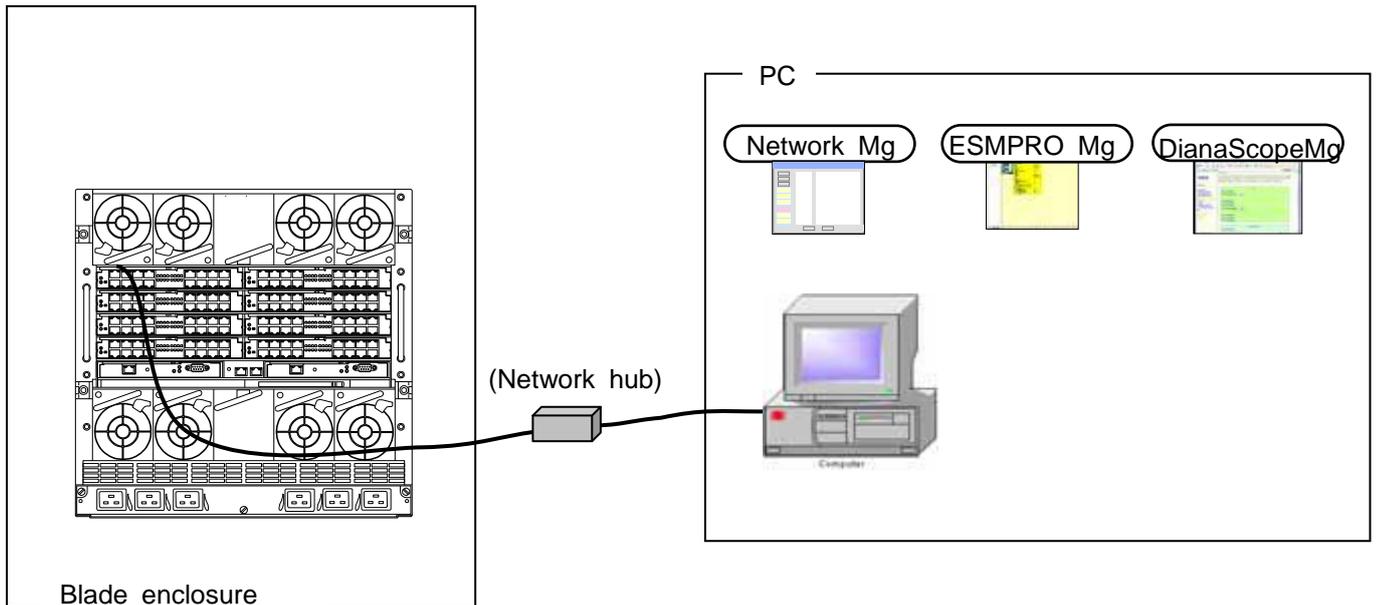
#### Important

- The default IP address of the EM card is 192.168.1.8 ~11 (subnet mask: 255.255.255.0). Connect to a network with a subnet mask that allows this IP address and configure the initial settings of the network from the EM console on the same network. Then, connect to the network you intend to use. For information on how to configure, see [Initial settings in Command-line interface \(CLI\) \(EM card\)](#). Make sure that there is no network device with the same IP address as the EM card on the network.
- All EM cards have the same default IP address. Configure the IP addresses before allowing multiple EM cards to access the same network.
- The management LAN connector of the EM card only supports auto negotiation mode.

For the EM console, use a device whose specifications are equivalent to the device used for the EM serial console (the EM serial console, EM console, and LAN console can share one PC).

## LAN console

When the LAN connector of a switch module or pass-through card is connected to a PC by a network cable (RJ-45), you can remotely control and operate CPU blades.



These input and output devices are collectively called "LAN console" and the network is called "user LAN." You can operate CPU blades and switch modules on the blade enclosure on a PC via a LAN network.



### Important

- Make sure the IP addresses have subnet masks available on the network.
- Check that the IP addresses you are configuring do not conflict with any network devices on the network.

For the LAN console use a device whose specifications are equivalent to the device used for the EM serial console (the EM serial console, EM console, and LAN console can share one PC).

For details on connection and how to use the LAN console, see the User's Guides and manuals of the GbE intelligent switch (L2)(N8406-022), GbE intelligent switch (L3)(N8406-023), GbE pass-through card (N8406-016), and CPU blades.

---

### SFP connector (switch module)

See the User's Guides of the 4G FC switch (12 ports) (N8406-019), 4G FC switch (24 ports) (N8406-020), and GbE intelligent switch (L3)(N8406-023).

---

### SFP connector (pass-through card)

See the User's Guide of the 4G FC pass-through card (N8406-017).

---

## Power connector

Connect the power cords to the AC inlets of the power units installed on the power unit slots 1 and 4 at the rear of the blade enclosure (these units are standard equipment). If any optional power units are installed on the power unit slots 2, 3, 5, and 6, connect the power cords to the AC inlets of the optional power units as well.

If the N+N redundant mode is set as the power redundancy mode, power units in the slots 1 to 3 form power system 1 while power units in the slots 4 to 6 form power system 2. Note this when you connect a device such as a power supply tap or uninterruptible power supply system.

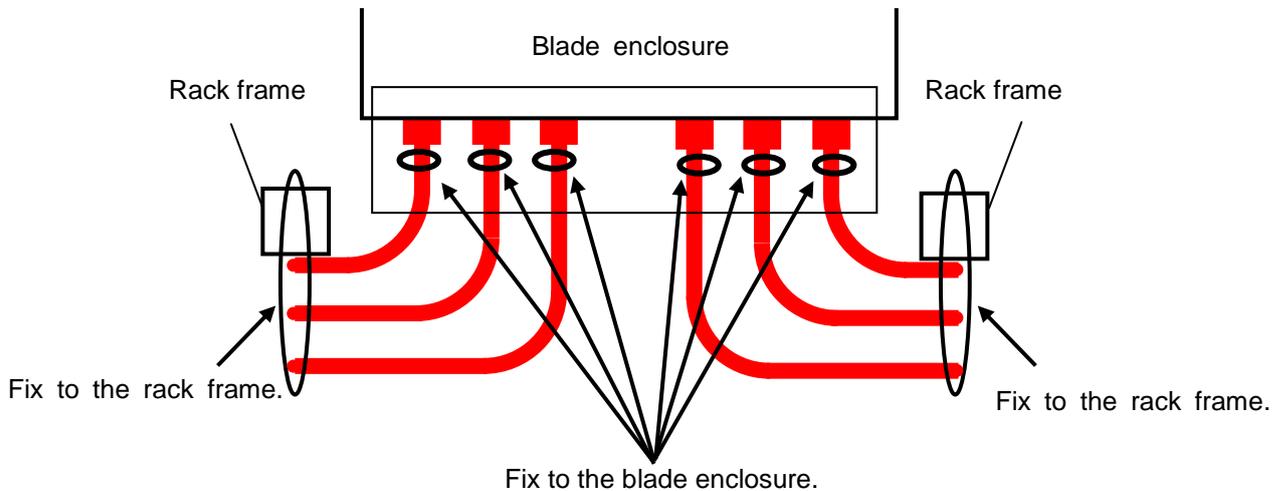
When you connect the power cords to the blade enclosure, use the cable ties that are shipped with the blade enclosure to fix the power cords to the rack. All power cords should be fixed to the blade enclosure by cable clamps or to power supply retention ties located near the AC inlets. Cable clamps or cable ties are shipped with the blade enclosure. For details about installing/removing power cords with cable clamps, see "Installing cable clamps" and "Removing a power cord from a cable clamp". Power cords connected to the AC inlets of the power unit slots 1 to 3 should be routed rightward horizontally and fixed to the rack by cable ties at the rear. Power cords connected to the AC inlets of the power unit slots 4 to 6 should be routed leftward horizontally and fixed to the rack by cable ties at the rear. Excessive force should not be applied to a spot where an AC inlet touches a power cord.

For information on installing an optional power unit, see "Power unit" on page 81.

When AC power is supplied to a power unit, its power LED is green.

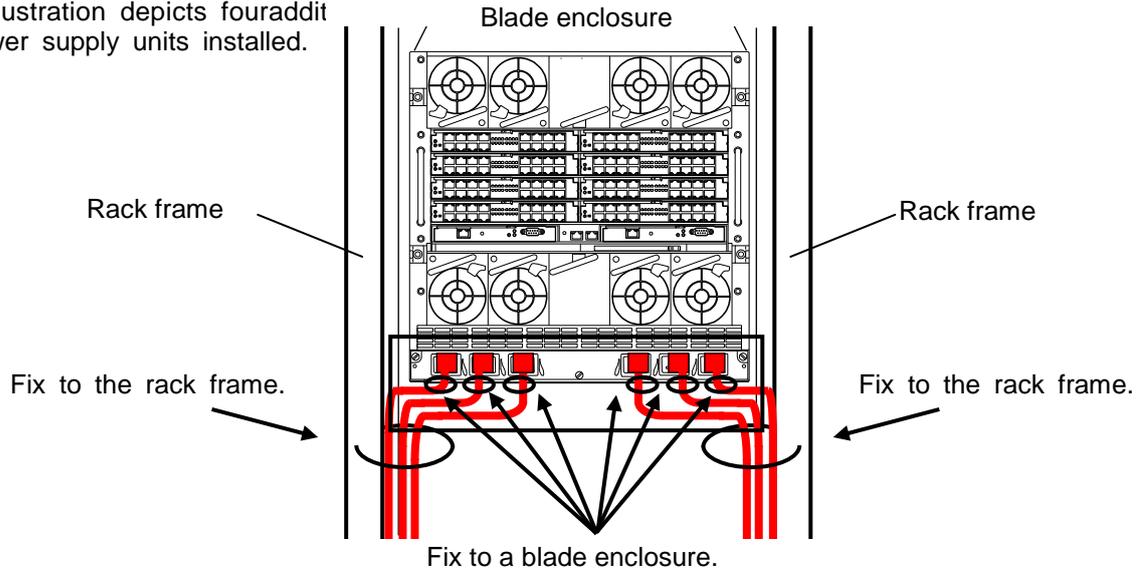
## Overhead view

The illustration depicts four additional power supply units installed.

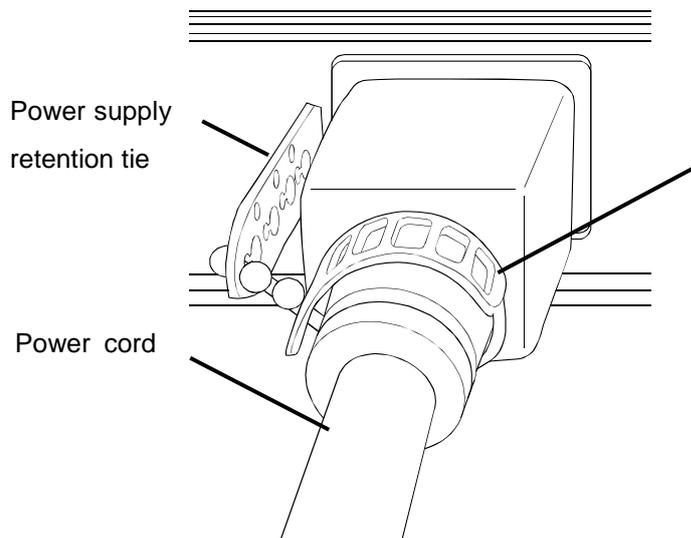


## Rear view

The illustration depicts four additional power supply units installed.



## Fix a power cord to a power supply retention tie by a cable tie



Cable tie  
Draw the cable tie tip through the cable tie hole and then through a retention tie hole by referring to this illustration.

\* When cable clamps are provided as standard, use them instead.

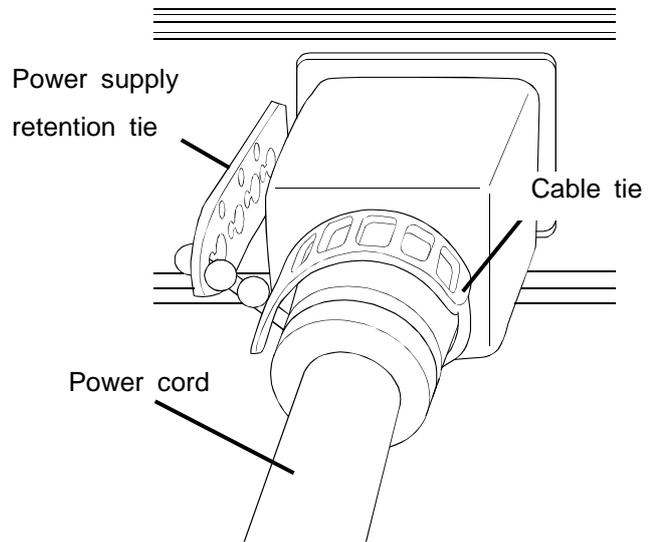
---

## Installing cable clamps

Follow the steps below to install cable clamps.

1. Remove cable ties. When cable ties are not fixed, skip this step.

When power cords are fixed to power supply retention ties, remove the cable ties.



2. Remove the power supply retention ties. When the blade enclosure has no power supply retention ties, skip this step.

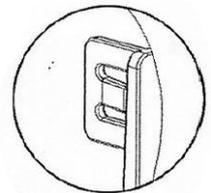
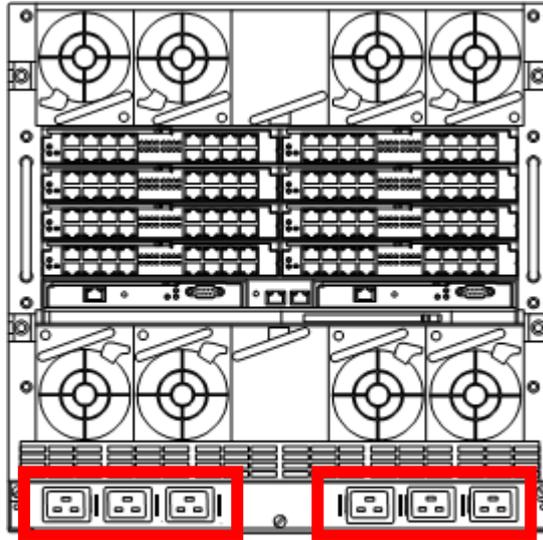
When the blade enclosure has power supply retention ties, remove them with pliers.

3. See the following illustrations to check where the cable clamp should be installed.

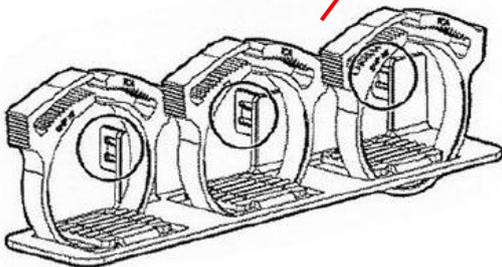


The shapes of cable clamps (L) and (R) are not the same. See the following illustrations to check the locations of the tabs on the cable clamps and the direction in which they should be installed.

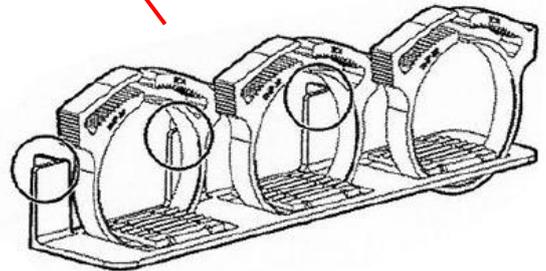
Blade enclosure (rear view)



Tab of cable clamp



Cable clamp (L)  
For Power unit 4 - Power unit 6



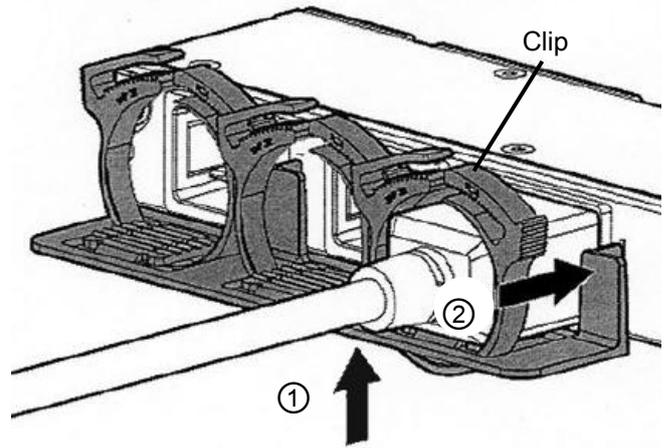
Cable clamp (R)  
For Power unit 1 - Power unit 3

4. Attach a cable clamp (L) to the blade enclosure.

Place the cable clamp (L) under the power cord and adjust the power cable to the clip of the cable clamp.

Open the clip of the cable clamp and insert the power cord into the clip. Do this for each power cord (up to three cords).

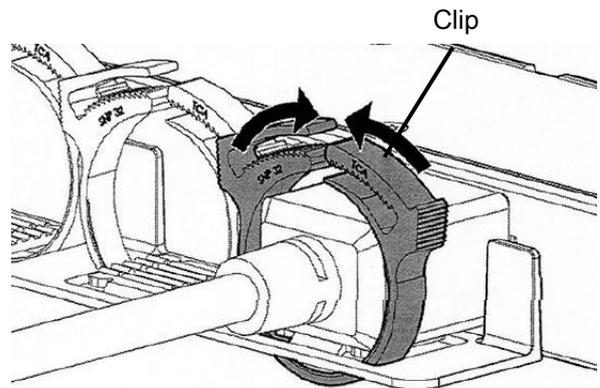
Bring the cable clamp to the blade enclosure and carefully insert the tabs of the cable clamp into the slots on the blade enclosure.



You will hear a click sound when you attach the cable clamp to the blade enclosure.

5. Secure the power cords to the cable clamp (L).

Slide the clip of the cable clamp to the end of the plug cap of the power cord. Then, close both sides of the clip firmly to secure the power cord. Do this for each power cord (up to three cords).



6. Attach a cable clamp (R) to the blade enclosure and secure the power cords (up to three cords) to the cable clamp in the same way (see Steps 4 and 5).

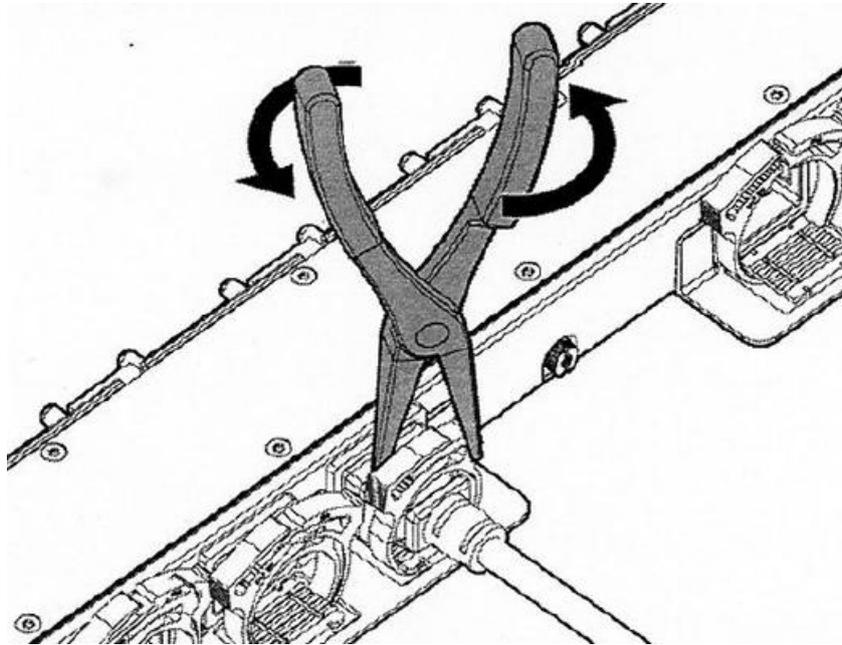
---

## Removing a power cord from a cable clamp

Follow the steps below to remove a power cord from a cable clamp.

Firmly hold the clip of the cable clamp with pliers and twist it to release the clip.

Remove the power cord.





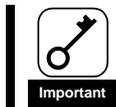
**Important**

- Note that a maximum of 2250W/2273VA power is supplied from each power unit.
- Fix power cords firmly to the blade enclosure. If power cords are not fixed, they may be removed while the devices are running, which can result in data loss or malfunction of the device.
- Contact NEC's sales representative if you use an uninterruptible power supply system.

# Emergency power off (EPO)

In the event of an environmental disaster or problem (e.g., fire, earthquake, etc.), the emergency power off (EPO) procedure can be performed to shut down computers, uninterruptible power supply systems (UPS), and air conditioners to prevent further damage. Because there is a risk of data corruption when EPO is performed, clearly define scenarios to perform EPO in advance. Operate your system with an understanding of these scenarios and the procedure to perform EPO.

|  CAUTION  |  |
|--|--|
| <br> | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There is a risk of death or serious injury. For more information, see the descriptions on page 3.</p> <ul style="list-style-type: none"><li>• In case of emergency, EPO should be performed quickly. Clearly define scenarios to perform EPO in advance. Operate your system with an understanding of these scenarios and the procedure to perform EPO.</li><li>• Place the power supply tap in a place where it is noticeable and easy to access so that power can be shut down in an emergency.</li></ul> |



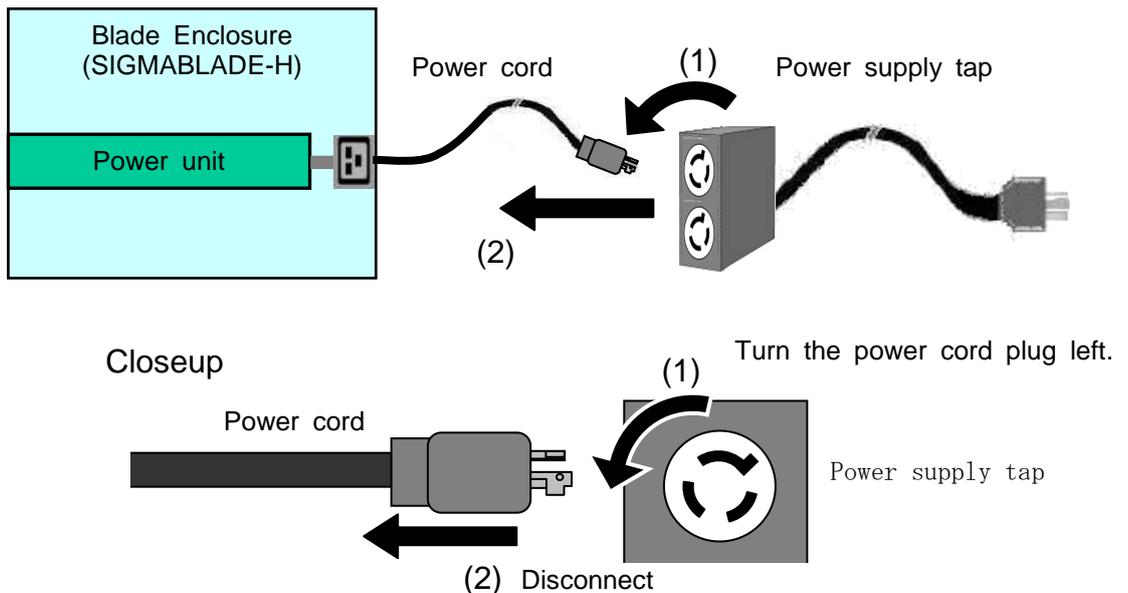
Data may be corrupted when emergency power off is performed.

## Power supply tap

In case of emergency, disconnect the power cords attached to the AC inlets of the blade enclosure from the power supply tap.

Place the power supply tap in a place where it is noticeable and easy to access so that the power cords can be disconnected quickly.

Example: How to disconnect L6-20P power cord.



Disconnect all power cords connected to the blade enclosure according to the illustration above.

---

## Emergency power off switch

For the safety of the entire computer room, install an emergency power off switch that allows shutdown of power supplied to all devices in the computer room in case of emergency.

This emergency power off switch should be installed near the main doorway so that an operator can use it when he/she evacuates the room. The emergency switch should not require technical skill or expertise to use.

# Power unit

Additional power units are options that are installed when CPU blades and other modules on the blade enclosure require more power units or when you want to enable power redundancy functions.

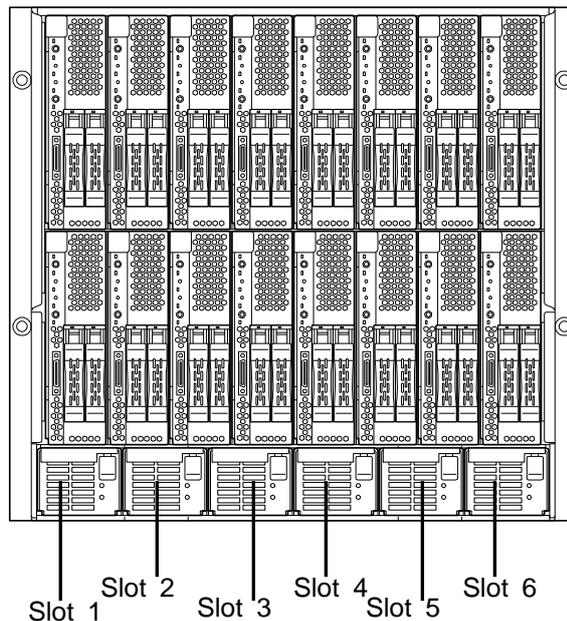
|  |   |
|--|---|
|  <b>WARNING</b> |   |
|                 | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There is a risk of death or serious injury. For more information, see the descriptions on page 3.</p> <ul style="list-style-type: none"><li>• Air exhausted from power fans may get hot.</li></ul> |



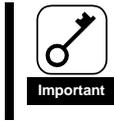
**Important**

- The power unit that can be installed on the blade enclosure is N8405-025F.
- The number of power units required depends on the number of modules, such as CPU blades, and the power redundancy mode selected. See "Power unit installation guide" and add power units as necessary. The blade enclosure is equipped with two power units as standard.

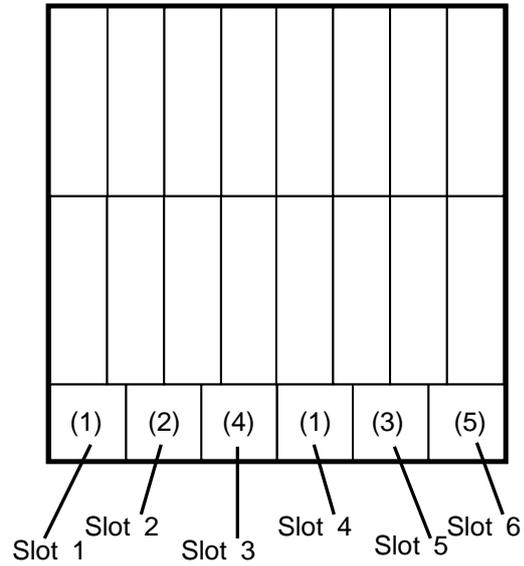
The following illustration shows slots where power units can be installed:



The power units that are equipped as standard should be installed on (1) (there are two slots shown as (1)). When additional power units are installed, install them in the order of (2) to (5) as shown in the illustration below. Slots with no additional power unit installed should have slot covers attached. For information on the number of power units required, see "Power unit installation guide."



Slot covers that can be installed on power unit slots of the blade enclosure are power slot covers N8405-036.



# Power unit installation guide

The number of power units required is determined by the total power consumption of blades. See the following to determine the number of power units required for your system.

\*If you need more detailed information, please contact your sales agent.

1. Calculate the total power consumption according to the following formula:

$$\text{Total power consumption (watt)} = \text{total power consumption of blades (watt)} + 1340 \text{ (watt) (power consumption of the blade enclosure*)}$$

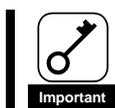
\*The power consumption of the blade enclosure includes power consumption of switch modules, fan units, etc.

To find the total power consumption of the blades, add up the power consumption of all the blades installed on the blade enclosure. The amount of power consumption varies according to the blade type. For information on the power consumption of blades, see the User's Guides or Configuration Guides of the blades.

2. Determine the number of power units required by using the value for total power consumption quoted by the formula above.

| Total power consumption (watt) | Number of power units required (N+1 redundancy mode ) | Number of power units required (N+N redundancy mode ) | Remarks  |
|--------------------------------|---|---|--|
| 2250 or smaller                | 2   | 2   | The number of power units required include the two power units that are installed as standard. |
| 4500 or smaller                | 3   | 4   |  |
| 6750 or smaller                | 4   | 6   |  |
| 9000 or smaller                | 5   | Not available   |  |

As of 2008 April



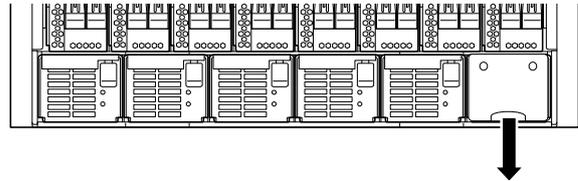
The N+N redundant mode cannot be used if the total amount of power consumption is over 6750 watts. Use the N+1 redundant mode instead.

## Installing a power unit

Follow the steps below to install a power unit. A power unit can be installed or removed even if the blade enclosure is powered on. Power units can be removed only in a redundancy configuration. If you want to remove a power unit in a non-redundancy configuration, power off all devices on the blade enclosure. Installation can be done in both redundancy and non-redundancy configurations. An example of installation is provided below. Follow the same steps for installation on other slots.

|  |  |
|--|--|
|  <b>WARNING</b> |  |
|                 | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There is a risk of death or serious injury. For more information, see the descriptions on page 3.</p> <ul style="list-style-type: none"><li>● Do not place your hands inside the blade enclosure.</li><li>● Do not insert a wire or metal object.</li></ul> |

1. Check that the AC inlet corresponding to the slot on where you to install a power unit has a power cord connected. If not, connect a power cord.
2. If the power unit is installed on the slot 3 or 4, slide the key box so that it will not impair the installation. For information on moving the key box, see "Moving the key box."
3. If the slot on which you are installing the power unit has a slot cover, remove it.



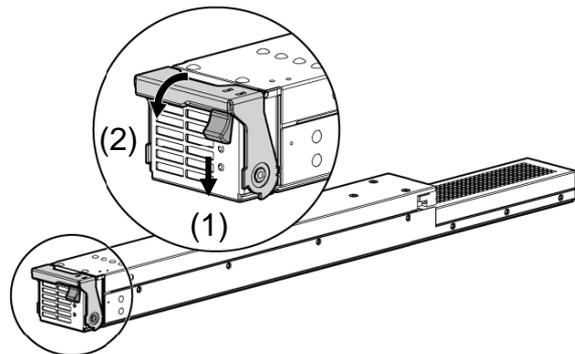
Pull the slot cover hook forward.



**Important**

- Keep the slot cover that has been removed in a safe place.
- Do not remove any slot covers other than the one attached to the slot where you wish to install the power unit.

4. Put the power unit on a clean, flat table and open the power unit ejector. When you open the power unit ejector, push the power unit stopper securing the power unit ejector downward.



5. Hold the power unit frame with the power unit stopper facing up. Push the frame at the front of the power unit and slowly insert the power unit into the blade enclosure.



**Important**

Do not touch the plug terminals of the power unit. Do not insert a wire or metal object. Do not let dust or waste enter the power unit.

6. Close the power unit ejector.

---

## Removing a power unit

Follow the steps below to remove a power unit:

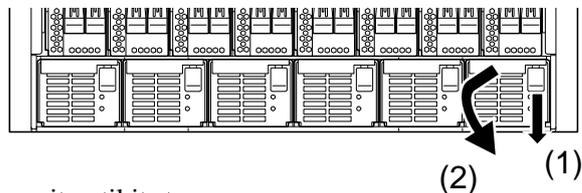
1. Check which power unit you wish to remove.
2. If the power unit you wish to remove is in the slot 3 or 4, slide the key box so that it will not impair removal. For information on moving the key box, see "Moving the key box."
3. If the power units are not in a redundancy configuration, power off all the CPU blades that are installed on the blade enclosure.



**Important**

To remove a power unit in a non-redundant configuration, power off all devices in the blade enclosure.

4. While releasing the power unit stopper by pushing it down, pull the power unit ejector forward. Release the stopper and hold the ejector to pull out the power unit about 20 cm.



5. If the fan in the power unit is still working, wait until it stops.
6. Hold the power unit ejector and the bottom of the frame, and slowly remove the power unit from the blade enclosure.  
If you want to use the blade enclosure with the power unit removed from the slot, attach a slot cover to the slot.

# Power unit cover

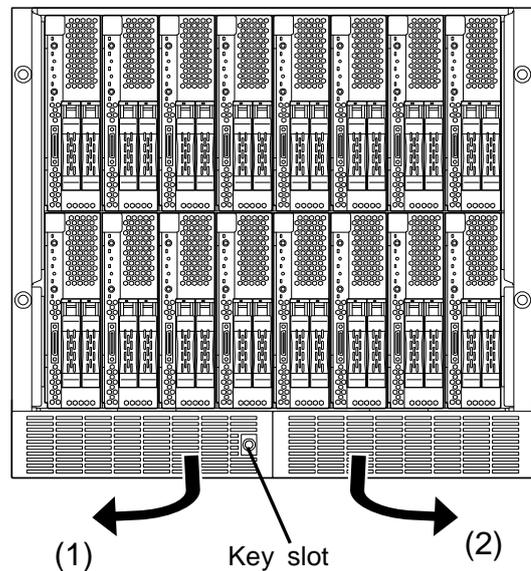
## Opening the power unit cover

The power unit cover can be opened even if the blade enclosure is powered on. When you install or remove a power unit, keep the power unit cover open. If you keep using the system, close the power unit cover.

For information on how to remove a CPU blade and a power unit, see "Installing a CPU blade" on page 41 and "Power unit" on page 81, respectively.

|  CAUTION  |   |
|--|---|
|  <br> | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There are risks of a burn, injury, or damage to physical assets. For more information, see the descriptions on page 3.</p> <ul style="list-style-type: none"><li>● Do not use the blade enclosure with its covers and fans removed. If you use the blade enclosure without them, the cooling efficiency inside the blade enclosure degrades, causing malfunction. Also, dust may get in and cause a fire or electric shock.</li><li>● Be careful not to hurt your fingers.</li></ul> |

1. If the optional front bezel is attached, open the front bezel. For information on opening the front bezel, see "Installing the front bezel."
2. If the power unit cover is locked, insert the included key into the key slot of the power unit cover to unlock it.
3. Open the left door of the power unit cover.
4. Open the right door of the power unit cover.



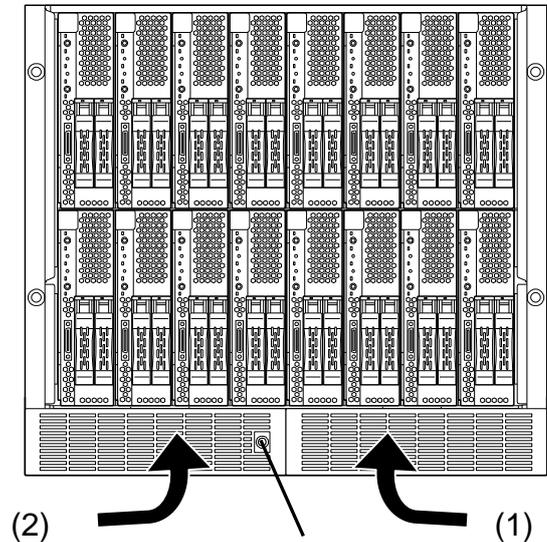
---

## Closing the power unit cover

The power unit cover can be closed even if the blade enclosure is powered on. After installing the power units, close the power unit cover.

For information on how to install a CPU blade and a power unit, see "Installing a CPU blade" on page 41 and "Power unit" on page 81, respectively.

1. If the key box is not located at the key slot of the power unit cover, slide the key box to place it in an appropriate position. For information on how to move the key box, see "Moving the key box."
2. Close the right door of the power unit cover.
3. Close the left door of the power unit cover.



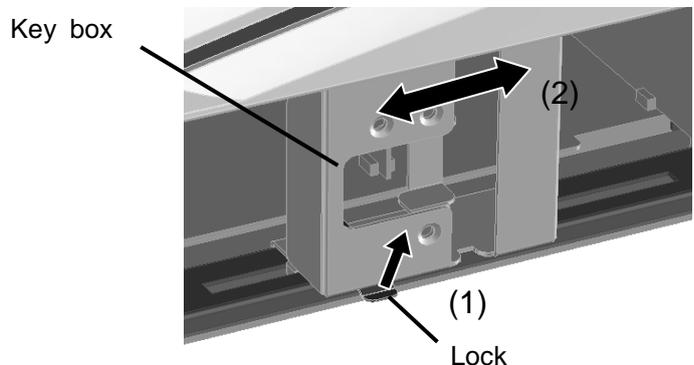
4. If you want to lock the power unit cover, insert the included key into the key slot of the power unit cover to lock it.
5. If the optional front bezel is attached, close the front bezel. For information on closing the front bezel, see "Installing the front bezel."

---

## Moving the key box

Follow the steps below to move the key box. The key box is used to fix and lock the power unit cover. You can slide it right/leftward as necessary when you are installing or removing a power unit.

1. Press the key box lock.
2. Slide the key box rightward or leftward to an appropriate position while pressing the lock.
3. Release the key box lock.

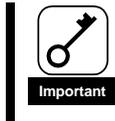


Push up the lock to release the key box and move it rightward or leftward.

# Power on and off

## Powering on and off the blade enclosure

|  |  |
|--|--|
|  <b>WARNING</b> |  |
|                 | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There is a risk of death or serious injury. For more information, see the descriptions on page 3.</p> <ul style="list-style-type: none"><li>• Do not place your hands inside the blade enclosure.</li></ul> |



Make sure to follow the instructions to power on and off devices. If you do not follow the instructions, data may be corrupted or the devices may malfunction.

---

## Powering on and off the blade enclosure without uninterruptible power supply system (UPS).

This section describes how to power on and off a blade enclosure that is connected to the power distribution board via a power supply tap.

Depending on the types of modules and units and how they are used on the blade enclosure, a different procedure may be required. In this case, follow the instructions in the User's Guides of the modules and units instead.

To power on the blade enclosure, power on the power distribution board to which the power supply tap is connected.

To power off the blade enclosure:

1. Shut down all the CPU blades and power them off.
2. Power off the power distribution board to which the power supply tap is connected.

---

## Powering on and off the blade enclosure with uninterruptible power supply system (UPS).

Follow the steps below to power on the blade enclosure using an uninterruptible power supply system (UPS). When you use a UPS, contact your NEC sales representative.

Depending on the types of modules and units and how they are used on the blade enclosure, a different procedure may be required. In this case, follow the instructions in the User's Guides of the modules and units instead.

1. Power on the power distribution board to which the UPS that is installed on the rack is connected.
2. Power on the UPS that is installed on the rack.

Follow the steps below to power off the blade enclosure.

Depending on the types of modules and units and how they are used on the blade enclosure, a different procedure may be required. In this case, follow the instructions in the User's Guides of the modules and units instead.

1. Shut down all the CPU blades and power them off.
2. Power off the UPS on the rack.
3. Power off the distribution board to which the UPS on the rack is connected.

## Powering on and off a CPU blade

There are four ways to power on and off the CPU blades installed on the blade enclosure. Power on the video monitor and other connected devices and then power on the CPU blades in one of the following ways. For information on the CPU blades, including their behavior after power-on and checking the behavior, see the User's Guides and manuals of the CPU blades.

Note: Some CPU blades require different procedures, in which case the instructions in the User's Guides of the CPU blades should be followed. Some CPU blades may not support all the methods to power on/off described here. For details see the User's Guides and manuals of the CPU blades.



**Important**

Before powering on a CPU blade, the EM card should be started whether the CPU blade is started by its power switch or remotely. If you attempt to power on a CPU blade before the EM card is started, the CPU blade may not be powered on. In this case, check to see the EM card is started, and then power the CPU blade on by its power switch.



**Check**

If the blade enclosure cord is connected to any power control system such as an uninterruptible power supply (UPS) system, confirm that the power control system is powered on.



**Hint**

- It will take a while to start up EM cards. By logging on to an EM card from a CLI and checking the status of all the CPU blades on the blade enclosure by the `SHOW SERVER LIST` command, you can see whether or not the EM card is started. There may be a CPU blade status indication "unknown" or EM card not started up. For information on the `SHOW SERVER LIST` command, see "Commands."
- To start up the OS from a peripheral device that is connected to a switch module or pass-through card, such as storage, power-on should be done in the order starting from peripheral device (storage), then the switch module/pass-through card, and then the CPU blade. Confirm that a module is fully started before you power on the next module or device.

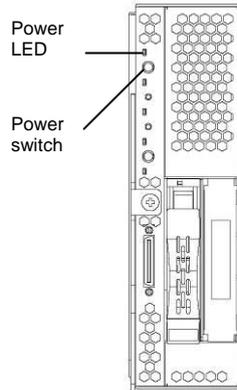
---

## Powering on and off a CPU blade by its power switch

A CPU blade on the blade enclosure can be powered on and off by using the power switch located on the front of the CPU blade. For details, see the User's Guide and manuals of the CPU blade.

When a CPU blade is powered on by its power switch, the DC power supply from power units on the blade enclosure starts. Then the power LED of the CPU blade turns green, showing the CPU is now powered on.

When you either press the power switch of the CPU blade or perform OS shutdown to power off the CPU blade, the power LED of the CPU blade turns amber, showing the CPU blade is powered off.



Example of NEC Express5800/120Bb-6.  
The location of the LED and switch depends on the CPU blade. For more information, see the User's Guide and manual of the CPU blade.)

---

## Powering on a CPU blade by the blade enclosure

Functions to automatically power on CPU blades on the blade enclosure when the blade enclosure is powered on are provided. The functions can be enabled by configuring a target CPU blade. If the CPU blade is configured to disable the functions, the CPU blade is not automatically powered on. In this case, power on the CPU blade by using its power switch or change its configuration. For details, see the User's Guide of the CPU blade.

---

## Powering on a CPU blade via a network (switch module/pass-through card)/serial connector (CPU blade)

A CPU blade on the blade enclosure can be powered on and off by a network connected to the LAN connector of a switch module/pass-through card on the blade enclosure or the serial connector of the SUV cable connected to the CPU blade. For details, see the User's Guides of the CPU blade and switch module/pass-through card.



Hint

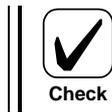
- By configuring the BIOS settings of the CPU blade, auto power-on by receiving packets over a network or via a modem connected to the serial connector of a SUV cable is enabled. Configure the Wake On Events settings of System Hardware in the BIOS SETUP utility. For details, see the User's Guide of the CPU blade.
- To power on or off a CPU blade from a network connected to the LAN connector of a switch module/pass-through card, the switch module/pass-through card should be started up.

---

## Powering on a CPU blade by the network serial (COM) port of an EM card

A CPU blade on the blade enclosure can be powered on and off by a network connected to the management LAN connector of the EM card or the serial port (COM) of the EM card. For details, see the User's Guide of the CPU blade.

This section describes how to power on and off a CPU blade by a CLI from the EM serial console or the EM console. For information on other ways to power on and off, see the User's Guide of the CPU blade. For details of CLI, see "Command-line interface (CLI) (EM card)" and "Command input Specifications." For information on the EM serial console and the EM console, see "Connecting cables."



Powering on and off of a CPU blade by a CLI should be done by "Administrator" or a user with the ADMINISTRATOR or OPERATOR access right.

Follow the steps below to power on a CPU blade from a CLI:

1. Confirm that the EM card is powered on.
2. From the CLI of the EM serial console or the EM console, confirm that you have logged on as "Administrator" or a user with the ADMINISTRATOR or OPERATOR access right. If you have not, log on as "Administrator" or a user with the ADMINISTRATOR or OPERATOR access right.
3. From the CLI, run the following command for powering on a specified CPU blade. For details, see "Commands."

```
POWERON SERVER <Slot number>
```

Follow the steps below to power off a CPU blade from a CLI:

1. Confirm that the EM card is powered on.
2. From the CLI of the EM serial console or the EM console, confirm that you have logged on as "Administrator" or a user with the ADMINISTRATOR or OPERATOR access right. If you have not, log on as "Administrator" a or user with the ADMINISTRATOR or OPERATOR access right.
3. From the CLI, run the following command for powering off a specified CPU blade. For details, see "Commands."

```
POWEROFF SERVER <Slot number>
```

Follow the steps below to restart a CPU blade from a CLI.

1. Confirm that the EM card is powered on.
2. From the CLI of the EM serial console or the EM console, confirm that you have logged on as "Administrator" or a user with the ADMINISTRATOR or OPERATOR access right. If you have not, log on as "Administrator" or a user with the ADMINISTRATOR or OPERATOR access right.

3. From the CLI, run the following command for restarting a specified CPU blade. For details, see "Commands."

```
REBOOT SERVER <Slot number>
```







# Command-line interface (CLI) (EM card)

A command-line interface (CLI) allows configuring and managing the modules installed on the blade enclosure, including CPU blades and switch modules.

A CLI can be used on the EM serial console and the EM console.

## Connecting a cable to a console

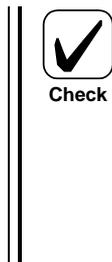
For information on how to connect a cable, refer to "EM serial console (serial connection)" and "EM console (Telnet connection)."

## Starting a console

There are three ways to use a CLI.

In any of the three ways, a CLI becomes available by entering a user name and a password from a command prompt after the CLI is successfully connected. For details, refer to "Command input Specifications."

To log out, type **EXIT** on the CLI (you can also log out by typing **LOGOUT** or **QUIT**).



- If you are using a CLI for the first time, only "Administrator" can use the CLI. It is needed to register users other than "Administrator" to use the CLI. For information on how to register user names for CLI, refer to "Initial settings."
- A default password for "Administrator" is printed on the label of an EM card or the release lever. Each EM card has a different default password for "Administrator."
- Use UTF-8 encoding as a character set of the terminal emulator software. If you use other encoding, some of the letters may be displayed incorrectly.



If you cannot enter a command while operating a CLI because the window is not properly displayed, restart the terminal emulator software or terminate the CLI and reconnect it.

---

## EM serial console (serial connection)

You can use a CLI from the EM serial console. Install terminal emulator software that supports a serial port connection on a PC. Terminal emulator software supporting the serial port is necessary for the EM serial console. For settings of the software, refer to the manual of the software. Configure the parameters of the serial cable connection as follows:

— Serial cable connection parameters

|               |              |
|---------------|--------------|
| Transfer rate | : 115200 bps |
| Data length   | : 8 bit      |
| Parity        | : None       |
| Stop bit      | : 1 bit      |
| Flow control  | : None       |

---

## EM console (Telnet connection)

You can use a CLI via a telnet connection from the EM console. Install terminal emulator software supporting telnet. For settings of the terminal emulator software, refer to the manual of the software.



Hint

To check if the telnet function is enabled, execute the **SHOW NETWORK** command (the telnet function is enabled by default). If the function is disabled, execute the **ENABLE TELNET** command to enable the telnet function. For details on each command, refer to "Commands."

— Telnet connection parameter

TCP port :23



Check

The default value of the IP address of an EM card is 192.168.1.8~11 (subnet mask: 255.255.255.0). When connecting to an EM card from the EM console for the first time, connect to 192.168.1.8



Important

Log in from a secure network because the password is transmitted without encryption.

---

## EM console (SSH connection)

You can use a CLI via a SSH connection from the EM console. Install terminal emulator software that supports SSH. For settings of the terminal emulator software, refer to the manual of the software.



Hint

Execute the **SHOW NETWORK** command to check if the SSH function is enabled (the SSH function is enabled by default). If the function is disabled, execute the **ENABLE SECURESSH** command to enable the SSH function. For details on each command, refer to "Commands."

— SSH connection parameters

TCP port : 22

SSH version : SSH2



Check

The default value of the IP address of an EM card is 192.168.1.8~11 (subnet mask: 255.255.255.0). When connecting to an EM card from the EM console for the first time, connect to 192.168.1.8

# Initial settings

Configure the initial settings of modules installed on the blade enclosure, such as EM cards and CPU blades, by using the EM serial console or EM console. For connections and settings of the EM serial console and the EM console, refer to "Connecting cables."



Check

- The default password for "Administrator" is printed on the label of an EM card or the release lever. Each EM card has a different default password for "Administrator."
- Configure the initial settings by "Administrator" or a user whose access right is "Administrator" or "Operator." Some initial settings can only be changed by "Administrator" or a user whose access right is "Administrator."
- Configure the initial settings from the active EM card. For more information on active EM card, refer to "EM card" on page 123.
- The default value of the IP address of an EM card is 192.168.1.8 ~ 11 (subnet mask: 255.255.255.0). When connecting to an EM card from the EM console for the first time, connect to 192.168.1.8

---

## Date and time settings (EM card)

1. Confirm that the EM card is powered on.
2. Confirm that you have logged in as "Administrator" or a user whose access right is "ADMINISTRATOR" or "OPERATOR" from a CLI of the EM serial console or EM console. If you have not, log in as "Administrator" or a user whose access right is "ADMINISTRATOR" or "OPERATOR."
3. Configure the following information by running commands on the CLI. For details, refer to "Commands."

— Changing date settings (required when not using the NTP function)

Configure the date and time of an EM card.

```
SET DATE <MMDDhhmm({CC}YY)> <time zone>
```

- MM: month DD: date hh: time mm: minute CCYY: Christian era year

- time zone: refer to "Time zone" in "Appendix." The default value is JST.

— Configuring an NTP server

To use the NTP function, you must configure the primary NTP server setting and ENABLE NTP; configuring the secondary NTP server is optional.

Set up the NTP server for the EM card.

Before you do so, you must complete "Network settings (EM card)" on page 103 (it takes about 5 seconds for the command to complete).

```
SET NETWORK NTP PRIMARY <primary NTP server address>
```

```
(SET NETWORK NTP SECONDARY <secondary NTP server address>)
```

```
SET TIMEZONE <time zone>
```

- Time zone: refer to "Time zone" in "Appendixes." The default value is JST.

```
ENABLE NTP
```

4. Execute the command below on the CLI to check that the settings you made have taken effect. For details, refer to "."

When the date and time settings have been modified, run the **SHOW DATE** command.

When the NTP server settings have been configured, run the **SHOW NETWORK**

command.

---

## User settings (EM card)

1. Confirm that the EM card is powered on.
2. Confirm that you have logged in as "Administrator" or a user whose access right is ADMINISTRATOR or OPERATOR from a CLI of the EM serial console or EM console. If you have not, log in as "Administrator" or a user whose access right is ADMINISTRATOR or OPERATOR.
3. Configure the following information by running commands on the CLI. For details, refer to "Commands."

— Changing the password of Administrator (highly-recommended)

Change the password of Administrator.

The password can contain three to eight alphanumeric characters (the first character must be a letter).

Do not forget the password of Administrator.

If you forget, password recovery is necessary. For information on how to recover a password, refer to "Password recovery" on page 119.

SET PASSWORD

New Password : \*\*\*\*\* (Type a password)

Confirm : \*\*\*\*\* (Type the same password)

— Registering regular users. When adding a user, ADD USER is required. FULL NAME is optional.

Register regular user accounts as necessary.

ADD USER <user name (within 13 characters)>

New Password : \*\*\*\*\* (Type password)

Confirm : \*\*\*\*\* (Type the same password)

SET USER FULLNAME <user name> <full name (within 32 characters)>

— Configuring the access right of the regular users (optional)

Configure the access right of the regular users. The default value of access right of a regular user is USER.

SET USER ACCESS <user name> [ADMINISTRATOR | OPERATOR | USER]



Hint

When two EM cards are installed and you configure the password of the regular users or Administrator on the active EM card, the same values are automatically allocated to the standby EM card. For details of the active EM card, refer to "EM card" on page 123.

4. Execute the command below on the CLI to check that the settings you made have taken effect. For details, refer to "Commands."

When you add users or change the access rights, run the SHOW USER <user name> command.

---

## Rack settings (EM card)

1. Confirm that the EM card is powered on.
2. Confirm that you have logged in as Administrator or a user whose access right is ADMINISTRATOR or OPERATOR from a CLI of the EM serial console or EM console. If you have not, log in as "Administrator" or a user whose access right is ADMINISTRATOR or OPERATOR.
3. Configure the following information about the rack by running commands from the CLI. For details, refer to "Commands."

— Rack name (required for report processing)

Configure the name of the rack on which the EM card is installed (up to 32 characters). Specify any unique name to identify the rack.

```
SET RACK NAME <rack name>
```

— Rack ID (Optional)

Configure a unique ID of the rack on which the EM card is installed (up to 16 characters). Specify any unique ID to identify the rack. Do not configure the same ID as another rack. Only alphanumeric characters can be specified for the ID (the first character must be a letter)

```
SET RACK UID <rack ID>
```

4. Execute the command below on the CLI to check that the settings you made have taken effect. For details, refer to "Commands."

When the name of the rack has been configured, execute the **SHOW RACK NAME** command.

When the ID of the rack has been configured, execute the **SHOW RACK UID** command.

---

## Blade enclosure settings (EM card)

1. Confirm that the EM card is powered on.
2. Confirm that you have logged in as Administrator or a user whose access right is ADMINISTRATOR or OPERATOR from a CLI of the EM serial console or EM console. If you have not, log in as "Administrator" or a user whose access right is ADMINISTRATOR or OPERATOR.
3. Configure the following information about the blade enclosure by running commands on the CLI. For details, refer to "Commands."

— Blade enclosure name (required for report processing)

Configure the name of the blade enclosure on which the EM card is installed (up to 32 characters).

Specify any unique name to identify the blade enclosure.

```
SET ENCLOSURE NAME <the blade enclosure name>
```

— Blade enclosure asset number (optional)

Configure an asset number of the blade enclosure on which the EM card is installed (up to 32 characters).

Configure any asset number of the blade enclosure, such as a number allocated for managing assets in your organization.

```
SET ENCLOSURE ASSET TAG <the asset number>
```

4. Execute the command below on the CLI to check that the settings you made have taken effect. For details, refer to "Commands."

When the name or asset number of the blade enclosure has been configured, execute the **SHOW ENCLOSURE INFO** command.

---

## Network settings (EM card)

1. Confirm that the EM card is powered on.
2. Confirm that you have logged in to the EM card as Administrator or a user whose access right is ADMINISTRATOR or OPERATOR from the CLI of the EM serial console or EM console. If you have not, log in as "Administrator" or a user whose access right is ADMINISTRATOR or OPERATOR.
3. Determine the network configuration.



### Important

- Confirm in advance that IP addresses to be configured are available in your network. When IP address or subnet mask settings are lost after the configuration, reconfigure them on the EM serial console.
- IP addresses should have a subnet address that is available in your network. IP addresses of EM cards, CPU blades, and switch modules must have a common subnet mask. Configure IP addresses with the same subnet in advance.
- Confirm that the IP addresses do not conflict with the IP addresses of other machines on your network.
- Configure a unique IP address for each module installed on the blade enclosure. Even when you operate the blade enclosure with some modules powered off, all the modules installed on the blade enclosure must have unique IP addresses. Pay attention when you configure the IP addresses of modules without using the DHCP function. If you are using modules for the first time, all of them may have the same IP address configured. In this case, you must reconfigure each one to have a unique IP address.
- When an IP address is configured, consecutive numbers are automatically allocated for the IP addresses of EM cards and CPU blades/switch modules for management LAN. Ensure that none of the IP addresses conflict. Not only the first IP address but also automatically-allocated IP addresses must be within an appropriate range.
- A floating IP is an IP address that dynamically switches according to the status of the EM card (active/standby). Regardless of where the EM card is physically stored, if the EM card is active, a floating IP (active EM) is allocated, and if the EM card is stand-by, a floating IP (stand-by EM) is allocated. When the status of the EM card switches to active/stand-by due to a failure on the EM card or the FORCE TAKEOVER command, the floating IP is automatically switched. By using a floating IP, you can use active EM (or stand-by EM) while where the EM card is physically stored remains transparent. For detailed information on active EM card etc., refer to "EM card" on page 122.
- A static IP address (EM card slot 1/2) is an IP address that is determined depending on where the EM card is physically stored (the left is EM card slot 1, the right is EM card slot 2). A static IP address is not affected by whether the status of EM card is active or stand-by.

— Configuration example

The following is an example. Configure each IP address and subnet mask according to your usage environment.

(1) EM card -network configuration

|                                       |                    |
|---------------------------------------|--------------------|
| <b>Floating IP<br/>(active EM)</b>    | <b>192.168.1.4</b> |
| Floating IP<br>(stand-by EM)          | 192.168.1.5        |
| Static IP address<br>(EM card slot 1) | 192.168.1.6        |
| Static IP address<br>(EM card slot 2) | 192.168.1.7        |

Four consecutive IP addresses  
Specify the IP address of floating IP (active EM)

(2) CPU blade (Slot 1~16) -network configuration

|              |                    |
|--------------|--------------------|
| <b>Slot1</b> | <b>192.168.1.8</b> |
| Slot2        | 192.168.1.9        |
| Slot3        | 192.168.1.10       |
| ⋮            | ⋮                  |
| Slot16       | 192.168.1.23       |

24 consecutive IP addresses  
Specify the IP address of CPU blade (slot 1)

(3) Switch module (Slot1~8) -network configuration

|       |              |
|-------|--------------|
| Slot1 | 192.168.1.24 |
| Slot2 | 192.168.1.25 |
| Slot3 | 192.168.1.26 |
| ⋮     | ⋮            |
| Slot8 | 192.168.1.31 |

(4) Configuration of subnet mask and gateway (this configuration is used across EM cards, CPU blades, and switch modules)

|                    |                      |
|--------------------|----------------------|
| <b>Subnet mask</b> | <b>255.255.255.0</b> |
| <b>Gateway</b>     | <b>192.168.1.99</b>  |

(5) Configuration of DNS server (this configuration is used across EM cards, CPU blades, and switch modules)

|                      |                      |
|----------------------|----------------------|
| <b>Primary DNS</b>   | <b>192.168.1.111</b> |
| <b>Secondary DNS</b> | <b>192.168.1.123</b> |

4. Configure the following information by executing the commands on a CLI. For details, refer to "Commands."



If you change the IP address of the EM card while you are using a CLI on the EM console, the EM console is disconnected from the EM card. Change the target IP address of the terminal emulator of the EM console to the new IP address of the EM card to log on again. Depending on the new IP address of the EM card, the network configuration of the EM console and other network machines must be set to the appropriate values in advance.

— Each IP address setting (required)

Configure the network settings of EM cards, CPU blades, and switch modules (it takes about 5 seconds for the command to complete).

```
SET NETWORK ADDRESSRANGE <the IP address of the floating IP  
(active EM)> <the IP address of CPU blade (Slot1)> <subnet mask>
```

```
Example SET NETWORK ADDRESSRANGE 192.168.1.4 192.168.1.8  
255.255.255.0
```



Important

When you are using DianaScope, the last numeric value of the IP address of a floating IP (active EM) must be multiples of 4 (e.g., 192.168.1.4 and 192.168.1.8).



Hint

- By specifying a floating IP (active EM) by the SET NETWORK ADDRESSRANGE command, consecutive numbers are automatically allocated to IP addresses of the floating IP (standby-EM), static IP address (EM card slot 1), and static IP address (EM card slot 2). Reserve four consecutive IP addresses in advance.
- By specifying the IP address of the CPU blade (slot 1) by the SET NETWORK ADDRESSRANGE command, consecutive numbers are automatically allocated to the IP addresses of the CPU blades (Slot2~16) and switch modules (Slot1~8). Reserve twenty-four consecutive IP addresses in advance. "Consecutive numbers" means values consecutive by the decimal number (e.g., "10.0.0.254" and "10.0.0.255" are "consecutive numbers" but "10.0.0.255" and "10.0.1.0" are not).
- Some modules might not support or may disable the DHCP client function. In this case, the IP address that is configured using the SET NETWORK ADDRESSRANGE command is not allocated to a module. Configure each IP address on the module or enable the DHCP client function if it is disabled. For details, refer to the User's Guide of the module. Some modules do not require IP address configuration.
- It may take a couple of minutes for a module to acquire an IP address configured by the SET NETWORK ADDRESSRANGE command. Use the SHOW SERVER LIST command and the SHOW SWITCH INFO command for CPU blades and switch modules respectively to check that the module has acquired the configured IP address. For more information on the commands, refer to "Commands."
- It may take some time until the IP address is reflected in the switch module by the DHCP function after performing the SET NETWORK ADDRESS RANGE command. In this case, restart the switch module. Then, the IP address configured by an EM card is allocated to the switch module.(For information on how to restart a switch module, refer to RESTART SWITCH command of "Commands" or the User's Guide of the switch module. For a CPU blade, if the settings are changed, a process to reallocate an IP address is executed so that the new IP address is set after a while. However, if the User's Guide of the CPU blade has different instructions, follow those instructions.
- When setting the DHCP function on a module to enabled or disabled, it may take a couple of minutes for the module to acquire an IP address which is set by the SET NETWORK ADDRESS RANGE command. If the IP address is not allocated to the module after a while, restart the EM card by performing the "RESTART EM" command on a CLI.
- The IP address allocated to each module by the SET NETWORK ADDRESSRANGE command is enabled in the management LAN. For settings of IP addresses on the user LAN, see the User's Guides of your blade and switch modules.
- The IP address configured by the SET NETWORK ADDRESSRANGE command is reserved for a slot if there is no module on the slot or a module on the slot does not require IP address settings. It is recommended not to configure the same IP address as the reserved one for any other network machine.
- Generally, a pass-through card is a module that does not require IP address settings. Depending on the pass-through card, you may find a different description from the one in this manual in the User's Guide of the pass-through card.

— Default gateway settings (required when using default gateway)  
Configure a default gateway

(it takes about 5 seconds to complete the command).

```
SET NETWORK GATEWAY <Gateway IP address>
```

(Example) SET NETWORK GATEWAY 192.168.1.99

— DNS configuration (required to register one or more DNS server when the DNS function is used)

Register a DNS server.

By default, the DNS server configured first is "primary."

It is possible to delete a registered DNS server by the **REMOVE NETWORK DNS** command. After deleting the primary or secondary DNS address, the **ADD NETWORK DNS** command sets a primary or secondary DNS address, respectively. If you delete both of the primary and the secondary and run the **ADD NETWORK DNS** command, they are configured in the order of primary and secondary. For information on the **REMOVE NETWORK DNS** command, refer to "Commands."

```
(ADD NETWORK DNS <primary DNS server>)
```

```
(ADD NETWORK DNS <secondary DNS server>)
```

(Example)

```
ADD NETWORK DNS 192.168.1.111
```

```
ADD NETWORK DNS 192.168.1.123
```



Hint

- The default gateway and DNS server (primary, secondary) are used across EM cards, CPU blades, and switch modules.

5. Run the following command from the CLI to check that the changes have taken effect:

Confirm the network configuration by using the **SHOW NETWORK** command.

6. Restart the EM card if necessary. For information on how to restart an EM card, refer to "RESTART EM" in "Commands."



Important

Do not install/remove a module or power on/off a module while restarting the EM card. Doing so might result in not only failure to complete the configuration update but malfunctions of the module. Do not switch on/off the ID LED of an installed module. The ID LED may not be appropriately turned on/off.



Check

It is required to restart the EM card after changing the DNS and default gateway configuration (the changes take effect after the EM card is restarted).

---

## SNMP settings (EM card)

1. Confirm that the EM card is powered on.
2. Confirm that you have logged in to the EM card as Administrator or a user whose access right is ADMINISTRATOR or OPERATOR from the CLI of the EM serial console or EM console. If you have not, log in as "Administrator" or a user whose access right is ADMINISTRATOR

or OPERATOR.

3. Run the following commands from a CLI to configure settings. For details, refer to "Commands."

— Configuring community name

To use the SNMP function, the write community setting is required. Read and trap community settings are optional.

Configure community names (the default community name value for read, write, and trap operations is "public").

```
SET SNMP COMMUNITY READ <the community name that allows a read
operation>
SET SNMP COMMUNITY WRITE <the community name that allows a write
operation>
SET SNMP COMMUNITY TRAP <the community name that allows a trap
operation>
```

— Configuring contact name (optional)

Configure a SNMP contact name.

Configure the contact address on SNMP (e.g., the address of the server room where the rack is located).

```
SET SNMP CONTACT <the contact name>
```

— Location information setting (required to display location information correctly on NEC ESMPro Manager)

Configure the location information of the blade enclosure.

Specify <the location in the rack of the blade enclosure> and <the height of the rack> by unit (number).

```
SET SNMP LOCATION <the LOCATION name>
SET SNMP LOCATION ENCLOSURE <the location within rack of the
blade enclosure>
SET SNMP LOCATION RACKHEIGHT <the height of the rack>
```

— Specifying SNMP trap destination

When you use the SNMP function, it is required to set one or more IP address for trap destination.

Specify SNMP trap destination.

You can specify up to three addresses.

```
ADD SNMP TRAPRECEIVER <the IP address to be notified trap>
```

— Enabling the TrapACK function (Optional)

Enable the TrapACK function (the function to wait Ack for SNMP trap).

```
ENABLE SNMP TRAPACK
```



Hint

Execute the SHOW NETWORK command to confirm that the SNMP function is enabled (the SNMP function is enabled by default). If disabled, execute the ENABLE SNMP command to enable the SNMP function. For information on the commands, refer to "Commands."

4. Execute the command below on the CLI to check that the settings you made have taken effect.

For details, refer to "Commands."

After making changes, execute the SHOW SNMP command.

For performing the SNMP test, execute the TRAPTEST command. When you are using NEC ESMPRO Manager, the message, "AlertManager tested: Notification test is performed. (TEST-AlertManager)" is displayed.

---

## Setting module access right for an user (EM card)

1. Confirm that the EM card is powered on.
2. Confirm that you have logged in to the EM card as Administrator or a user whose access right is ADMINISTRATOR or OPERATOR from the CLI of the EM serial console or EM console. If you have not, log in as "Administrator" or a user whose access right is ADMINISTRATOR or OPERATOR.
3. Run the commands from a CLI to configure module access right settings for users.(For details, refer to "Commands."

— Configuring an access right to a module (optional)

Configure the access right to the CPU blade and switch module/pass-through card (confirm the slot number of the target module in advance).

```
ASSIGN [SERVER | SWITCH] [<Slot number> | <Slot number> - <Slot number> | <Slot number> , <Slot number> | ALL] <user name>
```

To concatenate <Slot number>s, insert a '-' (hyphen) and ',' (comma) between them with a space before and after them.

— Configuring an access right to the EM card (optional)

Configure a user's access right to the EM card.

```
ASSIGN EM <user name>
```

4. Execute the command below on the CLI to check that the settings you made have taken effect. For details, refer to "Commands."

Switch on/off the ID LED of a module using the user ID that is set. For details, refer to "Commands."

— Switching on/off the ID LED of a module

Switches on/off the ID LED of a CPU blade, or switch module/pass-through card (confirm the slot number of the target module in advance).

```
SET [SERVER | SWITCH] UID <Slot number> [ON | OFF]
```

— Switching on/off the ID LED of the EM card

Switches on/off of ID LED of the EM card.

If you omit specifying <Slot number>, the command is performed for the EM card that you are currently logged into.

```
SET EM UID <Slot number> [ON | OFF]
```

---

## Power unit settings (EM card)

1. Confirm that the EM card is powered on.
2. Confirm that you have logged in to the EM card as Administrator or a user whose access right is ADMINISTRATOR or OPERATOR from the CLI of the EM serial console or EM console. If you have not, log in as "Administrator" or a user whose access right is ADMINISTRATOR or OPERATOR.
3. Run the following commands from a CLI to configure the power unit settings. For details, refer to "Commands."

— Configuring power control policy (required)

Configure the power control policy of the blade enclosure on which the EM card is installed.

PERFORMANCE: Performance priority mode (prioritizes the power usage even if redundancy cannot be maintained)

REDUNDANCY: Redundancy maintained mode (maintains the power redundancy)

```
SET POWER POLICY [PERFORMANCE | REDUNDANCY]
```

— Configuring power redundancy mode (required)

Configure the power redundancy mode of the blade enclosure on which the EM card is installed.

AC: AC duplex mode (N+N redundancy)

POWERSUPPLY: Individual power redundancy mode (N+1 redundancy)

```
SET POWER REDUNDANCY [AC | POWERSUPPLY]
```



The following combination cannot be configured:

Power control policy: performance priority mode (PERFORMANCE)

Power redundancy mode: AC duplex mode (AC)

4. Run the following command to confirm that the settings are effective. For details, refer to "Commands."

Run the **SHOW POWER** command.

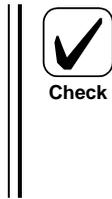
5. Turn the AC power off and then turn the AC power on again. For information on how to switch on/off AC power, refer to "Powering on and off the blade enclosure."



Power control policy and power redundancy mode changes are reflected after the AC power is cycled.

---

## Verifying, backing up, and restoring the EM card configuration



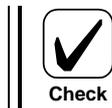
- Verification, backup, and restoration of the configuration information must be operated by "Administrator" or a user whose access right is ADMINISTRATOR.
- Verification, back up, and restoration of the configuration information must be performed on the active EM card. For details about active EM card, refer to "EM card" on page 123.

Follow the steps below to verify the settings of the EM card and to backup the configuration information. For further information on the configuration information, refer to "EM card" on page 123.

1. Confirm that the EM card is powered on.
2. Confirm that you have logged in to the EM card as Administrator or a user whose access right is ADMINISTRATOR or OPERATOR from the CLI of the EM serial console or EM console. If you have not, log in as "Administrator" or a user whose access right is ADMINISTRATOR or OPERATOR.
3. Run the following command on a CLI to confirm the configuration information. For details, refer to "Commands."

— Confirming the configuration information  
Confirm the configuration information of the blade enclosure.

```
SHOW CONFIG
```



The following operation requires a server that is accessible from the EM card to save the backup data. It is recommended to use a ftp server. Use the latest version of ftp server software. When using vsftpd, use version 1.2.1 or later.

4. Run the following command on the CLI to back up the configuration information. For details, refer to "Commands."

— Backing up the configuration information (highly-recommended)  
Backup the configuration information of the blade enclosure by the following command. Specify a URL to back up the configuration information for <URL> (using a ftp server is recommended).

Example for <URL > Specify relative path from the directory specified in the server:

[ftp://<host name \(or IP address\)>/<path>](ftp://<host name (or IP address)>/<path>) (When anonymous ftp)

[ftp://<username>:<password>@<host name \(or IP address\)>/<path>](ftp://<username>:<password>@<host name (or IP address)>/<path>) (When ftp (user password))

\* <path> contains the name of file to be backed up (a file with specified file name is created).

(The scope enclosed with double quotations "" is case sensitive. Type "ftp" in lower case)

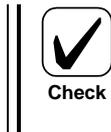
```
UPLOAD CONFIG <URL>
```

5. Confirm that the file is uploaded on the server specified in <URL>.



If you need to restore the configuration information in the EM card after backing up, follow the steps below. If the configuration information is not backed up, it cannot be restored.

Follow the steps below to restore configuration information. To restore configuration information, you need the backup of the configuration information.



By restoring configuration information, values in each setting are overwritten. For setting information to be backed up/restored, see "SET FACTORY" in "Commands." Before restoring configuration information, confirm that the settings information of each module, including network settings, can be overwritten.

1. Confirm that you have logged in to the EM card as Administrator or a user whose access right is ADMINISTRATOR or OPERATOR from the CLI of the EM serial console or EM console. If you have not, log in as "Administrator" or a user whose access right is ADMINISTRATOR or OPERATOR.
2. Run the following command on the CLI to restore configuration information. For details, refer to "Commands."  
After configuration information is restored, the EM card is automatically restarted.

— Restoring configuration information

Restore configuration information of the blade enclosure by the following command. Specify a URL on which configuration information has been backed up with the full path for *<URL>*.

\* "path" contains the name of the file to be backed up.

```
DOWNLOAD CONFIG <URL>
```



Important

- If two EM cards are installed, when restoring configuration information on the active EM card, the same configuration is applied to the standby EM card. It may take several seconds for applying the configuration to the standby EM card. For more information on the active EM card etc., refer to "EM card" on page 123.
- Do not install/remove a module or power on/off a module while restarting the EM card. Doing so might result in not only failure to complete the configuration update but malfunctions of the module. Do not switch on/off the ID LED of an installed module. The ID LED may not be appropriately turned on/off.

3. After the EM card is restarted, log in to the CLI of the EM serial console or EM console.
4. Run the following command on the CLI to confirm that the restoration of configuration information is effective. For details, refer to "Commands."

— Confirming configuration information (highly recommended)

Confirm the configuration information of the blade enclosure by the following command:

```
SHOW CONFIG
```

The configuration information is now restored. The password of each user is not backed up. After restoring configuration information, reconfigure the password of each user. The time zone is also not backed up. After configuration information is restored, reconfigure it as necessary. For information on each configuration, refer to "Initial settings."

---

## DianaScope settings (EM card)

When using DianaScope Manager, you should create a user password of DianaScope Gateway on an EM card. Follow the steps below to create a user account. DianaScope Manager requires an authentication key when you register a server. Configure the user password as the authentication key. Configure the static IP address of an EM card as the IP address of a server to be registered. For the static IP address of an EM card, refer to "Network settings (EM card)." For information on operation of DianaScope, refer to the installation guide of DianaScope, or the User's Guide of the CPU blade.

1. Confirm that the EM card is powered on.
2. Confirm that you have logged in to the EM card as Administrator or a user whose access right is ADMINISTRATOR or OPERATOR from the CLI of the EM serial console or EM console. If you have not, log in to the EM by "Administrator" or a user whose access right is ADMINISTRATOR or OPERATOR.
3. Run the following command on a CLI to configure the rack settings. For details, refer to "Commands."

— Configuring a user's password of DianaScope (required for using DianaScope)

The following command configures the user's password of DianaScope Gateway of the blade enclosure on which this EM card is installed. This user's password is also used as the authentication key of DianaScope Manager.

The password can contain up to 16 alphanumeric characters.(the default value of the password is "guest").

```
SET DSGPASSWORD <the password>
```

4. Run the following command on the CLI to confirm the configuration.(For details, refer to "Commands."

Run the SHOW DSGPASSWORD command.



Hint

"SHOW DSGSTATE" command shows whether DianaScope Gateway is enabled or not.(the default is enabled). When it is disabled, enable DianaScope Gateway by using the "SET DSGSTATE" command. For information on each command, refer to "Commands."

---

## Other settings (CPU blade)

Refer to the User's Guide of the CPU blade.

---

## Console connection to switch module/pass-through card

Follow the steps below to connect a console to a switch module/pass-through card via an EM card. The procedure after connection depends on the specification of the console of the connected switch module. The specification of the serial console is the same as when the console is directly connected to the switch module/pass-through card. Configure settings by referring to the Uer's Guide of the switch module after connection is achieved.

Some switch modules/pass-through cards cannot be connected. For details, refer to the User's Guide of each switch module/pass-through card.

1. Confirm that the EM card is powered on.

2. Confirm that you have logged in to the EM card on the CLI of the EM serial console or EM console.
3. Run the following command on the CLI to connect to a switch module and configure settings. For details on the procedure after connection is achieved, refer to "Commands" and the User's Guide of the switch module.

— Connecting a console to a switch module

```
CONNECT SWITCH <Slot number>
```



Hint

Generally, a pass-through card does not need to connect to consoles. Depending on the type of the pass-through card, the specification may differ from the one described in this document. In this case, use the specification of the User's Guide instead.

---

### Other settings (switch module/through card)

Refer to the User's Guide of the switch module/pass-through card.

# Checking operational status

You can check how the blade enclosure and modules on the blade enclosure are operating. The operation status can be confirmed on the CLI of the EM serial console or EM console.

---

## Blade enclosure

1. Confirm that the EM card is powered on.
2. Confirm that you have logged in to the EM card on the CLI of the EM serial console or EM console.
3. Run the following command on the CLI. For details, refer to "Commands."

— Checking status of the blade enclosure

The following command shows the status of the blade enclosure on which the EM card is installed:

```
SHOW ENCLOSURE STATUS
```

If "Failed" is displayed, confirm that the target module is installed in an appropriate slot. When the module is installed correctly, restart the target module if possible. If the failure persists, replace the target module.

— Checking the status and temperature of a module installed on the blade enclosure

The following command shows the status and temperature of a module installed on the blade enclosure on which the EM card is installed:

```
SHOW ENCLOSURE TEMP
```

If "Failed" is displayed, confirm that the target module is installed in an appropriate slot. When the module is installed correctly, restart the target module if possible. If the failure persists, replace the target module.

---

## Fan unit

1. Confirm that the EM card is powered on.
2. Confirm that you have logged in to the EM card on the CLI of the EM serial console or EM console.
3. Run the following command on the CLI. For details, refer to "Commands."

— Checking the status of a fan unit

The following command shows the status of a fan unit of the blade enclosure on which the EM card is installed:

```
SHOW ENCLOSURE FAN <fan unit number | ALL>
```

If "Failed" is displayed, confirm that the fan unit is installed in an appropriate slot. If it is installed correctly, replace it with another fan unit.

---

## Power unit

1. Confirm that the EM card is on.
2. Confirm that you have logged in to the EM card on the CLI of the EM serial console or EM console.
3. Run the following command on the CLI. For details, refer to "Commands."

— Checking the status of power units

The following command shows the status of a power unit of the blade enclosure on which the EM card is installed:

```
SHOW ENCLOSURE POWERSUPPLY <Power unit number | ALL>
```

If "Failed" is displayed, confirm that the power unit is installed in an appropriate slot. If it is installed correctly, replace it with another power unit.

# Updating the enclosure manager firmware

This section explains how to update the firmware of an EM card (enclosure manager firmware). The EM firmware can be updated on the CLI of the EM serial console or EM console.



## Important

- Do not shut down the power, such as AC power or uninterruptible power supply system (UPS,) of the blade enclosure while you are updating the EM firmware. If the power is shut down during the update, it will not only result in failure to complete the update but also malfunction.
- Do not install/remove a module or power on/off a module while restarting an EM card. Doing so not only results in failure to complete the update but also malfunction. Do not switch on/off the ID LED of an installed module. The ID lamp may not be appropriately turned on/off.
- When updating the EM firmware, back up or restore configuration data as necessary. If two EM cards are not installed, the settings of the blade enclosure are erased unless you back up or restore the configuration data. Passwords of users are not backed up. After restoring the configuration data, reconfigure the passwords of the users. The time zone is also not backed up. After the configuration data is restored, reconfigure it as necessary. For information on how to configure the settings, refer to "Initial settings."
- When you restore configuration data, all the CPU blades installed on the blade enclosure must be powered off. Otherwise, configuration data is not properly configured.

For information on how to update the EM firmware, refer to this document. See also the confirmation message that is displayed before downloading or document files if they are attached with downloaded files.

---

## Setting EM firmware image

To update the EM firmware, you have to provide a new EM firmware image file on an external server. The following transfer protocols are supported: tftp, ftp service, or http.

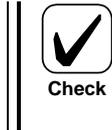


Hint

- When you use a firewalled server to set an EM firmware image, make sure that the target port is available. When using an ftp server, make sure that the ftp server is set to passive mode.
- When DeploymentManager is installed on a server to set an EM firmware image, the tftp service derived from DPM may already be operating. In this case, DPM's tftp server may prevent operation of the other tftp servers. To start the other tftp server for setting an EM firmware image, you must stop the tftp server of DPM. The DPM's tftp server, which works as a Windows service, can be stopped from "Service" on the management tool. For DPM, refer to the User's Guide of DPM. For information on using the OS, refer to the operation manual of the OS.
- When backing up configuration data to a tftp server, create a file to store configuration data on the backup folder. Set access right of the new file to allow the EM firmware to modify the file. For details, refer to the manual of the tftp server software.

---

## Updating the EM firmware



- The EM firmware must be updated by "Administrator" or a user whose access right is ADMINISTRATOR.
- Update the EM firmware from the active EM card. For details on active EM card, refer to "EM card" on page 123.

1. Confirm that the EM card is powered on.
2. Confirm that you have logged in to EM card as Administrator or a user whose access right is ADMINISTRATOR from the CLI of the EM serial console or EM console. If you have not, log in by "Administrator" or a user whose access right is ADMINISTRATOR.
3. Run the following command on the CLI to check the version of the EM firmware. For details, refer to "Commands."  
If the version of the installed EM firmware is the same as the one you wish to update or the latest version is installed, no update is required.

— Confirming the version of the EM firmware

The following command displays the version of an EM card and EM firmware:

```
SHOW VERSION
```

4. If necessary, back up configuration data. For details, refer to "Verifying, backing up, and restoring the EM card configuration."



When updating the EM firmware, back up or restore configuration data as necessary. If two EM cards are not installed, the settings of the blade enclosure are erased unless you back up and restore configuration data. Passwords of users are not backed up. After restoring configuration data, reconfigure the passwords of the users. The time zone is also not backed up. After configuration data is restored, reconfigure it as necessary. For information on how to configure the settings, refer to "Initial settings."

5. Run the following command on the CLI to update the EM firmware. For details, refer to "Commands."

This command takes some time to update the EM firmware.

After the EM firmware has successfully been updated, the EM card is automatically restarted.

— Updating the EM firmware

Updates the EM firmware of the EM card.

Specify the URL (tftp/ftp/http) on which EM firmware image is set for <URL>.

Example of <URL> Specify the path from the user home:

"tftp://<the host name (or the IP address)>/<the path>" (for tftp)

"ftp://<the host name (or the IP address)>/<the path>" (for Anonymous ftp)

"ftp://<username>:<password>@<the host name (or the IP address)>/<the path>" (for ftp (user password))

"http://< the host name (or the IP address)>/<the path>"(for http)

\* <the path> includes the name of the file of an EM firmware image.

The area enclosed with double quotations "" is case sensitive. Type "tftp", "ftp", and "http" in lower case.

```
UPDATE IMAGE <URL >
```

6. After the EM card is restarted, log in to the EM card as "Administrator" or a user whose access right is ADMINISTRATOR or OPERATOR on the CLI of the EM serial console or EM console.
7. Run the following command on the CLI to confirm that the EM firmware is updated. For details, refer to "Commands."

— Confirming the version of the EM firmware

Displays the version of the EM card and EM firmware version.

```
SHOW VERSION
```

The EM firmware is now upgraded. Restore the following configuration data as necessary. For details, refer to "Verifying, backing up, and restoring the EM card configuration."

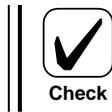


Important

When updating the EM firmware, back up configuration data as necessary. If two EM cards are not installed, the settings of the blade enclosure are erased unless you back up configuration data. Passwords of users are not backed up. After restoring configuration data, reconfigure the passwords of the users. The time zone is also not backed up. After configuration data is restored, reconfigure it as necessary. For information on how to configure the settings, refer to "Initial settings."

# Password recovery

You can change the password of "Administrator" to the initial password and show the initial password on the monitor by using the EM serial console. Use this function only when you forget the password of "Administrator."



- Password recovery cannot be operated on the EM console. Use the EM serial console.
- Password recovery should be done on the active EM card.

1. Confirm that the EM card is powered on.
2. Confirm that the EM card is connected to the EM serial console. For information on how to connect to the EM serial console, refer to "Connecting cables."
3. Press the RESET switch of the EM card for 5 or more seconds by using a metal object that is 1.0 mm in diameter and 30mm in length (you can use a paper clip as a substitute). Insert the metal object slowly into the hole of the RESET switch, which is located on the front of the EM card, and keep pushing it for more than 5 seconds.



When two EM cards are installed, log in within two minutes after pressing the RESET switch. If more than two minutes elapse, the active EM card and standby EM card are automatically swapped. For details on such as active EM card, refer to "EM card" on page 123.

4. Confirm that the status LED of the EM card is amber, and then stop pressing the RESET switch.  
The status LED of the EM card is green.
5. When the following message is displayed on the monitor of the EM serial console, press the "L" key on the keyboard of the EM serial console:

```
NEC SIGMABLADE Enclosure Manager booting...  
  
Lost Password or Flash Recovery requested  
Press L for Lost Password Recovery  
Press Z for U-Boot console  
Press any other key to reset
```

6. The initial password of "Administrator" is displayed on the monitor of the EM serial console. Note it.
7. On the login window, enter the initial password of "Administrator", and then log in as "Administrator."
8. Change the password of "Administrator." For information on how to change the password, refer to "Initial settings."

# Replacing modules

Modules installed on the blade enclosure, such as switch modules/pass-through cards, CPU blades, EM cards, FAN units, and power units can be replaced even if the blade enclosure is powered on (i.e., when other CPU blades and switch modules/pass-through cards are operating). The conditions under which replacement can be performed may differ from one module to another. For further information, refer to the information on your module. Adding a module can be performed by following the same procedure for replacement (when adding a module, removal of a module is not necessary).

|  <b>WARNING</b> |   |
|--|---|
|                 | <p>Make sure to follow the instructions and notes to use the blade enclosure and other devices safely. There is a risk of death or serious injury. For more information, see the descriptions on page 3.</p> <ul style="list-style-type: none"><li>• Do not replace two or more switch modules, pass-through cards, EM cards, fan units, power units, and other modules at the same time.</li><li>• Do not place your hands inside the blade enclosure.</li></ul> |

## Switch module/pass-through card

This section explains how to replace a switch modules/pass-through card. Switch modules/pass-through cards can be replaced even if the blade enclosure is powered on (i.e., when other CPU blades and switch modules/pass-through cards are operating). Refer to the User's Guide of the switch module/pass-through card.

\* Depending on the type of switch module/pass-through card, the procedure may differ from the description in this manual. In this case, follow the instructions in the User's Guide of the switch module/pass-through card.

1. Confirm which switch module/pass-through card you are replacing.



**Important**

- When replacing a switch module/pass-through card, you cannot communicate via the switch module/pass-through card to be replaced.
- Quickly replace a switch module/pass-through card if the blade enclosure is powered on. If you use the blade enclosure with the switch module/pass-through card removed, the cooling efficiency will degrade. Make sure to install a switch module/pass-through card or switch module/pass-through slot cover.

2. Remove all the cables connected to the switch module/pass-through card.
3. Remove the switch module/pass through card from its switch module slot. For information on how to remove a switch module/pass-through card, refer to "Installing a switch module or pass-through card."
4. Install a switch module/pass-through card. For information on how to install a switch module/pass-through card, refer to "Installing a switch module or pass-through card." The switch module/pass-through card is automatically powered on.



**Check**

When a module is installed in the wrong slot or the number of power units and fan units is insufficient, the module may not be automatically powered on. Make sure that the module is properly configured.

5. Confirm that the power/status LED of the switch module/pass-through card is normal. How

the power/status LED behaves differently depending on the switch module/pass-through card. Refer to the User's Guide of the switch module/pass-through card..



Hint

When you give a name to a switch module/pass-through card, the name is registered in the module itself. After a switch module/pass-through card is replaced, reconfigure the name using the SET SWITCH NAME command as necessary. For details on the commands, refer to "Commands."

## CPU blade

This section explains how to replace a CPU blade. A CPU blade can be replaced even if the blade enclosure is powered on (i.e., when other CPU blades and switch modules/pass-through cards are operating). Refer to the User's Guide of the CPU blade as well.

\* Depending on the type of your CPU blade, the procedure may be different from the description in this manual. In this case, follow the instructions in the User's Guide of the CPU blade.

1. Confirm which CPU blade you are replacing.
2. Make sure the CPU blade you want to replace is powered off. If it is still powered on, power off the CPU blade. For information on how to power off a CPU blade, refer to "Powering on and off a CPU blade."



Important

- When replacing a CPU blade, ensure that the CPU blade is powered off. Otherwise, you may corrupt the saved data.
- Quickly replace a CPU blade if the blade enclosure is powered on. If you use the blade enclosure with the CPU blade removed, the cooling efficiency will degrade. Make sure to install a CPU blade or CPU blade slot cover.

3. Remove all the cables from the CPU blade.
4. Remove the CPU blade. For information on how to replace a CPU blade, refer to "Installing a CPU blade."
5. Install a new CPU blade in the CPU module slot. For information on how to remove the CPU blade, refer to "Installing a CPU blade."
6. Make sure that the EM card is on.
7. Switch the CPU blade on. For information on how to switch a CPU blade on, refer to "Powering on and off a CPU blade."



Check

When a module is installed in the wrong slot or the number of power units and fan units is insufficient, the module may not be powered on. Make sure that the module is properly configured.

8. Confirm that the power/status LED of the CPU blade is normal. How the power/status LED behaves differs depending on the CPU blade. Refer to the User's Guide of the CPU blade.

## EM card

This section explains how to replace an EM card. An EM card can be replaced even if the blade enclosure is powered on.

1. Confirm which EM card you are replacing.



### Important

- When you use the blade enclosure with only one EM card, make sure that the configuration data is backed up. Otherwise, the initial settings of the blade enclosure may be deleted. User passwords are not backed up. Reconfigure each user's password after restoring the configuration data. For information on how to back up and configure a password, refer to "Initial settings."
- Quickly replace an EM card if the blade enclosure is powered on. If you use the blade enclosure with the EM card removed, the cooling efficiency will degrade. Make sure to install an EM card or EM card slot cover. If no EM card is installed on the blade enclosure, a failure on the system cannot be detected. Immediately install at least one EM card.
- Do not install/remove or power on/off any module while restarting an EM card. Otherwise, the update will not complete and it may result in device malfunction. Do not switch on/off ID LED's of installed modules. The ID LED may not be appropriately turned on/off.
- If two EM cards are installed, the same password of "Administrator," which is for the active EM card, is assigned to both EM cards (i.e., the same password is configured for both the active and the stand-by EM card). Therefore, the initial password of "Administrator" of the stand-by EM card may differ from the one printed on the label on the EM card or on the release lever even if you have not changed its settings. When two EM cards are installed, and if you replace one of them, the password set to the EM card that served as active before the replacement is automatically set to a new EM card.

2. Remove all the cables from the EM card.
3. Remove the EM card. See "Installing the EM card."
4. Install a new EM card. See "Installing the EM card."  
The installed EM card is automatically powered on.
5. Make sure that the status LED of the installed EM card is green. When the installed EM card is the active EM, the active LED of the EM card is green.
6. If necessary, restore the configuration data of the installed EM card. If two EM cards are installed on the blade enclosure, new configuration data is automatically taken over. For information on how to restore configuration data, refer to "Verifying, backing up, and restoring the EM card configuration."



### Check

Backing up/restoring the configuration data should be done by "Administrator" or a user whose access right is ADMINISTRATOR.



### Hint

- Restoration cannot be done without backing up configuration data.
- If an EM card is removed while the blade enclosure is powered on, the fan may rotate at a high speed or the fan LED may blink amber. This is normal.



When a second EM card is installed in slot 2, if a failure occurs on the active EM card, the stand-by EM card automatically turns to active.



**Important**

- Many functions are restricted on the stand-by EM card. For details, see "Commands." Unless there is a reason not to use the active EM card.
- If you set the configuration data using a CLI on the active EM card, the configuration data is automatically set to the stand-by EM card as well. This does not apply when the version of EM firmware is different between the active EM card and the stand-by EM card.
- If you update the EM firmware from the active EM card, the stand-by EM card is also automatically updated.

You can distinguish whether the EM card is active or stand-by by checking the active LED of the EM card. If the EM card is the active EM, the active LED is green. For details, refer to "Components." You can also check whether the EM card is active/stand-by by following the steps below on the CLI of EM cards. For details, refer to "Commands."

1. Confirm that the EM card is powered on.
2. Make sure that you have logged in the CLI of the EM serial console or EM console.
3. Check whether the EM card is active/standby on the CLI. For details, refer to "Commands."

—Checking EM card status

This is used to see the status of the EM card.

```
SHOW EM STATUS
```

## Fan unit

This section explains how to replace a fan unit. A fan unit can be replaced even if the blade enclosure is powered on.



### Important

Quickly replace a fan unit if the blade enclosure is powered on. If you use the blade enclosure with the fan unit removed, the cooling efficiency will degrade. Make sure to install a fan unit or fan unit slot cover.

1. Confirm which fan unit you are replacing.
2. Remove the fan unit. See "Installing a fan unit."
3. Install a new fan unit in the fan slot. Refer to "Installing a fan unit."
4. Make sure that the fan LED of the fan unit is green.
5. Confirm that the fan unit is recognized by the EM card. See "Checking operational status."

# Power unit

This section explains how to replace a power unit. A power unit can be replaced even if the blade enclosure is powered on.

1. Confirm which power unit you are replacing.
2. If the power unit is not redundantly configured, power off all the CPU blades installed in the target slot.



#### Important

- To remove a power unit in a non-redundant configuration, power off all devices on the blade enclosure.
- Quickly replace a power unit if the blade enclosure is powered on. If you use the blade enclosure with a power unit removed, the cooling efficiency will degrade. Make sure to install a power unit or power unit slot cover.

3. Remove the power unit. See "Installing a power unit."
4. Install a power unit in the slot. Refer to "Installing a power unit." When a power unit is added, install a power cord in the AC inlet and connect it to a power tap or UPS. For information on how to install a power cord, refer to "Connecting cables.")
5. Make sure that the power LED of the power unit is green, which shows the power unit is working normally, and that the power alarm LED is off, which shows the power unit is working normally.
6. Confirm that the installed power unit is recognized by the EM card. Refer to "Checking operational status."



---

---

---

---

---

---

---



---

---

---

---

---

# Command input Specifications

## How to start a CLI

---

### How to start

The EM SIGMABLADE-H firmware logs in to the EM firmware via one of the following three and starts a CLI.

- 1: EM serial console
  - 2: Telnet
  - 3: SSH
- 

### Via the EM serial console

An EM card is equipped with a serial port to allow operation from a remote PC.

When you connect a PC to an EM card using a serial cable, the system console of the EM firmware is displayed.

#### Serial cable connection parameter

Use a cross cable for a serial cable.

|                 |             |
|-----------------|-------------|
| Transfer rate   | : 115200bps |
| Data length     | : 8 bit     |
| Parity          | : None      |
| Stop bit: 1 bit |             |
| Flow control    | : None      |

When connecting to the EM serial console is successful, the following window is displayed. The CLI is started by logging in to it by a user account for CLI on the login prompt. Enter the user name that is registered in advance and correct password to log in to the CLI.

```
NEC SIGMABLADE Enclosure Manager Version 01.00
```

```
1Z34AB7890 login: Administrator  
Password:
```

```
NEC SIGMABLADE Enclosure Manager (01.00)
```

```
Type 'HELP' to display a list of valid commands.  
Type 'HELP <command>' to display detailed information about a specific command.  
Type 'HELP HELP' to display more detailed information about the help system.
```

```
1Z34AB7890 (Administrator)>
```

EM serial connection window (Example)

---

## Telnet/SSH

Connect to the EM firmware using telnet/SSH between a remote PC and an EM card connected through Ethernet.

When the EM serial console is successfully connected, the following screen is displayed. The CLI is started by logging in to it by a user account for CLI on the login prompt.

```
$ telnet 192.168.1.150  
Trying 192.168.1.150...  
Connected to 192.168.1.150 (192.168.1.150).  
Escape character is '^]'.  
  
NEC SIGMABLADE Enclosure Manager Version 01.00
```

```
1Z34AB7890 login: Administrator  
Password:
```

```
NEC SIGMABLADE Enclosure Manager (01.00)
```

```
Type 'HELP' to display a list of valid commands.  
Type 'HELP <command>' to display detailed information about a specific command.  
Type 'HELP HELP' to display more detailed information about the help system.
```

```
No entry for terminal type "vt102";  
using dumb terminal settings.  
1Z34AB7890 (Administrator)>
```

EM firmware Telnet connection window (Example)

# How to enter a command

## Basics

You can enter a command by logging in to a CLI via the EM serial console or telnet/SSH.

## How to enter a command

Enter a command defined in this document after a prompt is displayed.

When a command is correctly entered, the CLI executes a process according to the command.

Only one command can be specified in a line at the same time. Multiple commands cannot be specified at the same time.

Depending on a command, you can specify multiple arguments. You have to insert at least one blank space between a command and an argument.

## Command syntax

<command> <the first argument> <the second argument> ... <the Nth argument>

### Command:

Specify behavior for the argument(s) to follow

### Argument:

Specify an object for the behavior mentioned above.

Multiple arguments can be specified. You can specify static parameter, variable parameter (e.g. address, time), and URL, for argument.

A CLI checks a specified command from the top of lines. When conditions to execute a command/an argument are satisfied, a CLI processes a command.

## Numeric value specification

Specify in decimal (0-9).

## Character string specification

Specify with alphanumeric characters and some symbols (to be specific, a-zA-Z, 0-9, space, '-' (dash), '\_' (underscore)) in any combination.

The first character must be always an alphabet (a-zA-Z). You can specify alphanumeric characters for the following characters.

For specifying a URL, you can use '@' (at sign), ':' (colon), '/' (slash mark), and '.' (dot).

When you specify a character string that contains any space, enclose the character string with double quotations.

## IP address specification

Some commands require IP address to be specified.

Specify an IP address as follows.

Format: ###.###.###.###

###: Specify in one through three digits in decimal.

Example: "192.168.1.150"

## Range specification

You need to specify the range of values for some commands.  
You can specify a range of values by connecting two values with "-" (hyphen).  
Enter a space between a value and '-' (hyphen).

Example: When specifying 1 through 9  
"1 - 9"

You can connect multiple specifications by connecting them with ',' (comma).  
Enter a space between a value and ',' (comma).

Example: When specifying 1 and 5.  
"1 , 5"

#### URL specification

URL needs to be specified for argument in some commands.  
Specify URL according to the following format.  
(The range enclosed with double quotations "" is case sensitive. Type "tftp", "ftp", and "http" in lower case.)

|                                   |  |
|-----------------------------------|--|
| http specification                | : "http://<URL>/<path>"                      |
| ftp specification (Anonymous ftp) | : "ftp://<URL>/<path>"                       |
| ftp specification (user/password) | : "ftp://<username>:<password>@<URL>/<path>" |
| tftp specification                | : "tftp://<URL>/<the path>"                  |

\* <path> should include the file name.

#### CPU blade number specification

\* If the blade has multiple blade slots, specify the smallest slot number of them. (How to specify the slot number depends on a module to be installed. In such a case, prioritize the descriptions of the module or user's guide of the module.)

#### Prompt

The following shows prompt specification of a CLI.

```
"[The blade enclosure name] ([login user name]) >Δ"
```

Description: The actual name of the information enclosed with brackets is displayed.  
"Δ" represents a space.

EM card name: This is used to identify an EM card from another one. This is not configured by default.

The blade enclosure name: The name of the blade enclosure

The login user name: User account name used for logging in to EM card

Example: The following is a prompt when logging in to the blade enclosure named "Prototype" by a user whose name is "Administrator."

```
Prototype (Administrator)>
```

EM firmware CLI prompt format (Example)

Key operation for entering a command

This section explains key operation for entry when a prompt is displayed.

You can delete entered data by the Back Space key as you do in the ordinary key operation for entering information.

The following functions are available to support key entry of information.

The function to edit a command line being entered by using a cursor key, which allows moving to the top or end of the command line as you wish)

The history function allowing you to easily execute a command that has already been entered: The history function is available only in the same session. History is erased by terminating a CLI or powering off or restarting the EM firmware.

# User account management

## Overview

The CLI of SIGMABLADE-H EM firmware manages where a user can access.

The EM firmware supports the user account management commands for managing where a user can access.

## Default user

Default user is a user that can be used with no modification on the user management information

For SIGMABLADE-H, the following user is configured by default.

The list of default user

| User name     | Description        |
|---------------|--------------------|
| Administrator | Administrator user |

## User account

You can create multiple users according to your system operating environment and request from users.

The number of users has the upper limit.

For information on how to create an account, refer to "User management commands" described later in this manual.

## Access right

You can set the access right for controlling where the user that is created above can access.

The following three types are supported as access rights. Access rights are determined according to privilege.

The list of specifiable access right

| Access right  | Description          |
|---------------|----------------------|
| ADMINISTRATOR | System administrator |
| OPERATOR      | System operator      |
| USER          | General user         |

The CLI supports many commands, yet some commands are available only for certain users.

## Administrator

The following user is set by default on the CLI of EM firmware to allow system maintenance and operation management in the initial state.

## Default user

User name : "Administrator"  
Access right : "ADMINISTRATOR"  
Password : Refer to the following descriptions  
Usage : System maintenance/operation management

Password:

Each EM card has a different password for "Administrator" by default.

The initial password is displayed only on EM serial console of EM firmware when an EM firmware is started by "password recovery."

For information on password recovery, refer to "Password recovery" on page 120.

#### CLI additional user

You can add or delete a user by using the CLI command.

You can give an added user ADMINISTRATOR, OPERATOR or USER as access right according to the access range of the user.

There is an upper limit for the number of users that can be added.

30 users at maximum (Default user "Administrator" is included in 30 users.)

#### User name

Specify a user name with alphanumeric characters and symbols (to be specific, a-zA-Z, 0-9, space, '-' (en dash), '\_' (underscore)) in any combination.

The first character should be always alphabet (a-zA-Z). You can specify alphanumeric characters for the rest of characters.

Use 1 to 13 characters to specify user name.

#### Concurrent connection

The number of sessions that can be connected at the same time is limited for CLI.

The maximum number of the sessions is 17 (1+16).

1 session : Operation from the EM serial console

16 sessions : Number of CPU blades

# Commands

## Commands

The following table shows CLI commands supported by the SIGMABLADE-H EM firmware.

Indications in the "Access rights" column

A: operation by Administrator is possible.

O: operation by Operator is possible.

U: operation by User is possible.

Indications in the "EM card active/standby" column

A: settings can be configured from the active EM

S: settings can be configured from the standby EM

Indications in the "Backup target" column

Y: configuration information that is backed up

N: configuration information that is not backed up

About "Remarks" column

A description that has asterisk "\*" at the end of it means that it is a required when you restore the configuration

- \* EXPRESSSCOPE engine is referred to as BMC (Baseboard Management Controller) in this document.
- \* The CPU blade management commands and switch module management commands may not be supported by some modules. (For further information, refer to the user's guide of each module.)

CLI commands of the SIGMABLADE-H EM firmware

| Command                         | Access rights | Description   | Default value          | EM card active/standby | Back up target | Remarks |
|---------------------------------|---------------|---|------------------------|------------------------|----------------|---------|
| <b>General command</b>          |               |   |                        |                        |                |         |
| CLEAR SCREEN                    | A/O/U         | Clears the terminal screen.   | N/A                    | A/S                    | N              |         |
| EXIT                            | A/O/U         | Terminates the CLI.   | N/A                    | A/S                    | N              |         |
| HELP                            | A/O/U         | Displays help messages.   | N/A                    | A/S                    | N              |         |
| HISTORY                         | A/O/U         | Displays the history of the commands entered in the CLI.  | N/A                    | A/S                    | N              |         |
| LOGOUT                          | A/O/U         | Terminates the CLI.   | N/A                    | A/S                    | N              |         |
| QUIT                            | A/O/U         | Terminates the CLI.   | N/A                    | A/S                    | N              |         |
| <b>Rack management command.</b> |               |   |                        |                        |                |         |
| SET RACK NAME                   | A/O           | Configures the name of the rack on which EM card is installed. The rack name must be Up to 32 characters. | ""<br>(not configured) | A                      | Y              |         |
| SHOW RACK NAME                  | A/O/U         | Displays the name of the rack that is configured.   | N/A                    | A/S                    | N              |         |
| SET RACK UID                    | A/O           | Configures a unique rack ID. The rack unique ID must be up to 16 characters.                              | ""<br>(not configured) | A                      | Y              |         |
| SHOW RACK UID                   | A/O/U         | Displays the rack unique ID that has been configured.   | N/A                    | A/S                    | N              |         |

| Command                        | Access rights | Description  | Default value  | EM card active/standby | Back up target | Remarks  |
|--------------------------------|---------------|--|--|------------------------|----------------|--|
| SHOW TOPOLOGY                  | A/O/U         | When multiple blade enclosures are installed on the same rack, displays the connection status of the blade enclosures.   | N/A  | A/S                    | N              |  |
| <b>User management command</b> |               |  |  |                        |                |  |
| ADD USER                       | A             | Adds a user to the system.<br>Up to 30 users can be registered.<br>The user defined by the system (Administrator) cannot be added.   | Administrator  | A                      | Y              | 30 users at maximum ("Administrator" is included in 30 users.) |
| ASSIGN [SERVER   SWITCH]       | A             | Assigns access permission to CPU blades and switch modules to the specified user.  | N/A  | A                      | Y              |  |
| ASSIGN EM                      | A             | Assigns access permission to EM cards to the specified user.   | N/A  | A                      | Y              |  |
| DISABLE USER                   | A             | Disables a specified user.   | The registered user is set to "ENABLE" by default.     | A                      | Y              |  |
| ENABLE USER                    | A             | Enables a specified user.  | The registered user is set to "ENABLE" by default.     | A                      | N              |  |
| REMOVE USER                    | A             | Deletes a specified user.  | N/A  | A                      | N              |  |
| SET PASSWORD                   | A/O/U         | Sets the password of the user who executed the command. The password must be 3 to 8 characters.  | N/A  | A                      | N              |  |
| SET USER CONTACT               | A             | Configures the contact information of the specified user. The contact information must be up to 32 characters.   | ""<br>(not configured)                                 | A                      | Y              |  |
| SET USER FULLNAME              | A/O           | Configures the full name of the specified user. The full name must be up to 32 characters.   | "Administrator":<br>Full name:<br>System Administrator | A                      | Y              |  |
| SET USER PASSWORD              | A             | Sets the password of the specified user. The password must be 3 to 8 characters. Only users with the ADMINISTRATOR rights can use this command.                                | N/A  | A                      | N              |  |
| SET USER ACCESS                | A             | Configures the access rights for the specified user.<br>Access rights: "ADMINISTRATOR", "OPERATOR" or "USER"<br>Only users with the ADMINISTRATOR rights can use this command. | Administrator:<br>"Admin"                              | A                      | Y              |  |
| SHOW USER                      | A/O/U         | Displays a list of users that are registered with the EM firmware.   | N/A  | A/S                    | N              |  |
| UNASSIGN [SERVER   SWITCH]     | A             | Removes the access permission to CPU blade and switch modules from the specified user.   | N/A  | A                      | N              |  |
| UNASSIGN EM                    | A             | Removes the access permission to EM cards  | N/A  | A                      | N              |  |

| Command                                     | Access rights | Description  | Default value | EM card active/standby | Back up target | Remarks                            |
|---|---------------|--|---------------|------------------------|----------------|------------------------------------|
|   |               | from the specified user.   |               |                        |                |                                    |
| <b>System management command</b>            |               |  |               |                        |                |                                    |
| CLEAR SWITCH SESSION                        | A/O           | Terminates a serial console session on a switch module.  | N/A           | A                      | N              |                                    |
| PING  | A/O/U         | Sends PING (ICMP Echo command) for a specified IP address or server name.  | N/A           | A/S                    | N              |                                    |
| SET FACTORY                                 | A             | Restores settings of the EM firmware to their factory defaults. Only users with the ADMINISTRATOR rights can use this command. | N/A           | A/S                    | N              |                                    |
| <b>Enclosure network management command</b> |               |  |               |                        |                |                                    |
| ADD NETWORK DNS                             | A/O           | Configures DNS servers. Up to two DNS servers can be registered.   | N/A           | A                      | Y              |                                    |
| ADD TRUSTED HOST                            | A/O           | Specifies IP addresses allowing access to the EM firmware. Up to five addresses can be registered.                             | N/A           | A                      | Y              |                                    |
| ADD SNMP TRAPRECEIVER                       | A/O           | Specifies SNMP trap destinations. Up to three destinations can be registered.  | N/A           | A                      | Y              |                                    |
| DISABLE HTTPS                               | A/O           | Disables the Web console function of the EM firmware.  | Enable        | A                      | Y              | Do not use. (only for maintenance) |
| DISABLE TRUSTED HOST                        | A/O           | Disables the IP-based access control function to the EM firmware.  | Disable       | A                      | Y              |                                    |
| DISABLE NTP                                 | A/O           | Disables the NTP function of the EM firmware.  | Disable       | A                      | Y              |                                    |
| DISABLE SECURESH                            | A/O           | Disables the SSH access to the EM firmware.  | Enable        | A                      | Y              |                                    |
| DISABLE SNMP                                | A/O           | Disables the SNMP functions of the EM firmware.  | Enable        | A                      | Y              |                                    |
| DISABLE SNMP TRAPACK                        | A/O           | Disables the SNMP TrapAck function of the EM firmware.   | Disable       | A                      | Y              |                                    |
| DISABLE TELNET                              | A/O           | Disables the telnet access to the EM firmware.   | Enable        | A                      | Y              |                                    |
| ENABLE HTTPS                                | A/O           | Enables the Web console function of the EM firmware.   | Enable        | A                      | Y              | Not used (only for maintenance)    |
| ENABLE TRUSTED HOST                         | A/O           | Enables the IP-based access control function to the EM firmware.   | Disable       | A                      | Y              |                                    |
| ENABLE NTP                                  | A/O           | Enables the NTP function of the EM firmware.   | Disable       | A                      | Y              |                                    |
| ENABLE SECURESH                             | A/O           | Enables the SSH access to the EM firmware.   | Enable        | A                      | Y              |                                    |
| ENABLE SNMP                                 | A/O           | Enables the SNMP functions of the EM firmware.   | Enable        | A                      | Y              |                                    |
| ENABLE SNMP TRAPACK                         | A/O           | Enables the SNMP TrapAck function of the EM firmware.  | Disable       | A                      | Y              |                                    |
| ENABLE TELNET                               | A/O           | Enables the telnet access to the EM firmware.  | Enable        | A                      | Y              |                                    |
| REMOVE NETWORK DNS                          | A/O           | Removes the IP address of a DNS server from the list.  | N/A           | A                      | N              |                                    |
| REMOVE TRUSTED HOST                         | A/O           | Removes an IP address that is configured by the  | N/A           | A                      | N              |                                    |

| Command                     | Access rights | Description   | Default value                    | EM card active/standby | Back up target | Remarks                                     |
|-----------------------------|---------------|---|----------------------------------|------------------------|----------------|---|
|                             |               | "ADD TRUSTED HOST" command.   |                                  |                        |                |   |
| REMOVE SNMP TRAPRECEIVER    | A/O           | Removes a registered SNMP trap destination.   | N/A                              | A                      | N              |   |
| SET NETWORK ADDRESSRANGE    | A/O           | Configures IP addresses of EM cards, CPU blades, and switch modules.  | Refer to "Command specification" | A                      | Y              |   |
| SET NETWORK DOMAIN          | A/O           | Configures a domain name. The domain name must be up to 64 characters.  | ""<br>(not configured)           | A                      | Y              |   |
| SET NETWORK GATEWAY         | A/O           | Configures the gateway address of EM cards, CPU blades and switch modules.  | "0.0.0.0"                        | A                      | Y              |   |
| SET NETWORK NTP POLL        | A/O           | Configures NTP polling intervals in seconds. Range of value to be configured: 60~9999   | "720"                            | A                      | Y              |   |
| SET NETWORK NTP PRIMARY     | A/O           | Configures the IP address of the primary NTP server.  | "0.0.0.0"                        | A                      | Y              |   |
| SET NETWORK NTP SECONDARY   | A/O           | Configures the IP address of the secondary NTP server.  | "0.0.0.0"                        | A                      | Y              |   |
| SET SNMP COMMUNITY READ     | A/O           | Configures the community name for the read SNMP community. The community name must be up to 32 characters.                                | "public"                         | A                      | Y              |   |
| SET SNMP COMMUNITY WRITE    | A/O           | Configures the community name for the read/write SNMP community. The community name must be up to 32 characters.                          | "public"                         | A                      | Y              |   |
| SET SNMP COMMUNITY TRAP     | A/O           | Configures the community name of an SNMP trap. The community name must be up to 32 characters.  | "public"                         | A                      | Y              |   |
| SET SNMP CONTACT            | A/O           | Configures a SNMP contact name. The contact name must be up to 64 characters.   | "unknown"                        | A                      | Y              |   |
| SET SNMP LOCATION           | A/O           | Configures a SNMP location information. The location information must be up to 64 characters.   | "unknown"                        | A                      | Y              |   |
| SET SNMP LOCATION ENCLOSURE | A/O           | Configures the blade enclosure location in the rack in the unit of "EIA U".   | "0"                              | A                      | Y              |   |
| SET SNMP RACKHEIGHT         | A/O           | Configures the rack height in the rack in the unit of "EIA U".  | "0"                              | A                      | Y              |   |
| SET SNMP TRAPACKPORT        | A/O           | Specifies the port number for receiving SNMP Trap Ack. Specify the port number by a decimal number.                                       | "5002"                           | A                      | Y              | NEC ESMPRO Manager is available by default. |
| SHOW NETWORK                | A/O/U         | Displays the network settings.<br><br>Display Items:<br>IP address<br>Subnet mask<br>Gateway<br>DNS server addresses (Primary, Secondary) | N/A                              | A/S                    | N              |   |

| Command                             | Access rights | Description   | Default value                            | EM card active/standby | Back up target | Remarks  |
|-------------------------------------|---------------|---|--|------------------------|----------------|--|
|                                     |               | MAC address of the EM card<br>Web server settings (Enable/Disable)<br>SNMP settings (Enable/Disable)<br>SSH settings (Enable/Disable)<br>Telnet settings (Enable/Disable)<br>NTP settings (Enable/Disable)<br>TRUSTED HOST settings (Enable/Disable)<br>NTP server addresses<br>NTP server polling interval |  |                        |                |  |
| SHOW SNMP                           | A/O/U         | Displays the setting status of SNMP.<br><br>Display Items:<br>System name<br>Location information<br>Contact name<br>Community name (Read/Write/Trap)<br>Trap destination<br>TrapACK settings (Enable/Disable)  | N/A                                      | A/S                    | N              |  |
| TRAPTEST                            | A/O           | Issues the SNMP trap for the test.  | N/A                                      | A/S                    | N              |  |
| <b>Enclosure management command</b> |               |   |  |                        |                |  |
| DOWNLOAD CONFIG                     | A             | Downloads the configuration file of the EM firmware. Then EM firmware reboots automatically to apply the downloaded configuration file.   | N/A                                      | A                      | N              |  |
| FORCE TAKEOVER                      | A             | Switch the role of two EM cards forcibly. (Active/Standby)  | N/A                                      | A/S                    | N              |  |
| RESTART EM                          | A             | Restarts the EM firmware.   | N/A                                      | A/S                    | N              |  |
| SET AUTOLOGOUT                      | A/O/U         | Specifies the time until CLI automatically terminates when the CLI is left not being operated.  | 60 min.                                  | A/S                    | N              | Effective only in a session of the corresponding CLI |
| SET DATE                            | A/O           | Configures the date, time and timezone of the EM firmware.<br>Setting format:<br>MMDDhhmm{{CC}YY}<br>{TZ}   | N/A                                      | A/S                    | N              | Time must be configured manually.                    |
| SET DISPLAY EVENT                   | A/O/U         | Enables or disables the displaying of certain events on the CLI console.  | "OFF" (disable)                          | A/S                    | N              | Effective only in a session of the corresponding CLI |
| SET ENCLOSURE ASSET TAG             | A/O           | Configures the asset tag of the blade enclosure.  | "" (not configured)                      | A                      | Y              |  |
| SET ENCLOSURE MACHINE SERIAL        | A/O           | Configures the machine serial number of the blade enclosure.  | (factory default) or "" (not configured) | A                      | Y              |  |
| SET ENCLOSURE NAME                  | A/O           | Configures the blade enclosure name.  | The serial number of the blade enclosure | A                      | Y              |  |
| SET ENCLOSURE UID                   | A/O           | Turns on/off the ID LED of the blade enclosure.   | N/A                                      | A                      | N              |  |
| SET POWER                           | A/O           | Configures the policy of  | PERFORMANCE                              | A                      | Y              |  |

| Command                    | Access rights | Description  | Default value   | EM card active/standby | Back up target | Remarks                                 |
|----------------------------|---------------|--|---|------------------------|----------------|---|
| POLICY                     |               | power control function.  | (performance priority mode)                                 |                        |                |   |
| SET POWER REDUNDANCY       | A/O           | Configures the redundancy mode of the power control function.  | POWERSUPPLY (Single power redundancy mode (N+1 redundancy)) | A                      | Y              |   |
| SET TIMEZONE               | A/O           | Specifies the time zone of the EM firmware.  | "JST"   | A                      | N              | Time zone must be configured manually.* |
| SHOW ALL                   | A/O/U         | Displays all the configuration information in the enclosure.   | N/A   | A/S                    | N              |   |
| SHOW AUTOLOGOUT            | A/O/U         | Displays the time until CLI automatically terminates when the CLI is left not being operated.  | N/A   | A/S                    | N              |   |
| SHOW CONFIG                | A             | Displays the configuration information that is set on the EM firmware by the CLI command format.   | N/A   | A                      | N              |   |
| SHOW DATE                  | A/O/U         | Displays the date, time and timezone of the EM firmware.   | N/A (Time zone: "JST")                                      | A/S                    | N              |   |
| SHOW DISPLAY EVENT         | A/O/U         | Displays the settings which are configured by "SET DISPLAY EVENT" command.   | N/A   | A/S                    | N              |   |
| SHOW ENCLOSURE FAN         | A/O/U         | Displays the information of the fan unit(s) on the blade enclosure.<br><br>Display Items:<br>Status<br>Redundancy status<br>Rotation speed<br>Part number  | N/A   | A                      | N              |   |
| SHOW ENCLOSURE INFO        | A/O/U         | Displays the information of the blade enclosure.<br><br>Display Items:<br>Blade enclosure name<br>Blade enclosure type<br>EM firmware version<br>EM card version<br>Part number of the blade Enclosure<br>Serial number<br>Asset tag<br>MAC address of the EM card                       | N/A   | A/S                    | N              |   |
| SHOW ENCLOSURE POWERSUPPLY | A/O/U         | Displays the information of the power unit(s) on the blade enclosure.<br><br>Display Items:<br>The status of power unit<br>AC input status<br>Output capacity<br>Input voltage range<br>Input frequency range<br>Parts number<br>Serial number<br>Revision<br>The status of power saving | N/A   | A                      | N              |   |
| SHOW ENCLOSURE STATUS      | A/O/U         | Displays the status of the blade enclosure.  | N/A   | A                      | N              |   |

| Command                             | Access rights | Description   | Default value   | EM card active/standby | Back up target | Remarks |
|-------------------------------------|---------------|---|-----------------|------------------------|----------------|---------|
|                                     |               | Display Items:<br>Operating status<br>ID LED status<br>Power status· capacity   |                 |                        |                |         |
| SHOW ENCLOSURE TEMP                 | A/O/U         | Displays the temperature of the blade enclosure.<br><br>Display Items:<br>Status (OK, warm, degraded, or failed)<br>Temperature (in Celsius/Fahrenheit)   | N/A             | A                      | N              |         |
| SHOW POWER                          | A/O/U         | Displays the settings on power management function.<br><br>Display Items:<br>Power redundancy mode<br>Suppliable power capacity<br>Allocated power capacity<br>The status of power saving<br>Maximum Consumable Power                                   | N/A             | A                      | N              |         |
| SHOW VERSION                        | A/O/U         | Displays the version of EM card/EM firmware.  | N/A             | A/S                    | N              |         |
| UPDATE IMAGE                        | A             | Updates the EM firmware.<br>This command downloads the EM firmware image from the specified URL (http, ftp, tftp), and use it to update the EM firmware automatically.<br>After that, the EM firmware automatically reboots to apply the updated image. | N/A             | A                      | N              |         |
| UPLOAD CONFIG                       | A             | Uploads the configuration information of the EM firmware to the URL specified.  | N/A             | A                      | N              |         |
| SET POWER SAVINGS                   | A/O           | Configures the power saving mode of the power control function.   | "OFF" (disable) | A                      | Y              |         |
| SET POWER LIMIT                     | A/O           | Configures the maximum power consumption for each enclosure.  | "OFF" (disable) | A                      | Y              |         |
| <b>CPU blade management command</b> |               |   |                 |                        |                |         |
| POWEROFF SERVER                     | A/O           | Powers off the DC power of the specified CPU blade.   | N/A             | A                      | N              |         |
| POWERON SERVER                      | A/O           | Powers on the DC power of the specified CPU blade.  | N/A             | A                      | N              |         |
| REBOOT SERVER                       | A/O           | Resets the specified CPU blade.   | N/A             | A                      | N              |         |
| SET SERVER UID                      | A/O/U         | Turns on or off the ID LED of the specified CPU blade.  | N/A             | A                      | N              |         |
| SHOW SERVER INFO                    | A/O/U         | Displays the information of the specified CPU blade.<br><br>Display Items:<br>Blade type<br>Blade name<br>Part number<br>Serial number  | N/A             | A                      | N              |         |

| Command                                 | Access rights | Description  | Default value                  | EM card active/standby | Back up target | Remarks                        |
|---|---------------|--|--------------------------------|------------------------|----------------|--------------------------------|
|   |               | MAC address of LAN<br>IP address of CPU blade<br>BMC   |                                |                        |                |                                |
| SHOW SERVER LIST                        | A/O/U         | Displays the information of the specified CPU blade.<br><br>Display Items:<br>CPU blade name<br>IP address of CPU blade<br>BMC<br>Health status<br>Power status<br>(ON/OFF/Degrade)<br>ID LED status (ON/OFF)  | N/A                            | A                      | N              |                                |
| SHOW SERVER PORT MAP                    | A/O/U         | Displays the port mapping information for the specified CPU blade.   | N/A                            | A                      | N              |                                |
| SHOW SERVER STATUS                      | A/O/U         | Displays the status of the CPU blade.<br><br>Display Items:<br>Power status (OK or OFF)<br>Amount of electricity used<br>Operational status (OK, CPU failure, or power module failure)<br>ID LED status        | N/A                            | A                      | N              |                                |
| SET SERVER POWERONDELAY                 | A             | Configures the power-on delay time of the specified CPU blade.   | "0"<br>(disable)               | A                      | Y              | Effective only for CPU blades. |
| SHOW SERVER POWERONDELAY                | A/O/U         | Displays the power-on delay time of the specified CPU blade.   | N/A                            | A                      | N              |                                |
| <b>Switch module management command</b> |               |  |                                |                        |                |                                |
| CONNECT SWITCH                          | A/O/U         | Connects to the serial console of the specified switch module.   | N/A                            | A                      | N              |                                |
| POWEROFF SWITCH                         | A/O           | Powers off the DC power of the specified switch module.  | N/A                            | A                      | N              |                                |
| POWERON SWITCH                          | A/O           | Powers on the DC power of the specified switch module.   | N/A                            | A                      | N              |                                |
| RESTART SWITCH                          | A/O           | Restarts the specified switch module.  | N/A                            | A                      | N              |                                |
| SET SWITCH NAME                         | A/O           | Names the specified switch module.   | (depends on the switch module) | A                      | N              |                                |
| SET SWITCH UID                          | A/O/U         | Turn on or off the ID LED of the specified switch module   | N/A                            | A                      | N              |                                |
| SHOW SWITCH INFO                        | A/O/U         | Displays the information on the specified switch module.<br><br>Display Items:<br>Switch module type<br>Manufacturer's name<br>Product name<br>Product part number<br>Product version<br>Product serial number | N/A                            | A                      | N              |                                |
| SHOW SWITCH LIST                        | A/O/U         | Lists installed switch modules.  | N/A                            | A                      | N              |                                |
| SHOW SWITCH PORT MAP                    | A/O/U         | Displays the port mapping information for the specified switch module.   | N/A                            | A                      | N              |                                |
| SHOW SWITCH STATUS                      | A/O/U         | Displays the status of the specified switch module.  | N/A                            | A                      | N              |                                |

| Command                           | Access rights | Description   | Default value   | EM card active/standby | Back up target | Remarks   |
|-----------------------------------|---------------|---|-----------------|------------------------|----------------|---|
|                                   |               | Display Items:<br>ID LED status<br>Operational status             |                 |                        |                |   |
| <b>EM management command</b>      |               |   |                 |                        |                |   |
| SET EM NAME                       | A/O           | Configures the name of an EM card.                                | N/A             | A/S                    | Y              |   |
| SET EM UID                        | A/O/U         | Turn on or off the ID LED of the EM card.                         | N/A             | A/S                    | N              |   |
| SHOW EM INFO                      | A/O/U         | Displays the information of the EM card.                          | N/A             | A/S                    | N              |   |
| SHOW EM STATUS                    | A/O/U         | Displays the status of the EM card.                               | N/A             | A/S                    | N              |   |
| SET EM LANGUAGE                   | A/O           | Configures the language type of the EM card.                      | "JAPANESE"      | A                      | Y              | This setting is used to switch the language type of the SNMP trap messages. Change the language type to "ENGLISH" when you use NEC ESM PRO Manager. |
| <b>DianaScope control command</b> |               |   |                 |                        |                |   |
| SET DSGPASSWORD                   | A/O           | Configures the user password of the DianaScope Gateway.           | "guest"         | A                      | Y              | The user password is used in the authentication for DianaScope Manager.   |
| SHOW DSGPASSWORD                  | A/O           | Displays the user password of the DianaScope Gateway.             | N/A             | A/S                    | N              |   |
| SET DSGSTATE                      | A/O           | Configures the status (Enable/Disable) of the DianaScope Gateway. | "1"<br>(enable) | A                      | Y              |   |
| SHOW DSGSTATE                     | A/O           | Displays the status (Enable/Disable) of the DianaScope Gateway.   | N/A             | A/S                    | N              |   |

"Information to be displayed" indicates major items to be displayed.

# Command specification

## Description

### Overview

Overview of the command is described here.

"Information to be displayed" indicates major items to be displayed.

### Command name

The command to be specified on the CLI command prompt is described here.

### First argument

An argument for the command is specified here.

Character string/numeric value enclosed with double quotes is a default value.

Character string/numeric value enclosed with angle brackets is a variable value.

### Second argument ~ Nth argument

If there are multiple articles, they are described as many as they are.

### Example of execution

An example of the command execution is described here.

### Default value

Default value of value to be set is described here for the command to be set or changed.

### Supplementary information

If there is anything to be noted for operation, it is described here.

# General commands

---

## Clearing the CLI terminal screen

### Overview

Clears the CLI terminal screen.

The CLI prompt will appear after the terminal is cleared.

### Command name

CLEAR SCREEN

### Argument

None

### Example of execution

### Default value

### Supplementary information

---

## Terminating CLI

### Overview

Terminates the CLI.

When you have logged in the CLI via the EM serial console, the login session is terminated and you will return to the login prompt.

When you have logged in via Telnet/SSH connection, the Telnet/SSH connection is terminated after the CLI session is terminated.

### Command name

EXIT / LOGOUT / QUIT

Specify one of them to terminate the CLI.

### Argument

None

### Example of execution

### Default value

### Supplementary information

---

## Displaying a help message

### Overview

Displays help messages of a CLI command.

### Command name

HELP

### Argument

*<The name of the command you want to know how to use >*

Depending on the command specifications, sub command(s) may be specified as argument.

### Example of execution

```
1Z34AB7890 (Administrator)> help
ADD ASSIGN CLEAR CONNECT DISABLE DOWNLOAD ENABLE EXIT FORCE HELP HISTORY LOGOUT
PING POWEROFF POWERON QUIT REBOOT REMOVE RESTART SET SHOW SLEEP TRAPTEST
UNASSIGN UPDATE UPLOAD

1Z34AB7890 (Administrator)> help help
HELP {<command>}: Show Help messages for <command> or list the top level
commands if no arguments are provided. Arguments listed in square brackets [ ]
and separated by the pipe symbol | are mutually exclusive choices. Arguments
listed in braces {} are optional arguments and can be omitted. Fields listed in
angle brackets <> should be replaced with the value indicated.

1Z34AB7890 (Administrator)> help show
SHOW [ ALL | AUTOLOGOUT | CONFIG | DATE | DISPLAY EVENT(S) | ENCLOSURE | SWITCH
| NETWORK | EM | POWER | RACK NAME | SERVER | SNMP | TOPOLOGY | USER ]

1Z34AB7890 (Administrator)> help show server
SHOW SERVER [ INFO | LIST | STATUS | PORT MAP ]

1Z34AB7890 (Administrator)> help show server info
SHOW SERVER INFO [ ALL | <slot number> {[ , | - ] <slot number>}]: Displays a
brief description of Blade in the specified blade or range of blades.

1Z34AB7890 (Administrator)>
```

### Example of execution of the HELP command

Default value

Supplementary information

---

## Displaying command entry history

Overview

Displays the history of the commands entered in the CLI.

Command name

HISTORY

Argument

None

### Example of execution

```
1Z34AB7890 (Administrator)> history
 1 poweroff
 2 poweron
 3 show
 4 reboot
 5 set server
 6 set server uid
 7 show server info
 8 show server info all
 9 connect
10 connect
11 help
12 history

1Z34AB7890 (Administrator)>
```

Example of execution of the HISTORY command

Default value

Supplementary information

# Rack management commands

---

## Naming a rack

### Overview

Configures the name of a rack into which the EM card is installed.

### Command name

SET RACK NAME

### Argument

<*Rack name*>

Up to 32 alphanumeric characters and some symbols.

Note: No reserved words can be specified for <*Rack name*>.

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK."

### Example of execution

```
1Z34AB7890 (Administrator)> set rack name Prototype  
Changed rack name to "Prototype".
```

Example of execution of the command to configure the rack name

### Default value

"" (not specified)

### Supplementary information

Insert one or more blank between "SET", "RACK" and "NAME."

If any commands hereafter consist of multiple character strings, insert one or more blank between the character strings.

---

## Displaying a rack name

### Overview

Displays the configured name of the rack

### Command name

SHOW RACK NAME

### Argument

None

### Example of execution

```
1Z34AB7890 (Administrator)> show rack name  
Rack Name: Prototype  
1Z34AB7890 (Administrator)>
```

Example of execution of the command to display rack name

Default value

Supplementary information

Insert one or more blank between "SHOW", "RACK" and "NAME."

---

## Configuring the unique ID for the rack

Overview

Configures a unique ID to uniquely identify the rack on which the EM card is installed.

Command name

SET RACK UID

Argument

<*Rack unique ID*>

Up to 16 alphanumeric characters and symbols.

Note: No reserved words can be specified for <*Rack unique ID*>.

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK."

Example of execution

Default value

"" (not specified)

Supplementary information

Insert one or more blank between "SET", "RACK" and "UID."

If any commands hereafter consist of multiple character strings, insert one or more blank between the character strings.

---

## Displaying the rack unique ID

Overview

Displays the rack unique ID that has been configured.

Command name

SHOW RACK UID

Argument

None

Example of execution

Default value

Supplementary information

Insert one or more blank between "SHOW", "RACK" and "UID."

---

## Displaying connection status of blade enclosures in the same rack

Overview

When multiple blade enclosures are installed on the same rack, displays their connection status.

Command name

SHOW TOPOLOGY

Argument

None

Example of execution

Default value

Supplementary information

# User management commands

---

## Adding a user

### Overview

Adds a user who controls and manages the system.

Up to 30\* users can be registered.

\*"Administrator" is included in 30 users.

### Command name

ADD USER

### First argument

<User name>

Specify a user name within 13 characters.

#### Note:

Alphanumeric characters and some symbols (a-zA-Z, 0-9, blank, '-' (hyphen), '\_' (underscore)) can be used for the user name.

Make sure to use an alphabet (a-zA-Z) for the first character. For the following characters, use alphanumeric characters.

The length of <User name> should be from 1 to 13 characters.

No reserved words can be specified for <User name>.

Reserved word means "ADMINISTRATOR", "OPERATOR", "USER", etc.

### Second argument

<Password> (optional)

Specify a password by using 3 to 8 alphanumeric characters. The first character of the password must be an alphabet.

When you choose not to configure a password for the user, a message prompting you to enter a password appears. The message waits for entry of a password.

#### Note:

No reserved words can be specified for <Password>.

Reserved word means terms defined in the command line such as "SET", "ADD", and "RACK."

### Example of execution

```
1Z34AB7890 (Administrator)> add user test

New Password: ****
Confirm      : ****
User "test" created.
1Z34AB7890 (Administrator)>
```

Example of execution of the command to add a user

### Default value

### Supplementary information

Only users with the ADMINISTRATOR right can use this command.

---

## Assigning a user (for CPU blades/switch modules)

### Overview

Configures access permission to the CPU blades and switch modules for the specified user.

Command name

ASSIGN

First argument

"SERVER" | "SWITCH"

Second argument

<Slot number> | <Slot number> - <Slot number> | <Slot number> , <Slot number> | "ALL"

When <Slot number> and <Slot number> are concatenated by '-' (hyphen) or ',' (comma), insert a space before and after '-' (hyphen) or ',' (comma).

Slot number:

For CPU blades, slot number means the CPU blade number.

Also for switch modules, slot number means the module number.

Third argument

<Registered user's name >

Example of execution

```
1Z34AB7890 (Administrator)> assign server 1 test
test has been granted access to the valid requested bay(s)
1Z34AB7890 (Administrator)>
```

Example of execution of the command for user assignment (for CPU blade/switch module)

Default value

Supplementary information

Only users with the ADMINISTRATOR right can use this command.

---

## Assigning a user (for EM card)

Overview

Configures access permission to the EM cards for the specified user.

Command name

ASSIGN

First argument

"EM"

Second argument

<Registered user's name >

Example of execution

```
1Z34AB7890 (Administrator)> assign em test
test has been granted access to the EM.
1Z34AB7890 (Administrator)>
```

Example of execution of the command for user assignment (for EM card)

Default value

Supplementary information

Only users with the ADMINISTRATOR right can use this command.

---

## Disabling a registered user

### Overview

Disables a specified user account.

### Command name

DISABLE USER

### Argument

<*Registered user's name*>

### Example of execution

```
1Z34AB7890 (Administrator)> disable user test
```

```
User "test" has been disabled.
```

```
1Z34AB7890 (Administrator)>
```

Example of execution of the command to disable a user

### Default value

### Supplementary information

Only users with the ADMINISTRATOR right can use this command.

---

## Enabling a disabled user

### Overview

Enables a specified user account.

### Command name

ENABLE USER

### Argument

<*Registered user's name*>

### Example of execution

```
1Z34AB7890 (Administrator)> enable user test
```

```
User "test" has been enabled.
```

```
1Z34AB7890 (Administrator)>
```

Example of execution of the command to enable a user

### Default value

### Supplementary information

Only users with the ADMINISTRATOR right can use this command.

---

## Deleting users

### Overview

Deletes specified user accounts.

### Command name

REMOVE USER

### Argument

<Registered user's name> | "ALL"

### Example of execution

```
1Z34AB7890 (Administrator)> remove user test

User "test" removed.
1Z34AB7890 (Administrator)>
```

Example of execution of the command to delete users

### Default value

### Supplementary information

Only users with the ADMINISTRATOR right can use this command.

---

## Configuring a password

### Overview

Configures the password of a user who is logging in the CLI.

### Command name

SET PASSWORD

### Argument

<Password> (optional)

Specify a password by using 3 to 8 alphanumeric characters. The first character of the password must be an alphabet.

When you omit the <Password>, a message prompting you to enter a password appears. The message waits for entry of a password.

### Note:

No reserved words can be specified for <Password>.

Reserved word means "ADMINISTRATOR", "OPERATOR", "USER", etc.

### Example of execution

```
1Z34AB7890 (Administrator)> set password abcd

Changed password for the "Administrator" user account.
1Z34AB7890 (Administrator)> set password

New Password: *****
Confirm      : *****
Changed password for the "Administrator" user account.
1Z34AB7890 (Administrator)>
```

Example of execution of the command to configure a password

### Default value

### Supplementary information

---

## Registering a user contact information

### Overview

Registers a contact information for the specified user.

#### Command name

SET USER CONTACT

#### First argument

*<User name>* (optional)

When you skip the user name, the user who is logging in the CLI will become the target user.

#### Second argument

*<Contact information>*

Use up to 32 characters to specify a contact information.

#### Note:

No reserved words can be specified for *<Contact information>*.

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK."

When *<Contact information>* is enclosed by double quotes (") with nothing quoted between the quotes, the current contact information will be cleared.

Example: 'SET USER CONTACT ""'

#### Example of execution

#### Default value

None

#### Supplementary information

Only users with the ADMINISTRATOR right can use this command.

---

## Configuring a full user name

#### Overview

Configures a full name for a specified user.

#### Command name

SET USER FULLNAME

#### First argument

*<User name>* (optional)

When you skip a user name, the user who is logging in the CLI will become the target user.

#### Second argument

*<Full name>*

Use up to 32 characters to specify a full name.

#### Note:

No reserved words can be specified for *<Full name>*.

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK."

When *<Full name>* is enclosed by double quotes (") with nothing quoted between the quotes, the current full name will be cleared.

Example: 'SET USER FULLNAME ""'

### Example of execution

```
1Z34AB7890 (Administrator)> set user fullname sample SampleUser  
Full name has been updated for the "sample" user account.  
1Z34AB7890 (Administrator)>
```

Example of execution of the command to configure a full name

### Default value

None

### Supplementary information

Only users with the ADMINISTRATOR or OPERATOR right can use this command.

---

## Configuring a password

### Overview

Configures a user password specified by the argument.

### Command name

SET USER PASSWORD

### First argument

<User> (this argument is required)

### Second argument

<Password> (optional)

Specify a password by using three to eight alphanumeric characters. The first character of the password must be an alphabet.

When you choose not to configure a password, a message prompting you to enter a password appears. The message waits for entry of a password.

### Note:

No reserved words can be specified for <Password>.

Reserved word means "ADMINISTRATOR", "OPERATOR", "USER", etc.

### Example of execution

### Default value

### Supplementary information

Only users with the ADMINISTRATOR right can use this command.

---

## Configuring the access right

### Overview

Configures the access right for a user specified by the argument.

### Command name

SET USER ACCESS

### First argument

<User> (this argument is required)

### Second argument

<Access right>

"ADMINISTRATOR" or "OPERATOR" or "USER"

#### Example of execution

```
1Z34AB7890 (Administrator)> set user access sample OPERATOR

"sample" has been given operator level privileges.
1Z34AB7890 (Administrator)>
```

Example of execution of the command to configure the access right for a user

Default value

Supplementary information

Only users with the ADMINISTRATOR right can use this command.

---

## Displaying registered users

Overview

Displays a list of registered users.

Information to be displayed

Full user name

User's contact

User's attribute (access right)

Command name

SHOW USER

Argument

<User name> or "LIST" (displays all users)

#### Example of execution

```
1Z34AB7890 (Administrator)> show user list

User Name      Full Name      Privilege Level  Acct. Status
-----
Administrator System Administrator Admin    Enabled
sample         SampleUser     User     Enabled
1Z34AB7890 (Administrator)> show user sample

User "sample" Information:
  Full name: SampleUser
  Contact Info: TokyoJapan
  User Rights: User
  Account Status: Enabled
  Blade Slot Access List: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
  Switch Module Slot Access List: 1 2 3 4 5 6 7 8
  EM Access: Yes
1Z34AB7890 (Administrator)>
```

Example of execution of the command to display registered users

Default value

Supplementary information

---

## Cancelling user assignment (for CPU blade/switch module)

Overview

Cancels the access right for CPU blades and switch modules against a specified user.

Command name

UNASSIGN

First argument

"SERVER" | "SWITCH"

Second argument

<Slot number > | <Slot number> - <Slot number> | <Slot number> , <Slot number> | "ALL"

Slot number:

Slot number means CPU blade number for CPU blades.

Slot number means module number for switch modules.

Third argument

<Registered user's name>

Example of execution

Default value

Supplementary information

Only users with the ADMINISTRATOR right can use this command.

---

## Cancelling user assignment (for EM card)

Overview

Cancels the access right for EM cards against a specified user.

Command name

UNASSIGN

First argument

"EM"

Second argument

<Registered user's name>

Example of execution

Default value

Supplementary information

Only users with the ADMINISTRATOR right can use this command.

# System management commands

---

## Forcefully disconnecting access to the EM serial console of switch module

### Overview

Terminates a serial console session on a switch module.

### Command name

CLEAR SWITCH SESSION

### Argument

<Slot number >

Within the range of 1 to 8.

### Example of execution

### Default value

### Supplementary information

---

## PING

### Overview

Issues PING (ICMP Echo command) for a specified IP address or server name.

### Command name

PING

### First argument

<The number of times PING is issued> (optional)

When you do not specify this argument, "3" is specified.

### Second argument

<IP address> or <Server name>

"Server name" can be specified when DNS is registered.

### Example of execution

```
1Z34AB7890 (Administrator)> ping 192.168.1.68
PING 192.168.1.68 (192.168.1.68): 56 data bytes
64 bytes from 192.168.1.68: icmp_seq=0 ttl=64 time=0.3 ms
64 bytes from 192.168.1.68: icmp_seq=1 ttl=64 time=0.3 ms
64 bytes from 192.168.1.68: icmp_seq=2 ttl=64 time=0.3 ms
64 bytes from 192.168.1.68: icmp_seq=3 ttl=64 time=0.3 ms

--- 192.168.1.68 ping statistics ---
4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 0.3/0.3/0.3 ms

1Z34AB7890 (Administrator)>
```

Example of execution of the PING command

### Default value

### Supplementary information

---

## Initializing the configuration data (restoring default values)

### Overview

Restores default values and settings for the configuration retained by the EM firmware.

### Command name

SET FACTORY

### Argument

None

### Example of execution

```
1Z34AB7890 (Administrator)> set factory

Entering anything other than 'YES' will result in the command not executing.

All existing settings will be lost when this operation is run
and the Enclosure Manager will restart.

Are you sure you want to restore factory defaults? yes

Attempting to restore factory defaults. This operation may take some time.

Restoring factory default settings.
Enclosure Manager will now restart.
```

Example of execution of the command to initialize the configuration information

### Default values

The following is a list of initial (default) values.

Default values of configuration information

| Item                            | Default value                           | Remarks   |
|---------------------------------|---|---|
| Blade enclosure name            | ブレ Serial number of the blade enclosure |   |
| Rack name                       | ""                                      |   |
| EM card name                    | ""                                      | The name of the EM card   |
| Time zone                       | "JST"                                   |   |
| EM language type settings       | "JAPANESE"                              | Referred in language switch of SNMP trap messages                               |
| Enable/disable network settings |   |   |
| SSH                             | Enable                                  |   |
| Telnet                          | Enable                                  |   |
| SNMP                            | Enable                                  |   |
| NTP                             | Disable                                 |   |
| TRUSTED HOST                    | Disable                                 |   |
| Web                             | Enable                                  |   |
| EM card IP address              | "192.168.1.8"                           |   |
| CPU blade IP address            | "192.168.1.12"                          | This address is assigned in sequence starting from the one assigned to Slot #1. |
| Switch module IP address        | "192.168.1.28"                          | Same as above   |
| Netmask                         | "255.255.255.0"                         |   |

| Item  | Default value                       | Remarks  |
|---|-------------------------------------|--|
| Default gateway                               | "0.0.0.0"                           |  |
| DNS1  | "0.0.0.0"                           |  |
| DNS2  | "0.0.0.0"                           |  |
| NTP1 (Primary)                                | "0.0.0.0"                           |  |
| NTP2 (Secondary)                              | "0.0.0.0"                           |  |
| NTP polling interval (sec)                    | 720                                 | Value range:<br>0 (disabled), from<br>60 to 9999   |
| Connectible IP address (up<br>to 5 addresses) | "0.0.0.0"                           |  |
| Default user settings                         | "Administrator"                     | User settings are<br>included. The<br>password default<br>value of<br>Administrator<br>differs from one EM<br>card to another. It is<br>found on the EM<br>card label or tag<br>label on the release<br>lever. |
| <b>SNMP settings</b>                          |                                     |  |
| Community name for Get                        | "public"                            |  |
| Community name for Get/Set                    | "public"                            |  |
| Community name for Trap                       | "public"                            |  |
| Location                                      | "unknown"                           |  |
| Contact destination                           | "unknown"                           |  |
| Trap destination                              | ""                                  | Unconfigured   |
| TrapAck settings                              | Disable                             |  |
| TrapAck port number                           | "5002"                              |  |
| DianaScope Gateway<br>settings                |                                     |  |
| DSG user password                             | "guest"                             |  |
| DSG status                                    | "1"                                 | 1:Enable   |
| <b>CPU Blade setting</b>                      |                                     |  |
| CPU Blade 遅延時間<br>(スロット個別設定)                  | "0"                                 | 0 (disabled)   |
| <b>Enclosure management command</b>           |                                     |  |
| Power control policy                          | PERFORMANCE                         |  |
| Power redundancy mode                         | POWERSUPPLY<br>(N+1 redundant mode) |  |
| Power saving mode                             | OFF (disable)                       |  |
| maximum consumable power<br>setting           | OFF (disable)                       |  |

#### Supplementary information

Only users with the ADMINISTRATOR right can use this command.

Type **YES** as prompted by a message on the screen.

# Enclosure network commands

---

## Registering DNS servers

### Overview

Configures DNS.

Up to two DNS servers can be registered.

### Command name

ADD NETWORK DNS

### Argument

*<IP address>*

### Example of execution

### Default value

### Supplementary information

Changes you make for the DNS settings will take effect after the EM card is restarted.

---

## Registering addresses to allow IP access

### Overview

Specifies IP addresses allowing access to the EM firmware.

Up to five addresses can be registered.

### Command name

ADD TRUSTED HOST

### Argument

*<IP address>*

### Example of execution

### Default value

### Supplementary information

---

## Registering SNMP trap destinations

### Overview

Specifies SNMP trap destinations.

Up to three destinations can be registered.

### Command name

ADD SNMP TRAPRECEIVER

### First Argument

*<IP address>*

### Second Argument

*<Community name > (optional)*

Use up to 32 characters to specify a community name.

When you skip the community name, the default community name is registered.

Note:

No reserved words can be specified for <Community name>.

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK."

#### Example of execution

```
1Z34AB7890 (Administrator)> add snmp trapreceiver 192.168.1.2  
192.168.1.2 was added as a Trap Receiver.  
1Z34AB7890 (Administrator)>
```

Example of execution of the command to register SNMP trap destinations

Default value

None (not configured)

Supplementary information

---

## Disabling the IP-based access control function

Overview

Disables the IP-based access control function to the EM firmware.

Command name

DISABLE TRUSTED HOST

Argument

None

Example of execution

Default value

Disable

Supplementary information

---

## Disabling the NTP functions

Overview

Disables the NTP functions of the EM firmware.

Command name

DISABLE NTP

Argument

None

Example of execution

Default value

Disable

Supplementary information

---

## Disabling the functions for the SSH connection

## Overview

Disables SSH connection to EM firmware.

## Command name

DISABLE SECURESH

## Argument

None

## Example of execution

## Default value

Enable

## Supplementary information

Type **YES** as prompted by a message on the screen.

---

## Disabling the SNMP functions

## Overview

Disables the SNMP functions of the EM firmware.

## Command name

DISABLE SNMP

## Argument

None

## Example of execution

## Default value

Enable

## Supplementary information

---

## Disabling the SNMP TrapAck functions

## Overview

Disables the SNMP TrapAck functions (functions to wait for Ack against SNMP trap) of the EM firmware.

## Command name

DISABLE SNMP TRAPACK

## Argument

None

## Example of execution

## Default value

Disable

## Supplementary information

---

## Disabling the functions for Telnet connection

## Overview

Disables the function for Telnet connection to the EM firmware.

Command name

DISABLE TELNET

Argument

None

Example of execution

Default value

Enable

Supplementary information

Type **YES** as prompted by a message on the screen.

---

## Enabling the IP-based access control function

Overview

Enables the IP-based access control function to the EM firmware.

Command name

ENABLE TRUSTED HOST

Argument

None

Example of execution

Default value

Disable

Supplementary information

---

## Enabling the NTP functions

Overview

Enables the NTP functions of the EM firmware.

Command name

ENABLE NTP

Argument

None

Example of execution

Default value

Disable

Supplementary information

The NTP functions can be enabled after the NTP settings, which are described later, are configured.

---

## Enabling the functions for the SSH connection

Overview

Enables SSH connection to EM firmware.

Command name

ENABLE SECURESH

Argument

None

Example of execution

Default value

Enable

Supplementary information

---

## Enabling the SNMP functions

Overview

Enables the SNMP functions of the EM firmware.

Command name

ENABLE SNMP

Argument

None

Example of execution

Default value

Enable

Supplementary information

---

## Enabling the SNMP TrapAck functions

Overview

Enables the SNMP TrapAck functions (functions to wait for Ack against SNMP trap) of the EM firmware.

Command name

ENABLE SNMP TRAPACK

Argument

None

Example of execution

Default value

Disable

Supplementary information

You can set SNMSP trap destination supported SNMP TrapAck functions (e.g. NEC ESMPRO Manager and Agent) for SNMP TRAPRECEIVER. If you set wrong SNMSP trap destination and enable the SNMP TrapAck functions of the EM firmware, the same trap is issued two or more times.

---

## Enabling the functions for Telnet connection

## Overview

Enables the function for Telnet connection to the EM firmware.

## Command name

ENABLE TELNET

## Argument

None

## Example of execution

## Default value

Enable

## Supplementary information

---

## Deleting a registered DNS server

### Overview

Deletes a registered DNS server.

### Command name

REMOVE NETWORK DNS

### Argument

*<IP address>*

### Example of execution

### Default value

### Supplementary information

---

## Deleting a registered IP address

### Overview

Deletes an IP address that has been configured by the ADD TRUSTED HOST command.

### Command name

REMOVE TRUSTED HOST

### Argument

*<IP address>*

### Example of execution

### Default value

### Supplementary information

---

## Deleting a registered SNMP trap destination

### Overview

Deletes a registered SNMP trap destination.

#### Command name

REMOVE SNMP TRAPRECEIVER

#### Argument

<IP address>

#### Example of execution

#### Default value

None (not configured)

#### Supplementary information

---

## Configuring IP addresses

#### Overview

Configures IP addresses of EM cards, CPU blades, and switch modules.

The address of CPU blade and switch module means the Slot1 1 address. From the Slot2 on, subsequent addresses are configured.

#### Command name

SET NETWORK ADDRESSRANGE

#### First argument

<EM card IP address>

#### Second argument

<CPU blade/switch module start up IP address>

#### Third argument

<Subnet mask>

#### Example of execution

```
1Z34AB7890 (Administrator)> set network addressrange 192.168.1.150 192.168.1.200
255.255.255.0

Setting IP address 192.168.1.150 & netmask 255.255.255.0 for Enclosure Manager.
Setting IP address 192.168.1.200 for CPU Blade and Switch Module.
Setting netmask 255.255.255.0 for CPU Blade and Switch Module.

Network Address settings successfully updated.
These setting changes will take effect immediately.
1Z34AB7890 (Administrator)>
```

Example of execution of the command to set the IP address

#### Default value

##### Start up IP address

EM card : "192.168.1.8"

CPU blade/switch module : "192.168.1.12"

##### Subnet mask

"255.255.255.0"

#### Supplementary information

The following values can't be specified for <CPU blade/switch module start up IP address>.

\*.\*.\*.0, \*.\*.\*.255 ("\*": the wildcard character)

For details on how to set, refer to "Network settings (EM card)".

---

## Configuring a domain name

### Overview

Configures a domain name.

### Command name

```
SET NETWORK DOMAIN
```

### Argument

*<Domain name>*

Use up to 64 characters to specify a domain name.

### Note:

No reserved words can be specified for *<Domain name>*.

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK."

### Example of execution

### Default value

"" (blank)

### Supplementary information

---

## Configuring the default gateway

### Overview

Configures the external network gateway.

### Command name

```
SET NETWORK GATEWAY
```

### Argument

*<IP address>*

### Example of execution

### Default value

"0.0.0.0"

### Supplementary information

Changes you make for the default gateway settings will take effect after the EM card is restarted.

---

## Configuring NTP refresh intervals

### Overview

Configures NTP refresh intervals.

### Command name

```
SET NETWORK NTP POLL
```

### Argument

*<Refresh interval>*

Configure in seconds

Range of configurable values: 60 to 9999

Example of execution

Default value

720 seconds

Supplementary information

---

## Configuring the IP address of the primary NTP server

Overview

Configures the IP address of the primary NTP server.

Command name

```
SET NETWORK NTP PRIMARY
```

Argument

*<IP address>*

Example of execution

Default value

"0.0.0.0"

Supplementary information

---

## Configuring the IP address of the secondary NTP server

Overview

Configures the IP address of the secondary NTP server.

Command name

```
SET NETWORK NTP SECONDARY
```

Argument

*<IP address>*

Example of execution

Default value

"0.0.0.0"

Supplementary information

---

## Configuring the name of an SNMP community allowing the Get operation

Overview

Configures the name of an SNMP community allowing the Get operation.

Command name

```
SET SNMP COMMUNITY READ
```

Argument

*<Community name>*

Use up to 32 characters to specify the SNMP community name.

Note:

No reserved words can be specified for *<Community name>*.

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK."

When *<Community name>* is enclosed by double quotation marks (") with nothing quoted between the marks, the current community name will be cleared.

Example: 'SET SNMP COMMUNITY READ ""'

Example of execution

Default value

"public"

Supplementary information

This command configures a community name for the Get operation.

If a different community name is specified by the command to configure the name of an SNMP community allowing the Get/Set behaviors, which is described in the following section, note that the Get operation works from both community names.

---

## Configuring the name of an SNMP community allowing the Get/Set operation

Overview

Configures the name of an SNMP community allowing the Get/Set operation.

Command name

SET SNMP COMMUNITY WRITE

Argument

*<Community name>*

Use up to 32 characters to specify the SNMP community name.

Note:

No reserved words can be specified for *<Community name>*.

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK."

When *<Community name>* is enclosed by double quotation marks (") with nothing quoted between the marks, the current community name will be cleared.

Example: 'SET SNMP COMMUNITY WRITE ""'

Example of execution

Default value

"public"

Supplementary information

This command configures a community name for the Get/Set operation.

If a different community name is specified by the command to configure the name of an SNMP community allowing the Get behavior, which is described in the previous section, note that the Get operation works from both community names.

---

## Configuring the name of an SNMP community allowing the Trap operation

Overview

Configures the name of an SNMP community allowing the Trap operation.

Command name

SET SNMP COMMUNITY TRAP

## Argument

<Community name>

Use up to 32 characters to specify the SNMP community name.

### Note:

No reserved words can be specified for <Community name>.

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK."

When <Community name> is enclosed by double quotation marks (") with nothing quoted between the marks, the current community name will be cleared.

Example: 'SET SNMP COMMUNITY TRAP ""'

## Example of execution

## Default value

"public"

## Supplementary information

---

## Configuring a SNMP contact

### Overview

Configures a contact returned by SNMP.

### Command name

SET SNMP CONTACT

### Argument

<Contact>

Use up to 64 characters to specify the SNMP contact.

### Note

No reserved words can be specified for <Contact>.

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK."

When <Contact> is enclosed by double quotation marks (") with nothing quoted between the marks, the current contact information will be cleared.

Example: 'SET SNMP CONTACT ""'

## Example of execution

## Default value

"unknown"

## Supplementary information

---

## Configuring an SNMP location

### Overview

Configures location information returned by SNMP.

### Command name

SET SNMP LOCATION

### Argument

<Location>

Use up to 64 characters to specify the location.

Note:

No reserved words can be specified for *<Location>*.

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK."

When *<Location>* is enclosed by double quotation marks (") with nothing quoted between the marks, the current location will be cleared.

Example: 'SET SNMP LOCATION ""'

Example of execution

Default value

"unknown"

Supplementary information

---

## Configuring the blade enclosure location in the rack

Overview

Configures the information about the blade enclosure location in the rack, which is returned by SNMP.

Command name

SET SNMP LOCATION ENCLOSURE

Argument

*<EIA Unit number>*

Specify by a decimal number.

Range: from 0 to 255

Example of execution

Default value

"0"

Supplementary information

---

## Configuring the rack height

Overview

Configures the information about the rack height, which is returned by SNMP.

Command name

SET SNMP RACKHEIGHT

Argument

*<EIA Unit number>*

Specify by a decimal number.

Range: from 0 to 255

Example of execution

Default value

"0"

Supplementary information

---

## Configuring a SNMP TrapAck port number

### Overview

Configures the port number for receiving Ack when SNMP TrapAck is enabled.

### Command name

```
SET SNMP TRAPACKPORT
```

### Argument

*<Specify by a decimal number>*

### Example of execution

### Default value

"5002"

### Supplementary information

---

## Displaying the network settings

### Overview

Displays the network settings.

### Information to be displayed

IP address, subnet mask, gateway,

Domain name

DNS server addresses (Primary, Secondary)

MAC address of EM card

Web server settings (Enable/Disable)

SNMP settings (Enable/Disable)

SSH settings (Enable/Disable)

Telnet settings (Enable/Disable)

TRUSTED HOST settings (Enable/Disable)

IP addresses registered as TRUSTED HOST

NTP settings (Enable/Disable)

NTP server addresses (Primary, Secondary)

NTP server polling interval

### Command name

```
SHOW NETWORK
```

### Argument

None

## Example of execution

```
1Z34AB7890 (Administrator)> show network

Enclosure Manager Network Settings:
  EM IP Address (Active)   : 192.168.12.4
  EM IP Address (Standby) : 192.168.12.5
  EM IP Address (Slot#1)  : 192.168.12.6
  EM IP Address (Slot#2)  : 192.168.12.7
  CPU IP Address          : 192.168.1.12 - 192.168.1.27
  SWM IP Address          : 192.168.1.28 - 192.168.1.35
  Netmask                  : 255.255.0.0
  Gateway Address         : 0.0.0.0
  Domain name              :
  Primary DNS              : 0.0.0.0
  Secondary DNS            : 0.0.0.0
  EM MAC Address           : 00:10:04:01:00:77

Enclosure Manager Protocol Status:
  Web (HTTP/HTTPS): Enabled
  SNMP              : Enabled
  SecureSH          : Enabled
  Telnet            : Enabled
  Trusted Hosts     : Disabled
  NTP                : Disabled
                    Primary NTP server : Not Set
                    Secondary NTP server: Not Set
                    Server Poll-Interval: 720 seconds

1Z34AB7890 (Administrator)>
```

Example of execution of the command to display the network settings

Default value

Supplementary information

---

## Displaying the SNMP settings

### Overview

Displays the SNMP settings.

#### Information to be displayed

System name

Location information

Contact name

Community name (Read/Write/Trap)

Trap destination

TrapAck settings (TrapAck functions enabled/disabled)

Rack height (U)

Blade enclosure location in the rack (U)

### Command name

SHOW SNMP

### Argument

None

### Example of execution

```
1Z34AB7890 (Administrator)> show snmp

SNMP Configuration:
  Status                : Enabled
  System Name           : 1Z34AB7890
  System Location       : unknown
  System Contact        : unknown
  Read Community Name   : public
  Write Community Name  : public
  Default Trap Community Name : public
  Trap Receiver IP Address: 192.168.1.14 (default trap community name is used)
                        192.168.1.40 (default trap community name is used)
                        192.168.1.73 (default trap community name is used)
  Trap ack port number  : 5002
  Trap ack              : DISABLE
  Rack Height (U)      : 33
  Enclosure Location (U): 0

1Z34AB7890 (Administrator)>
```

Example of execution of the command to display the SNMP settings

Default value

Supplementary information

---

## SNMP Trap test

Overview

Issues the SNMP Trap for the test.

Command name

TRAPTEST

Argument

None

Example of execution

Default value

Supplementary information

SNMSP trap destination (SNMP TRAPRECEIVER) must be registered before this command is executed.

# Enclosure management command

---

## Downloading the configuration settings (restoration)

### Overview

Downloads the configuration information of the EM firmware from the URL specified by the argument of this command, and makes the configuration data effective.

When the configuration is successfully modified, the EM firmware automatically reboots to make the configuration effective.

### Command name

DOWNLOAD CONFIG

### Argument

<URL >

### Example of execution

Example of where the configuration file is stored:

IP address: 192.168.1.68

Path: /home/sigablade/config2.txt (specify a full path)

```

1Z34AB7890 (Administrator)> download config
ftp://[user]:[pass]@192.168.1.68/home/sigmablade/config2.txt

Entering anything other than 'YES' will result in the command not executing.
Are you sure you want to download the Enclosure Manager's configuration? yes
NEC SIGMABLADE Enclosure Manager (00.40)
#Script Generated by Administrator

#Generated on: Mon Jul 31 22:48:44 2006

#Set Enclosure Information

SET ENCLOSURE ASSET TAG "tag"

Asset tag changed.

<Abbreviated>

SET EM NAME "EM-001004010077"

Enclosure Manager name changed to EM-001004010077.

Exit

Script completed.

Restarting the Enclosure Manager in 10 seconds.
Enclosure Manager is rebooting.
Please stand by...
Restarting system.

```

Example of execution of the command to download the configuration information

Default value

Supplementary information

Only users with the ADMINISTRATOR right can use this command.

Type **YES** as prompted by a message on the screen.

---

## Switching active EM

Overview

Forces the redundant two EM cards to switch their role (Active/Standby).

Command name

FORCE TAKEOVER

Argument

None

Example of execution

Default value

Supplementary information

Type **YES** as prompted by a message on the screen.

---

## Restarting the EM firmware

Overview

Restarts the EM firmware.

Command name

RESTART EM

Argument

None

Example of execution

Default value

Supplementary information

Only users with the ADMINISTRATOR right can use this command.

Type **YES** as prompted by a message on the screen.

While an EM card is restarting, DO NOT install, remove, power on or power off any module. It may cause not only the restarting failure but also malfunction of the module. By the same token, DO NOT perform ID LED on or off for the installed modules. ID LEDs may not be lit or lit off properly.

---

## Configuring the function to automatically terminate CLI

Overview

Specifies time to terminate a CLI that has been left without being operated.

Command name

SET AUTOLOGOUT

Argument

<Logout time>

Specify by a decimal number between the range of 0 to 60. (minutes)

If zero (0) is specified, the function to automatically terminate CLI will be disabled.

Example of execution

Default value

60

Supplementary information

This command takes effect during only the current CLI session.

---

## Configuring date and time

## Overview

Configures the date, time and time zone of the EM firmware.

## Command name

SET DATE

## First argument

<Date>

## Format

"MMDDhhmm{{CC}YY} "

MM : month

DD : day

hh : hour

mm : minute

CCYY : year

## Second argument

<Time zone> (optional)

Time zone: specify a time zone. If you do not specify this option, the current time zone is used.

## Example of execution

## Default value

Time zone: "JST"

## Supplementary information

See "Appendix" for information about available time zones.

---

## Configuring the function to display events

## Overview

Enables or disables the function to display certain events on the CLI console.

Events to be displayed:

Change in the blade enclosure status

Change in the switch module status

Switch module reset

Installation of a switch module

Removal of a switch module

Change in switch module temperature

Disabling a user account \*

Removal of a user account \*

Change in access right of the login user \*

Change in the name of the blade enclosure

Change in the cooling status

Change in the fan status

Installation of a fan unit

Removal of a fan unit

Change in the temperature status

Change in the power unit status

Installation of a power unit

Removal of a power unit

Change in the power redundancy mode

Change in the CPU blade status

Change in the CPU blade temperature  
Installation of a CPU blade  
Removal of a CPU blade  
EM reboot  
Installation of an EM card  
Removal of an EM card  
EM card take over

\* When this event occurs, the CLI is terminated and login users are forcefully logged out.

Command name

SET DISPLAY EVENT

Argument

"ON" | "OFF"

Example of execution

Default value

"OFF"

Supplementary information

This command takes effect during only the current CLI session.

When you log out the CLI console the configuration becomes disabled.

The default configuration value is "OFF."

---

## Configuring the asset tag of the blade enclosure

Overview

Configures the asset tag of the blade enclosure.

Command name

SET ENCLOSURE ASSET TAG

Argument

<Asset number>

Use up to 32 characters to specify the asset number.

Note:

No reserved words can be specified for <Asset number>.

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK."

When <Asset number> is enclosed by double quotation marks (") with nothing quoted between the marks, the current asset number will be cleared.

Example: ' SET ENCLOSURE ASSET TAG ""'

Example of execution

Default value

"" (blank)

Supplementary information

---

## Configuring the machine serial number of the blade enclosure

Overview

Configures the machine serial number of a blade enclosure.

#### Command name

SET ENCLOSURE MACHINE SERIAL

#### Argument

<Machine serial number>

Use exactly 14 characters to specify a machine serial number.

#### Note

<Machine serial number> specifies the serial number of the blade enclosure.

You don't have to use this command. If you change <Machine serial number>, contact NEC's sales representative.

#### Example of execution

```
1Z34AB7890 (Administrator)> set enclosure machine serial F67890K6Y12345  
Machine serial number changed to F67890K6Y12345.  
1Z34AB7890 (Administrator)>
```

Example of execution of the command to configure machine number of a blade enclosure

#### Default value

(factory setting value)

#### Supplementary information

(<Machine serial number> must be factory setting value.)

---

## Configuring the blade enclosure name

#### Overview

Configures the blade enclosure name.

#### Command name

SET ENCLOSURE NAME

#### Argument

<Enclosure name>

Use up to 32 characters to specify the blade enclosure name.

#### Note:

No reserved words can be specified for <Enclosure name>.

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK."

#### Example of execution

#### Default value

The same as "blade enclosure machine serial number."

#### Supplementary information

---

## Configuring the ID LED of the blade enclosure

#### Overview

Turns the ID LED of the blade enclosure on or off.

#### Command name

SET ENCLOSURE UID

#### Argument

"ON" | "OFF"

#### Example of execution

```
1Z34AB7890 (Administrator)> set enclosure uid on  
Enclosure's Unit Identification is ON  
1Z34AB7890 (Administrator)>
```

Example of execution of the command to operate the ID LED of a blade enclosure

Default value

Supplementary information

---

## Configuring the power control policy

### Overview

Configures the policy of the power control function.

### Command name

SET POWER POLICY

### Argument

[ PERFORMANCE | REDUNDANCY ]

PERFORMANCE: Performance preferred mode ( usage of power is preferred even if the redundancy cannot be maintained )

REDUNDANCY: Redundancy preferred mode ( power redundancy is maintained )

### Example of execution

#### Default value

PERFORMANCE

#### Supplementary information

You cannot select the following combination for power control policy and power redundancy mode.

Power control policy: Performance preferred mode (PERFORMANCE)

Power redundancy mode: N+N redundant mode (AC)

---

## Configuring the power redundancy mode

### Overview

Configures the redundancy mode of the power control function.

### Command name

SET POWER REDUNDANCY

### Argument

[ AC | POWERSUPPLY ]

AC: N+N redundant mode

POWERSUPPLY: N+1 redundant mode

### Example of execution

#### Default value

N+1 redundant mode

## Supplementary information

You cannot select the following combination for power control policy and power redundancy mode.

Power control policy: performance preferred mode (PERFORMANCE)

Power redundancy mode: N+N redundant mode (AC)

---

## Configuring a time zone

### Overview

Specifies the time zone of the EM firmware.

### Command name

```
SET TIMEZONE
```

### Argument

<*Time zone*>

### Example of execution

### Default value

JST

### Supplementary information

See "Appendix" for information about available time zones.

This command does not verify the validity of the time zone specified by the argument so that new time zone definitions could be added later.

When this command is used to configure a time zone, make sure to set an accurate value.

---

## Displaying all information about configuration of the blade enclosure.

### Overview

Displays the results of running the following commands in sequence. Information other than the results of execution of these commands is displayed as well.

```
SHOW DATE  
SHOW VERSION  
SHOW RACK NAME  
SHOW RACK UID  
SHOW ENCLOSURE INFO  
SHOW ENCLOSURE STATUS  
SHOW SERVER LIST  
SHOW SERVER INFO ALL  
SHOW SERVER STATUS ALL  
SHOW SERVER PORT MAP ALL  
SHOW SWITCH LIST  
SHOW SWITCH INFO ALL  
SHOW SWITCH STATUS ALL  
SHOW SWITCH PORT MAP ALL  
SHOW ENCLOSURE TEMP  
SHOW ENCLOSURE FAN ALL  
SHOW ENCLOSURE POWERSUPPLY ALL  
SHOW POWER  
SHOW NETWORK  
SHOW SNMP  
SHOW USER LIST  
SHOW EM INFO  
SHOW EM STATUS  
SHOW TOPOLOGY
```

Command name

SHOW ALL

Argument

None

Example of execution

Default value

Supplementary information

---

## Displaying the configuration of the CLI auto termination function

Overview

Displays the settings of the time to elapse before CLI that is left without being operated is terminated.

Command name

SHOW AUTOLOGOUT

Argument

None

Example of execution

Default value

Supplementary information

---

## Displaying the configuration information in the CLI command format

Overview

Displays the configuration information configured for the EM firmware in the CLI command format.

Command name

SHOW CONFIG

Argument

None

### Example of execution

```
1Z34AB7890 (Administrator)>
#Script Generated by root
#Generated on: Fri Nov 24 18:07:42 2006

#Set Enclosure Information
SET ENCLOSURE ASSET TAG "test_Asset_Tag"
SET ENCLOSURE NAME "USE62619LD"
SET RACK NAME "2222"
SET ENCLOSURE MACHINE SERIAL "test1234567890"
SET RACK UID "test"
SET DSGPASSWORD "guest"
SET DSGSTATUS "1"

#Set Network Information
#NOTE: Setting your network information through a script while
#       remotely accessing the server could drop your connection.
#       If your connection is dropped this script may not execute to conclusion.
SET NETWORK ADDRESSRANGE 192.168.12.120 192.168.12.124 255.255.0.0
SET NETWORK GATEWAY 0.0.0.0
ADD NETWORK DNS 0.0.0.0
ADD NETWORK DNS 0.0.0.0

#Configure Protocols
ENABLE HTTPS
ENABLE SECURESH
ENABLE TELNET

#Configure Trusted Hosts
#REMOVE TRUSTED HOST ALL
DISABLE TRUSTED HOST

#Configure NTP
SET NETWORK NTP PRIMARY 0.0.0.0
SET NETWORK NTP SECONDARY 0.0.0.0
SET NETWORK NTP POLL 720
DISABLE NTP

#Set SNMP Information
SET SNMP CONTACT "unknown"
SET SNMP LOCATION "unknown"
SET SNMP COMMUNITY READ "public"
SET SNMP COMMUNITY WRITE "public"
SET SNMP COMMUNITY TRAP "public"
SET SNMP RACKHEIGHT 0
SET SNMP LOCATION ENCLOSURE 123
SET SNMP TRAPACKPORT 5002
ENABLE SNMP TRAPACK
ADD SNMP TRAPRECEIVER 192.168.1.15
ENABLE SNMP

#Uncomment following line to remove all user accounts currently in the system
#REMOVE USERS ALL

#Set Enclosure Manager Information
SET EM NAME "USE62619LD"
SET EM LANGUAGE JAPANESE

#Set Power Information
SET POWER REDUNDANCY POWERSUPPLY
SET POWER POLICY PERFORMANCE
```

```
#Other Settings.  
SET ENCLOSURE FAN LIMIT 0  
  
#End of Script  
Exit  
  
1Z34AB7890 (Administrator)>
```

Example of execution of the command to display configuration information

Default value

Supplementary information

---

## Displaying date and time

Overview

Displays the date, time and time zone configuration of the EM firmware.

Command name

SHOW DATE

Argument

None

Example of execution

```
1Z34AB7890 (Administrator)> show date  
  
Date: 2006-07-03T22:59:59+09:00 Time Zone: JST  
1Z34AB7890 (Administrator)>
```

Example of execution of the command to display the date and time

Default value

Supplementary information

---

## Displaying the configuration of the function to display events

Overview

Displays the configuration (enable or disable) of the function to display certain events on the CLI console.

Command name

SHOW DISPLAY EVENT

Argument

None

Example of execution

Default value

Supplementary information

---

## Displaying the fan information

## Overview

Displays the information of the fan unit(s) on the blade enclosure.

Information to be displayed

Status

Redundancy

Rotation speed

Parts number

## Command name

```
SHOW ENCLOSURE FAN
```

## Argument

*<Fan unit number>* | "ALL"

## Example of execution

```
1Z34AB7890 (Administrator)> show enclosure fan all
```

### Fan #10 information:

```
Status           : OK
Speed            : 30 percent of Maximum speed
Maximum speed    : 18000
Minimum speed    : 10
Power consumed   : 10
Product SKU P/N  : 412140-B21
Version          : 2.7
Diagnostic Status:
  Internal Data   OK
  Location        OK
  Device Failure  OK
  Device Degraded OK
```

### Fan #9 information:

```
Status           : OK
Speed            : 30 percent of Maximum speed
Maximum speed    : 18000
Minimum speed    : 10
Power consumed   : 16
Product SKU P/N  : 412140-B21
Version          : 2.7
Diagnostic Status:
  Internal Data   OK
  Location        OK
  Device Failure  OK
  Device Degraded OK
```

### Fan #8 information:

```
Status           : Fan Unit Empty
```

### Fan #7 information:

```
Status           : OK
Speed            : 30 percent of Maximum speed
Maximum speed    : 18000
Minimum speed    : 10
Power consumed   : 14
Product SKU P/N  : 412140-B21
Version          : 2.7
Diagnostic Status:
  Internal Data   OK
  Location        OK
  Device Failure  OK
  Device Degraded OK
```

### Fan #6 information:

```
Status           : OK
Speed            : 30 percent of Maximum speed
Maximum speed    : 18000
Minimum speed    : 10
Power consumed   : 15
Product SKU P/N  : 412140-B21
Version          : 2.7
Diagnostic Status:
  Internal Data   OK
  Location        OK
  Device Failure  OK
  Device Degraded OK
```

### Fan #5 information:

```
Status           : OK
Speed            : 30 percent of Maximum speed
Maximum speed    : 18000
Minimum speed    : 10
```

```

Power consumed      : 14
Product SKU P/N    : 412140-B21
Version            : 2.7
Diagnostic Status:
    Internal Data   : OK
    Location        : OK
    Device Failure  : OK
    Device Degraded: OK

Fan #4 information:
    Status          : OK
    Speed           : 30 percent of Maximum speed
    Maximum speed   : 18000
    Minimum speed   : 10
    Power consumed  : 15
    Product SKU P/N : 412140-B21
    Version         : 2.7
    Diagnostic Status:
        Internal Data   : OK
        Location        : OK
        Device Failure  : OK
        Device Degraded: OK

Fan #3 information:
    Status          : Fan Unit Empty

Fan #2 information:
    Status          : OK
    Speed           : 30 percent of Maximum speed
    Maximum speed   : 18000
    Minimum speed   : 10
    Power consumed  : 17
    Product SKU P/N : 412140-B21
    Version         : 2.7
    Diagnostic Status:
        Internal Data   : OK
        Location        : OK
        Device Failure  : OK
        Device Degraded: OK

Fan #1 information:
    Status          : OK
    Speed           : 30 percent of Maximum speed
    Maximum speed   : 18000
    Minimum speed   : 10
    Power consumed  : 12
    Product SKU P/N : 412140-B21
    Version         : 2.7
    Diagnostic Status:
        Internal Data   : OK
        Location        : OK
        Device Failure  : OK
        Device Degraded: OK

1Z34AB7890 (Administrator)>

```

Example of execution of the command to display the fan information

Default value

Supplementary information

---

Displaying the blade enclosure information

## Overview

Displays the information of the blade enclosure.

Information to be displayed includes:

- Blade enclosure name
- Blade enclosure format
- EM firmware version
- EM card version
- Blade enclosure parts number
- Serial number
- Asset number
- MAC address of EM card

## Command name

SHOW ENCLOSURE INFO

## Example of execution

```
1Z34AB7890 (Administrator)> show enclosure info

Enclosure Information:
  Enclosure Name       : 1Z34AB7890
  Enclosure Type       : SIGMABLADE-H Enclosure
  EM HW Version        : 1.00
  EM FW Version        : 01.00
  Product P/N         : 412152-B21
  Product S/N         : 1Z34AB7890
  UUID                 : 091Z34AB7890
  Asset Tag           :
  Chassis Spare P/N   : 412152-B21
  PDU Part Number     : 000000-000
  Machine S/N         : F67890K6Y12345

  Enclosure Manager Tray Information:
    Type               : SIGMABLADE-H EM Tray
    Board P/N          : 416000-001
    Board S/N          : 12345678901234

1Z34AB7890 (Administrator)>
```

Example of execution of the command to display the blade enclosure information

## Default value

## Supplementary information

---

## Displaying the power unit information

### Overview

Displays the information about power unit(s) installed on the blade enclosure.

Information to be displayed

- Power unit status
- AC input status
- Supply capacity
- Parts number
- Serial number
- The status of power saving

Command name

SHOW ENCLOSURE POWERSUPPLY

Argument

<Power unit number> | "ALL"

Example of execution

```
1Z34AB7890 (Administrator)> show enclosure powersupply all

Power Unit Information and Status

Power Unit #6 Information:
  Status           : OK
  AC Input Status  : OK
  Capacity         : 2250 Watts
  Current Power Output : 0 Watts (POWER SAVING)
  Product S/N      : 5A22B0AHLTA0A7
  Diagnostic Status:
    Internal Data   OK
    Device Failure  OK
    AC Cord         OK

Power Unit #5 Information:
  Status           : OK
  AC Input Status  : OK
  Capacity         : 2250 Watts
  Current Power Output : 126 Watts
  Product S/N      : 5A22B0AHLTA0A4
  Diagnostic Status:
    Internal Data   OK
    Device Failure  OK
    AC Cord         OK

Power Unit #4 Information:
  Status           : Power Unit Slot Empty

Power Unit #3 Information:
  Status           : Power Unit Slot Empty

Power Unit #2 Information:
  Status           : OK
  AC Input Status  : OK
  Capacity         : 2250 Watts
  Current Power Output : 126 Watts
  Product S/N      : 5A22B0AHLTA05N
  Diagnostic Status:
    Internal Data   OK
    Device Failure  OK
    AC Cord         OK

Power Unit #1 Information:
  Status           : OK
  AC Input Status  : OK
  Capacity         : 2250 Watts
  Current Power Output : 126 Watts
  Product S/N      : 5A22B0AHLTA066
  Diagnostic Status:
    Internal Data   OK
    Device Failure  OK
    AC Cord         OK

1Z34AB7890 (Administrator)>
```

Example of execution of the command to display power unit information

Default value

#### Supplementary information

##### About Diagnostic Status

Internal Data Shows FRU information validity. OK: valid, Failed: invalid (checksum error, etc.)

Device Failure Shows device failure status. OK: Normal operation, Failed: Failure, Not Performed: no checking is performed.

AC Cord Shows AC cable connection status. OK: Normal, Failed: failure

##### About the status of power saving

Current Power Output "0 Watts (POWER SAVING)": Turns off the power unit by power saving function.

---

## Displaying the blade enclosure status

#### Overview

Displays the status of the blade enclosure.

#### Information to be displayed

Operational status  
ID LED status  
Power status and capacity

#### Command name

SHOW ENCLOSURE STATUS

#### Argument

None

#### Example of execution

```
1Z34AB7890 (Administrator)> show enclosure status

Enclosure:
  Status : OK
  ID LED : Off
  Diagnostic Status:
    Internal Data      OK

Enclosure Manager:
  Status: OK

Power Subsystem:
  Status           : OK
  Redundancy       : Power Supply Redundant
  Total Capacity   : 9000 Watts
  Redundant Capacity : 2250 Watts
  InputPower       : 782 VA

Cooling Subsystem:
  Status           : OK

1Z34AB7890 (Administrator)>
```

Example of execution of the command to display the status of the blade enclosure

Default value

#### Supplementary information

About Diagnostic Status

Internal Data        Shows FRU information validity. OK: valid, Failed: invalid (checksum error)

Redundancy         Shows redundancy status. OK: redundant, Failed: non-redundant, Not Performed: no checking is performed

## Displays the blade enclosure temperature

### Overview

Displays the temperature of the blade enclosure.

### Command name

SHOW ENCLOSURE TEMP

### Argument

None

### Example of execution

```
1Z34AB7890 (Administrator)> show enclosure temp
```

| Locale            | Status | Temp     | Caution | Critical |
|-------------------|--------|----------|---------|----------|
| Enclosure         | OK     | 30C/ 86F | ---     | ---      |
| Enclosure Manager | 1 OK   | 30C/ 86F | 75C     | 80C      |
| Blade Slot        | 1 ---  | 0C/ 32F  | ---     | ---      |
| Blade Slot        | 8 ---  | 0C/ 32F  | ---     | ---      |
| Blade Slot        | 9 ---  | 0C/ 32F  | ---     | ---      |
| Blade Slot        | 16 --- | 0C/ 32F  | ---     | ---      |
| Switch Module     | 3 OK   | ----     | ---     | ---      |
| Switch Module     | 4 OK   | ----     | ---     | ---      |

```
1Z34AB7890 (Administrator)>
```

Example of execution of the command to display the blade enclosure temperature

### Default value

### Supplementary information

## Displaying the settings on the power management function

### Overview

Displays the settings on the power management function.

- Power redundancy mode (Individual power redundancy mode(N+1 redundant mode) / AC duplex mode(N+N redundant mode))
- Power control policy (Performance preferred mode/maintain redundancy mode)
- Power capacity
- Power saving mode (ON/OFF setting)
- Maximum consumable power

### Command name

SHOW POWER

### Argument

None

### Example of execution

```
1 Z34AB7890 (Administrator)> show power
Redundancy Configuration: Power Supply Redundant

Power Policy Configuration: REDUNDANCY
Dynamic Power Savings      : Off
Limit DC Output            : 4500 W

Capacity:                  6750 W
Redundant Capacity:       2250 W
Redundant Power:          4500 W
Power Allocated:          1060 W
Consumed Power:           559 VA
Maximum Consumable Power: 5472 VA
1Z34AB7890 (Administrator)>
```

Example of execution of the command to display power-related configuration information

### Default value

Power redundancy mode: Individual power redundancy mode (N+1 redundant mode)

Power control policy: Performance preferred mode

Power saving mode: OFF (disable)

Maximum consumable power: OFF (disable)

### Supplementary information

---

## Displaying the EM card /EM firmware version

### Overview

Displays the version of EM card/EM firmware.

### Command name

SHOW VERSION

### Argument

None

### Example of execution

```
1Z34AB7890 (Administrator)> show version

Enclosure Manager Hardware Version: 1.00
Enclosure Manager Firmware Version: 00.30 alpha2 (2006.07.03 22:07:33)
1Z34AB7890 (Administrator)>
```

Example of execution of the command to display the EM card/EM firmware version

### Default value

### Supplementary information

---

## Updating EM firmware

### Overview

Updates the EM firmware

Downloads the EM firmware image from a specified URL( http, ftp, or tftp ) and updates the EM firmware automatically. The EM firmware automatically reboots after the update in order to apply the updated

image.

**Command name**

UPDATE IMAGE

**Argument**

<URL >

**Example of execution**

Example of the firmware location

IP address: 192.168.1.68

Path:/emfw0010.img (Specify relative path from the directory specified in the server.)

```
1Z34AB7890 (Administrator)> update image tftp://192.168.1.68/emfw0010.img
Entering anything other than 'YES' will result in the command not executing.
Are you sure you want to update the Enclosure Manager's firmware? YES
Downloading image from tftp://192.168.1.68/emfw0010.img...
Verifying signature...successful!

The flash process begins in 10 seconds.
Flashing.100%
New firmware image flashed.
Enclosure Manager is rebooting.
Please Standby...
Restarting system.
NEC SIGMABLADE Enclosure Manager booting...
```

Example of execution of the command to update the EM firmware

**Default value**

**Supplementary information**

Type **YES** as prompted by a message on the screen.

---

## Uploading (backing up) the configuration information

**Overview**

Uploads the configuration information of the EM firmware to a specified URL.

**Command name**

UPLOAD CONFIG

**Argument**

<URL>

**Example of execution**

Example of the location where configuration file is stored

IP address: 192.168.1.68

Path:/config2.txt (Specify relative path from the directory specified in the server.)

```
1Z34AB7890 (Administrator)> upload config ftp://[user account]:[password]@
192.168.1.68/config.txt
Successfully uploaded the configuration script.
1Z34AB7890 (Administrator)>
```

Example of execution of the command to upload the configuration information

Default value

Supplementary information

Only users with the ADMINISTRATOR right can use this command.

---

## Configuring the power saving mode

Overview

Configures the power saving mode of the power control function.

Power saving function ON: Turns off power unit(s) automatically, when surplus power unit(s) exist.

Command name

- SET POWER SAVINGS

Argumen

“ON” | “OFF”

ON : Enables power saving function

OFF : Disables power saving function

Example of execution

```
1Z34AB7890 (Administrator)> set power savings on
Power Settings were updated to:
Redundancy Configuration   : Power Supply Redundant

Power Policy Configuration : REDUNDANCY
Dynamic Power Savings      : On
Limit DC Output            : Not Set

Capacity                   : 11250 W
Redundant Capacity         : 2250 W
Redundant Power            : 9000 W
Power Allocated            : 1289 W
Consumed Power             : 219 VA
Maximum Consumable Power   : 10944 VA

1Z34AB7890 (Administrator)>
```

Example of execution of the command to configure the power saving mode

Default value

"OFF" ( disable )

Supplementary information

When the configuration is successfully modified, it is effective.

---

## Configuring the maximum consumable power setting

Overview

Configures the maximum power consumption for each enclosure.

The maximum power consumption management is to manage the power consumption of each of the modules configuring the system so that the maximum power consumption in the system is maintained within a certain value. If you enable this function, the EM card uses the value smallest among <The maximum power consumption> and upper limits determined by the power redundancy mode and the power

control policy.

Command name

SET POWER LIMIT

Argument

<The maximum power consumption> | "OFF"

Configure <The maximum power consumption> in watts

Range of configurable values: 1500 to 9999

OFF : Disables the maximum consumable power setting

(Depend on the power redundancy mode and the power control policy)

If you configure the value more than total power supply (watts), this function works as the value is total power supply (watts).

Example of execution

```
1Z34AB7890 (Administrator)> set power limit 2000
Power Settings were updated to:
Redundancy Configuration   : Power Supply Redundant

Power Policy Configuration : REDUNDANCY
Dynamic Power Savings      : Off
Limit DC Output            : 2000 W

Capacity                   : 11250 W
Redundant Capacity         : 2250 W
Redundant Power            : 9000 W
Power Allocated            : 1289 W
Consumed Power             : 189 VA
Maximum Consumable Power   : 10944 VA

1Z34AB7890 (Administrator)>
```

Example of execution of the command to configure the maximum consumable power setting

Default value

"OFF" ( disable )

Supplementary information

When the configuration is successfully modified, it is effective.

# CPU blade management commands

---

## Power off CPU blades

### Overview

Powers off specified CPU blades.

### Command name

POWEROFF SERVER

### First argument

<Slot number> | <Slot number> - <Slot number> | <Slot number> , <Slot number> | "ALL"

When <Slot number> and <Slot number> are concatenated by '-' (hyphen) or ',' (comma), insert a space before and after '-' (hyphen) or ',' (comma).

### Second argument

"FORCE" (optional)

When "FORCE" is selected, the CPU blades are forcefully powered off. This command causes CPU blade(s) the same behavior that its power button is pressed for certain seconds (the number of seconds depends on the CPU blade type.)

### Example of execution

### Default value

### Supplementary information

---

## Power on CPU blades

### Overview

Powers on specified CPU blades.

### Command name

POWERON SERVER

### First argument

<Slot number> | <Slot number > - <Slot number > | <Slot number > , <Slot number > | "ALL"

When <Slot number > and <Slot number > are concatenated by '-' (hyphen) or ',' (comma), insert a space before and after '-' (hyphen) or ',' (comma).

### Second argument

"FORCE" (optional)

When "FORCE" is selected, the CPU blades are forcefully powered on.

### Example of execution

### Default value

### Supplementary information

---

## Resetting CPU blades

### Overview

Resets specified CPU blades.

### Command name

REBOOT SERVER

### First argument

<Slot number> | <Slot number> - <Slot number> | <Slot number> , <Slot number > | "ALL"

When <Slot number> and <Slot number> are concatenated by '-' (hyphen) or ',' (comma), insert a space before and after '-' (hyphen) or ',' (comma).

### Second argument

### Example of execution

### Default value

### Supplementary information

Type **YES** as prompted by a message on the screen.

The function of REBOOT SERVER command is the same as pressing the RESET button of a CPU blade. (In Windows Server 2003 and Windows Server 2003 x64 Editions, the message "A shutdown or restart for an unknown reason" appears after reboot. But it is not a problem.)

---

## Controlling the CPU blade ID LED

### Overview

Turns on or off the ID LEDs of specified CPU blades.

### Command name

SET SERVER UID

### First argument

<Slot number>

### Second argument

"ON" | "OFF"

### Example of execution

### Default value

### Supplementary information

---

## Displaying CPU blade information

### Overview

Displays information about specified CPU blades.

### Information to be displayed

Blade type

Blade name

Blade shape

Parts number

Serial number

MAC address of the management LAN controller

IP address of the CPU blade BMC

Mezzanine card information

**Command name**

SHOW SERVER INFO

**Argument**

<Slot number> | <Slot number> - <Slot number> | <Slot number> , <Slot number> | "ALL"

When <Slot number> and <Slot number> are concatenated by '-' (hyphen) or ',' (comma), insert a space before and after '-' (hyphen) or ',' (comma).

### Example of execution

```
1Z34AB7890 (Administrator)> show server info all

Blade #16 Information:
  Blade Type: No Blade Installed

Blade #15 Information:
  Blade Type: No Blade Installed:

Blade #14 Information:
  Blade Type: No Blade Installed:

Blade #13 Information:
  Blade Type: No Blade Installed

Blade #12 Information:
  Blade Type: No Blade Installed

Blade #11 Information:
  Blade Type: No Blade Installed

Blade #10 Information:
  Blade Type: No Blade Installed

Blade #9 Information:
  Blade Type: No Blade Installed

Blade #8 Information:
  Blade Type: No Blade Installed

Blade #7 Information:
  Blade Type: No Blade Installed

Blade #6 Information:
  Blade Type: No Blade Installed

Blade #5 Information:
  Blade Type: No Blade Installed

Blade #4 Information:
  Blade Type: No Blade Installed

Blade #3 Information:
  Blade Type: No Blade Installed

Blade #2 Information:
  Blade Type: No Blade Installed

Blade #1 Information:
  Product Name      : Express5800/120Bb-6

  Blade Name       : R1-EE-06
  Product P/N      : [N8400-029]
  Chassis S/N      : FD
  Blade Type       : CPU Blade
  Blade Size       : Half-height, single-wide (HHSW)

Management Processor Information:
  Firmware Version : 00.16
  IP Address       : 192.168.12.13
  MAC Address      : 00:30:13:38:0D:01

Mezzanine Card Information:
  Installable Mezzanine Card Number: 2

Mezzanine Card #1 Information:
  [No Mezzanine Card Installed]
```

```
Mezzanine Card #2 Information:
  [No Mezzanine Card Installed]
1Z34AB7890 (Administrator)>
```

Example of execution of the command to display the CPU blade information

Default value

Supplementary information

This command shows the computer name which is defined by the operating system of the blade server.  
When the computer name is not set by the operating system, the product name will be displayed.

---

## Listing the CPU blade information in a list

Overview

Lists the information on the installed CPU blades

Information to be displayed

Blade name

Blade type

IP address of the CPU blade BMC

Operational status

ID LED status

Command name

SHOW SERVER LIST

Argument

None

Example of execution

```
1Z34AB7890 (Administrator)> show server list

Slot Blade Name                Type IP Address      Status   Pwr UID
-----
  1 R2-EE-15                    CPU  192.168.1.178   OK       On  Off
  2 [Absent]
  3 [Absent]
  4 [Absent]
  5 [Absent]
  6 [Absent]
  7 [Absent]
  8 [Absent]
  9 R2-EE-16                    CPU  192.168.1.188   OK       On  Off
 10 [Absent]
 11 [Absent]
 12 [Absent]
 13 [Absent]
 14 [Absent]
 15 [Absent]
 16 [Absent]

Totals: 2 server blades installed, 2 powered on.
1Z34AB7890 (Administrator)>
```

Example of execution of the command to display CPU blade information

Default value

Supplementary information

This command shows the computer name which is defined by the operating system of the blade server.

When the computer name is not set by the operating system, the product name will be displayed.

---

## Displaying the CPU blade port map information (E-Keying information)

### Overview

Displays the port mapping information (E-Keying information) of the specified CPU blades.

### Command name

```
SHOW SERVER PORT MAP
```

### Argument

*<Slot number>* | *<Slot number>* - *<Slot number>* | *<Slot number>* , *<Slot number>* | "ALL"

*<Slot number>* and '-'(hyphen) or ','(comma) must be separated by a blank space.

### Example of execution

### Default value

### Supplementary information

---

## Displaying CPU blade status

### Overview

Displays CPU blade operational status.

Information to be displayed:

Power (OK or OFF)

Amount of electricity used

Operational status ( OK, CPU failure, or power module failure)

Temperature (OK, warm, caution, or critical)

ID LED status

### Command name

```
SHOW SERVER STATUS
```

### Argument

*<Slot number>* | *<Slot number>* - *<Slot number>* | *<Slot number>* , *<Slot number>* | "ALL"

*<Slot number>* and '-'(hyphen) or ','(comma) must be separated by a blank space.

### Example of execution

```
1Z34AB7890 (Administrator)> show server status 1

Blade #1 Status:
  Power                : Off
  Current Wattage used : 0
  Health               : OK
  ID LED               : Off
  BMC-EM Communication : OK
  E-FUSE Status       : OK
  Diagnostic Status:
    Internal Data      OK
    Management Processor OK
    I/O Configuration  OK
    Power              Not Performed
    Cooling            Not Performed
    Location           Not Performed
    Device Failure     OK
    Device Degraded   OK

1Z34AB7890 (Administrator)>
```

Example of execution of the command to display CPU blade status

### Default value

#### Supplementary information

##### About Diagnostic Status

|                      |   |
|----------------------|---|
| Internal Data        | Shows FRU information validity. OK: valid, Failed: invalid ( checksum error )                         |
| Management Processor | Shows the status of BMCFW. OK: normal, Failed: failure  |
| I/O Configuration    | Shows the E-Keying status. OK: E-Keying succeeded, Failed: E-Keying failed                            |
| Power                | Shows the power status. OK: normal power status, Failed: power problem                                |
| Cooling              | Shows the cooling status. OK: cooking OK, Failed: cooling problem<br>Not Performed: not checked       |
| Location             | Shows the status of mounting location. OK: mounting location OK,<br>Failed: mounting location problem |
| Device Failure       | Shows failure status. OK: Normal operation, Failed. Failure, Not Performed: not checked               |
| Device Degraded      | Shows degraded status. OK: normal operation, Failed: degraded<br>Not Performed: not checked           |

---

## Configuring the power-on delay time of the CPU blade

### Overview

Configures the power-on delay time of the specified CPU blade.

This function is mainly useful for booting from SAN when the startup time of the FC disk is shorter than that of CPU blades. If you enable AC-Link function of the CPU blade and set *<Delay time>* longer than the setup time of the the FC disk, the CPU blade is powered on after the FC disk becomes ready.

Command name

SET SERVER POWERONDELAY

First Argument

<Slot number> | <Slot number> - <Slot number> | <Slot number> , <Slot number> | "ALL"

Second Argument

<Delay time>

Configure in seconds

Range of configurable values: 0 to 86400 ("0": disable)

Example of execution

```
1Z34AB7890 (Administrator)> set server powerondelay 1 864  
  
Blade 1's PowerOnDelayTime changed to 864  
1Z34AB7890 (Administrator)>
```

Example of execution of the command to configure the power-on delay time of the CPU blade

Default value

0 ( disable )

Supplementary information

---

## Displaying the power-on delay time of the CPU blade

Overview

Displays the power-on delay time of the specified CPU blade.

Command name

SHOW SERVER POWERONDELAY

Argument

None

Example of execution

```
1Z34AB7890 (Administrator)> show server powerondelay  
  
Enclosure Manager Uptime = 1173 (sec)  
  
Slot Blade Name                               Delay (sec)  
-----  
 1 R2-EE-03                                   864  
 2 [Subsumed]                                 0  
 3 [Absent]                                   0  
 4 [Absent]                                   0  
 5 [Absent]                                   0  
 6 [Absent]                                   0  
 7 [Absent]                                   0  
 8 [Absent]                                   0  
 9 Virtual I/O Blade                          0  
10 [Absent]                                   0  
11 [Express5800/120Bb-6]                       0  
12 [Absent]                                   0  
13 [Absent]                                   0  
14 [Absent]                                   0  
15 [Absent]                                   0  
16 [Express5800/120Bb-d6]                     0  
  
1Z34AB7890 (Administrator)>
```

Example of execution of the command to display the power-on delay time of the CPU blade

Default value

Supplementary information

# Switch module management command

---

## Connecting to the EM serial console of the switch module

### Overview

Connects to the serial console of the specified switch module

### Command name

CONNECT SWITCH

### Argument

<Slot number>

### Example of execution

```
1Z34AB789012 (Administrator)> connect switch 4

NOTICE: This pass-thru connection to the integrated I/O console
is provided for convenience and does not supply additional access
control. For security reasons, use the password features of the
integrated switch.

Connecting to integrated switch 4 at 9600,N81...
Escape character is '<Ctrl>_'

Press [Enter] to display the switch console:

Fabric OS (WH040001120)

WH040001120 console login:
```

Example of execution of the command to connect to switch module serial console

### —CONNECT SWITCH command menu operations

The CONNECT SWITCH command supports the following operations:

The CONNECT SWITCH command supports functions to:

- suspend the switch module serial console and return to the EM console.
- modify the settings related to switch module serial console connection.
- send break signal.

### — To start the menu

Press following keys on the switch module serial console to start the menu screen.

On Japanese keyboard: press CTRL + SHIFT+- (hyphen)

On English keyboard: press CTRL + SHIFT +\_ (underscore)

When you press the keys correctly, the menu starting with "Command:" as shown below is displayed.

```
WH040001120 console login:
-----
-
Command: D)isconnect, C)hange settings, send B)reak, E)xit command mode >
```

#### Switch module serial console operation menu

—To modify the serial console connection settings

Press <C> key to enter the serial console settings menu. In this menu, you can modify the settings of:

About this session (the prohibition of use of escape characters on the serial communication)

About the serial communication (a baud rate and a flow control policy)

```
-----
-
Command: D)isconnect, C)hange settings, send B)reak, E)xit command mode > C
Change settings for: L)ocal Session, R)emote Port [Switch Mo], E)xit L
Change Local: D)isable Escape Character, E)xit >
```

#### Operation menu related to the session currently being connected

When you select "D)isable Escape Character", the serial connection stop to use of escape characters Note that this configuration might disable operations which require use of escape characters.

To cancel the prohibition:

To cancel the prohibition, perform the key operation described in the "to start the menu" 12 times.

```
-----
-
Command: D)isconnect, C)hange settings, send B)reak, E)xit command mode > C
Change settings for: L)ocal Session, R)emote Port [Switch Mo], E)xit R
Settings: B)audrate; flow control: N)one H)ardware S)oftware; E)xit > B
Baud: A)1200 B)2400 C)4800 D)9600 F)19200 G)38400 H)57600 I)115200; E)xit >
```

#### Serial console connection settings menu

You can change the baud rate and the flow control policy from the serial console connection settings menu.

Baud rate: 1200bps, 2400bps, 4800bps, 9600bps, 19200bps,  
38400bps, 57600bps, 115200bps

Note: Although you can set all baud rate settings from the EM firmware, you should specify the baud rate which is supported by the connected switch module. When you select an unsupported baud rate, the serial connection might be disconnected immediately. (Information about a supported baud rate is available from the User's Guide of the installed switch module.)

Flow control: None, Hardware (CTS/RTS), Software (Xon/Xoff)

Note: Information about the flow control settings will be found in the User's Guide of the installed switch module.

—To send the break signal

When the serial connection is confused, you should send the break signal to recover the communication. If the connection is still confused, select "D)isconnect" to disconnect the serial communication, and try to connect the switch module again.

```
-----  
-  
Command: D)isconnect, C)hange settings, send B)reak, E)xit command mode > B  
Sending BREAK...
```

Operation menu related to the session currently being connected

—To disconnect the connection to the serial console

When you select "D)isconnect", the serial connection will be closed.

```
WH040001120 console login:  
-----  
-  
Command: D)isconnect, C)hange settings, send B)reak, E)xit command mode > D  
-----  
-  
1Z34AB789012 (Administrator)>
```

Operation menu related to the session currently being connected

## Default value

### Supplementary information

Some switch modules/pass-through cards are not connectible. For details, see the User's Guide of the switch modules/pass-through cards.

In general, pass-through cards do not require the serial console connections. (Some pass-through cards may have different specifications, in such case, you should follow to the descriptions in the user's guides or manuals.)

---

## Powering off switch modules

### Overview

Shuts down the DC power of specified switch modules

### Command name

POWEROFF SWITCH

### Argument

<Slot number> | <Slot number> - <Slot number> | <Slot number>, <Slot number> | "ALL"

<Slot number> and '-'(hyphen) or ','(comma) must be separated by a blank space.

#### Example of execution

```
1Z34AB7890 (Administrator)> poweroff switch 1  
  
Powering off switch module 1.  
1Z34AB7890 (Administrator)>
```

Example of execution of the command to power off switch modules

Default value

Supplementary information

Some switch modules/pass-through cards are not connectible. For details see the User's Guide of the switch modules/pass-through cards.

---

## Powering on switch modules

Overview

Powers on the DC of specified switch modules

Command name

POWERON SWITCH

Argument

*<Slot number>* | *<Slot number>* - *<Slot number>* | *<Slot number>*, *<Slot number>* | "ALL"

*<Slot number>* and '-'(hyphen) or ','(comma) must be separated by a blank space.

#### Example of execution

```
1Z34AB7890 (Administrator)> poweron switch 1  
  
Powering on switch module 1.  
1Z34AB7890 (Administrator)>
```

Example of execution of the command to power on switch modules

Default value

Supplementary information

---

## Restarting a switch module

Overview

Restarts the specified switch module

Command name

RESTART SWITCH

Argument

*<Slot number>*

#### Example of execution

```
1Z34AB7890 (Administrator)> restart switch 4

Entering anything other than 'YES' will result in the command not executing.

Are you sure you want to restart the Switch Module? YES

Resetting Switch Module in slot 4.

1Z34AB7890 (Administrator)>
```

Example of execution of the command to restart switch modules

Default value

Supplementary information

Type **YES** when the instruction is shown on the screen.

---

## Configuring a User Assigned Name of a switch module

Overview

Assigns a name to the specified switch module

Command name

SET SWITCH NAME

First argument

<Slot number>

Second argument

<User Assigned NAME>

Use up to 32 alphanumeric characters or some symbols (Blank, Hyphen, or Underscore).

#### Example of execution

```
1Z34AB7890 (Administrator)> set switch name 1 Switch1

Changed the user assigned name for Switch Module #1 to "Switch1".

1Z34AB7890 (Administrator)>
```

Example of execution of the command to configure a user assigned name of the switch module

Default value

Supplementary information

---

## Controlling the ID LED of a switch module

Overview

Turn on / off the ID LED of the specified switch module

Command name

SET SWITCH UID

First argument

<Slot number>

Second argument

"ON" | "OFF"

Example of execution

Default value

Supplementary information

---

## Displaying information on switch modules

### Overview

Displays information on specified switch modules

Information to be displayed

Switch module type

Manufacturer's name

Product name

Product part number

Product version

Product serial number

IP address

Firmware version, etc.

### Command name

SHOW SWITCH INFO

### Argument

*<Slot number>* | *<Slot number>* - *<Slot number>* | *<Slot number>* , *<Slot number>* | "ALL"

*<Slot number>* and '-'(hyphen) or ','(comma) must be separated by a blank space.

### Example of execution

```
1Z34AB7890 (Administrator)> show switch info 5
5. <Single> NEC 4Gb Fibre Channel Pass-thru Module for SIGMABLADE-H
   URL: [N/A]
   P/N:406740-B21   S/N:1A567B9EF2   SerPortRoute:N/A EthPortRoute:N/A
   Name:Switch5                               IP:N/A
   PrtDis:PowerOn  TmpSen:Present  JS2Conn:Absent  EthExtIf:Absent
   EthEMIf:Absent  Baud:9600bps    SerExtIf:Present SerEMIf:Absent
   ISMIC FW Ver:01.02                               Internal FW Ver:Not Available
1Z34AB7890 (Administrator)>
```

Example of execution of the command to display switch module information

Default value

Supplementary information

About SerPortRoute and EthPortRoute

SerPortRoute: the direction of the internal serial interface.

EthPortRoute: the direction of the internal Ethernet interface

EM                      This interface connects to the EM card internal interface

Ext                     This interface connects to the switch module external interface

N/A                     This interface is not supported.

---

## Displaying the list of switch modules

## Overview

Displays the list of installed switch modules

### Information to be displayed

Switch module type  
Manufacturer's name  
Power-supply status  
Health status  
IP LED status

### Command name

SHOW SWITCH LIST

### Argument

None

### Example of execution

```
1Z34AB7890 (Administrator)> show switch list

Slot Switch Type      Manufacturer      Power Health  UID
-----
 1 [Absent]
 2 [Absent]
 3 Ethernet            NEC              Off   OK     Off
 4 [Absent]
 5 Fibre Channel      NEC              On    OK     Off
 6 [Absent]
 7 [Absent]
 8 [Absent]
Totals: 2 switch modules installed, 1 powered on.
1Z34AB7890 (Administrator)>
```

Example of execution of the command to display the list of switch modules

### Default value

### Supplementary information

---

## Displaying the switch module map information (E-Keying information)

### Overview

Displays the port mapping information about specified switch modules.

### Command name

SHOW SWITCH PORT MAP

### Argument

*<Slot number>* | *<Slot number>* - *<Slot number>* | *<Slot number>* , *<Slot number>* | "ALL"

*<Slot number>* and '-'(hyphen) or ','(comma) must be separated by a blank space.

### Example of execution

```

> show switch port map all

      Status      Size      Technology Product Name
      -----      -
8: <absent>

7: <absent>

6: <absent>

5: OK           Single      Ethernet  1Gb Intelligent L2 Switch
   Port         1  2  3  4  5  6  7  8  9  10 11 12 13 14 15 16
   Status                               OK
   Blade                               9
   Mezz/Nic                               NI
   Port                               1

4: <absent>

3: <absent>

2: <absent>

1: OK           Single      Ethernet  1Gb Intelligent L2 Switch
   Port         1  2  3  4  5  6  7  8  9  10 11 12 13 14 15 16
   Status                               OK
   Blade                               10
   Mezz/Nic                               NI
   Port                               1

1Z34AB7890 (Administrator)>

```

Example of execution of the command to display switch module port map information (E-Keying information )

#### Default value

#### Supplementary information

|          |  |
|----------|--|
| Port*1   | Switch module port number  |
| Status   | The port status of the switch module. OK: Normal (E-Keying is matched), Mismatch: E-Keying is mismatched, No Connect: No connection between the switch module and mezzanine card |
| Blade    | The number of the CPU blade connected to the port of the switch module.  |
| Mezz/Nic | The number of mezzanine card connected to the switch module port or the number corresponding to the standard slot (for LAN)  |
| Port*2   | The number of mezzanine card connected to the switch module port   |

\*1 "Port" shown above "Status"

\*2 "Port" shown above "Mezz/Nic"

---

## Displaying the status of switch modules

#### Overview

Displays the operational statuses of the switch module

Information to be displayed

Operation status  
 Thermal status  
 CPU status on switch modules  
 STATUS LED status  
 ID LED status  
 Power-supply status  
 Power consumption in operating state (Maximum)  
 Power consumption in standby state  
 E-FUSE status

Command name

SHOW SWITCH STATUS

Argument

*<Slot number>* | *<Slot number>* - *<Slot number>* | *<Slot number>* , *<Slot number>* | "ALL"

*<Slot number>* and '-'(hyphen) or ','(comma) must be separated by a blank space.

Example of execution

```

1 Z34AB7890 (Administrator)> show switch status 3

Switch Module #3 Information:
  Status      : OK
  Thermal     : OK
  CPU Fault   : OK
  Health LED  : OK
  ID LED      : Off
  Powered     : On
  Power On Watts : 48
  Power Off Watts : 5
  E-FUSE Status : OK
  Diagnostic Status:
    Internal Data      Not Performed
    Management Processor OK
    Thermal Warning    OK
    Thermal Danger     OK
    I/O Configuration  OK
    Power              Not Performed
    Device Failure     OK
    Device Degraded    OK
1Z34AB7890 (Administrator)>
  
```

Example of execution of the command to display status of switch modules

Default value

Supplementary information

Diagnostic Status indications

|                      |   |
|----------------------|---|
| Internal Data        | Shows FRU information validity. OK: valid, Failed: invalid (checksum error, etc.)                                     |
| Management Processor | Shows the status of management processor on the switch module. OK: normal, Failed: failure                            |
| Thermal Warning      | Shows the temperature warning status. OK: normal temperature, Failed: warning temperature, Not Performed: not checked |
| Thermal Danger       | Shows abnormal temperature status. OK: normal temperature, Failed: abnormal temperature, Not Performed: not checked   |
| I/O Configuration    | Shows E-Keying status. OK: E-Keying succeeded, Failed: E-Keying failed  |

|                 |   |
|-----------------|---|
| Power           | Shows the power status. OK: Normal power status, Failed: power problem,<br>Not Performed: not checked |
| Device Failure  | Shows failure status. OK: Normal operation, Failed: failure, Not<br>Performed: not checked.           |
| Device Degraded | Shows degraded status. OK: normal operation, Failed: degraded<br>Not Performed: not checked           |

# EM management commands

---

## Configuring the unique name of an EM card

### Overview

Configures a name unique to an EM card.

### Command name

```
SET EM <Slot number> NAME <EM card name>
```

### First argument

<Slot number> (optional)

The blade enclosure supports up to two EM cards. Specify the slot number of the target EM card.

You can specify either 1 or 2.

When you skip the slot number, the EM card you are now logging on is specified.

### Second argument

<EM card name>

Use up to 32 alpha numeric characters and some symbols (blank, hyphen, or underscore).

### Note:

No reserved words can be specified for <EM card name>

Reserved word means terms defined in command line such as "SET", "ADD", and "RACK".

### Example of execution

```
1Z34AB7890 (Administrator)> set em name EM1  
Enclosure Manager name changed to EM1.  
1Z34AB7890 (Administrator)>
```

Example of modifying an EM card name

### Default value

"" (not configured)

### Supplementary information

---

## Controlling the EM card LED

### Overview

Turn on / off the ID LED of an EM card.

### Command name

```
SET EM UID
```

### First argument

<Slot number > (optional)

The blade enclosure supports up to two EM cards. Specify the slot number of the target EM card.

You can specify either 1 or 2.

When you skip the slot number, the EM card you are now logging on is specified.

### Second argument

"ON" | "OFF"

### Example of execution

```
1Z34AB7890 (Administrator)> set em uid 1 ON  
  
Enclosure Manager UID is On.  
1Z34AB7890 (Administrator)>
```

### Example of controlling the ID LED of an EM card

Default value

Supplementary information

---

## Displaying information about the EM card(s)

Overview

Displays the information about EM card(s)

Command name

SHOW EM INFO

Argument

<Slot number> | "ALL" (optional)

The blade enclosure supports up to two EM cards. Specify the slot number of the target EM card.

You can specify either 1 or 2.

When you skip the slot number, the EM card you are now logging on is specified.

### Example of execution

```
1Z34AB7890 (Administrator)> show em info all  
  
NEC Enclosure Manager #2 information:  
  Product Name : SIGMABLADE-H EM Card  
  Product P/N  : 253280-001  
  Product S/N  : 12345678901234  
  UUID        : 0912345678901234  
  Manufacturer : NEC  
  EM HW Version : 1.00  
  EM FW Version : 01.50  
  
NEC Enclosure Manager #1 information:  
  Product Name : SIGMABLADE-H EM Card  
  Product P/N  : 407296-001  
  Product S/N  : 12345678901234  
  UUID        : 0912345678901234  
  Manufacturer : NEC  
  EM HW Version : 1.00  
  EM FW Version : 01.50  
EM-001004010077 (Administrator)>
```

### Example of the information on EM cards

Default value

Supplementary information

---

## Displaying EM card status

Overview

Displays the status of EM card(s)

## Information to be displayed

EM card name  
Active/standby  
ID LED status  
EM card status  
EM language type

## Command name

SHOW EM STATUS

## Argument

<Slot number> | "ALL" (optional)

The blade enclosure can supports to two EM cards. Specify the slot number of the target EM card.

You can specify either 1 or 2.

When you skip the slot number, the EM card you are now logging on is specified.

## Example of execution

```
1Z34AB7890 (Administrator)> show em status all
```

```
NEC Enclosure Manager #2 Status:
```

```
Name      : EM-0016355E5C2E  
Role      : Standby  
UID       : Off  
Status    : OK  
Language  : JAPANESE
```

```
NEC Enclosure Manager #1 Status:
```

```
Name      : EM-0016355E5C10-1  
Role      : Active  
UID       : Off  
Status    : OK  
Language  : JAPANESE
```

```
Redundancy status : NORMAL
```

```
1Z34AB7890 (Administrator)>
```

## Example of status of EM cards

## Default value

## Supplementary information

### About Redundancy status

NORMAL

EM cards are successfully in the redundant mode.

NOT LINK UP

Link with the other EM card is not achieved.

DEGRADED

Communication to the other card is disconnected, synchronizing the configuration between two EM cards has failed, or the EM cards use different versions of the EM firmware.

FAILED

There is a fatal error in communication to the other EM card, or the other EM card has failed to update the EM firmware.

UNKNOWN

The status of the other EM card cannot be retrieved.

NOT REDUNDANT

EM cards are not in the redundant mode.

---

## Configuring the language type for EM cards

## Overview

Configures a language used by EM cards.

The language type you configure here is used to switch Japanese/English for report messages used in SNMP trap. (It does not mean IEM CL message outputs are in the language type you specify here.)

## Command name

```
SET EM LANGUAGE
```

## Argument

*<Language type>*

You can specify one of the following types:

"JAPANESE"

"ENGLISH"

## Example of execution

```
1Z34AB7890 (Administrator)> set em language ENGLISH  
Enclosure Manager language type changed to ENGLISH.  
1Z34AB7890 (Administrator)>
```

Example of the EM card language configuration

## Default value

"JAPANESE"

## Supplementary information

The "SHOW EM STATUS" command shows the configured language type which is set by this command.

# NEC Diana Scope control commands

---

## Configuring an NEC DianaScope user password

Configures a user password for NEC DianaScope Gateway.

This user password is used as an authentication key in NEC DianaScope Manager.

### Command name

SET DSGPASSWORD

### Argument

<Password>

Use up to 16 characters to a password.

### Example of execution

```
1Z34AB7890 (Administrator)> set dsgpassword guest1  
  
Changed DSG password.  
1Z34AB7890 (Administrator)>
```

Example of NEC DianaScope user password configuration

### Default value

guest

### Supplementary information

NEC DianaScope Manager requires entry of an authentication key, which is configured by this command as user passwords, when you register a server (EM card). The value set by SET DSGPASSWORD command (if you do not specify, the default value, "guest") should be configured as an authentication key for NEC DianaScope Manager.

---

## Displaying an NEC DianaScope user password

### Overview

Displays an NEC DianaScope Gateway user's password.

This user password is used as an authentication key in NEC DianaScope Manager.

### Command name

SHOW DSGPASSWORD

### Argument

None

### Example of execution

```
1Z34AB7890 (Administrator)> show dsgpassword  
  
DSG Password:          guest  
1Z34AB7890 (Administrator)>
```

Example of NEC DianaScope user password display

Default value

Supplementary information

---

## Configuring the DSG status

Overview

Configures the DianaScope Gateway ( DSG ) status.

Command name

```
SET DSGSTATE
```

Argument

"1" (Enable), "0" (Disable)

Example of execution

```
1Z34AB7890 (Administrator)> set dsgstate 0
Changed DSG State.
1Z34AB7890 (Administrator)>
```

Example of the DSG status configuration

Default value

"1" (Enable)

Supplementary information

When you do not want to disable the system monitoring by the DSG, you should run "SET DSGSTATE 0". This setting disables the system monitoring. In this setting, the EM firmware does not make any responses to queries from the DSG.

When you want to enable the system monitoring by the DSG, you should run "SET DSGSTATE 1". This setting enables the system monitoring. In this setting, the EM firmware will make responses to queries from the DSG.

---

## Displaying the DSG status

Overview

Displays the DianaScope Gateway ( DSG ) status.

Command name

```
SHOW DSGSTATE
```

Argument

Example of execution

```
1Z34AB7890 (Administrator)> show dsgstate
DSG Status:0
1Z34AB7890 (Administrator)>
```

Example of the DSG status display

The output of this command indicates:

1: Enable

0: Disable

Default value

Supplementary information

# Configuration management

---

## Overview

An operator / maintenance personnel can use this CLI command to update the configurations listed below.

- \* Configuration settings
- Blade enclosure information
- User account information
- Network setting information
- SNMP setting information
- Others

Configuration data may get lost due to a failure or replacement of EM card. The SIGMABLADE-H EM firmware provides means for backup and restoration to tackle this problem.

---

## Backing up configuration

The following CLI command backs up a system configuration data.

CLI command: `UPLOAD CONFIG`

- See the details described in the list of "CLI commands of the SIGMABLADE-H EM firmware" beginning from page 138.

An operator / maintenance personnel should make a backup configuration data after the system construction is completed.

---

## Restoring configuration

The following CLI command will restore the system configuration by the backup data.

CLI command: `DOWNLOAD CONFIG`

- See the details described in the list of "CLI commands of the SIGMABLADE-H EM firmware" beginning from page 138.

An operator / maintenance personnel should restore settings after accidents such as the configuration lost or parts replacements.

When the configuration is successfully restored, the EM firmware restarts immediately to enable the restored configuration.

To correctly restore the configuration, an operator / maintenance personnel must shut down all CPU blades before restoration.

# Appendix

---

## Time zone

The following parameters can be specified as time zone.

CET, CST6CDT, EET, EST, EST5EDT, GB, GMT, HST, JST, MET, MST, MST7MDT, NZ, PRC, PST8PDT, UCT, UTC

# NEC ESMPRO Manager and Agent

NEC ESMPRO Manager and NEC ESMPRO Agent are server management software programs that are designed for stable operation of server systems and efficient system operation. NEC ESMPRO Manager allows for monitoring configuration information/operation status of servers such as CPU blades when it is installed on the EM console or LAN console. NEC ESMPRO Agent allows for quick reporting of server failure information to the management console if it is installed on servers such as CPU blades. This section provides the precautions on the EM card functions. For information on how to install, configure, and operate NEC ESMPRO Manager and NEC ESMPRO Agent, refer to their installation and user's guide/operation manuals.

If NEC EXPRESSBUILDER is installed on your CPU blade, you can use NEC ESMPRO Manager and NEC ESMPRO Agent from NEC EXPRESSBUILDER.

- Setting a trap community name

When you use SNMP service, make sure the community name of NEC ESMPRO Manager is the same as the one that is set by the SET SNMP COMMUNITY TRAP command from the CLI of an EM card. For details on how to set, refer to "Initial settings" and the installation guide of NEC ESMPRO Manager.

- Setting an IP address of NEC ESMPRO Manager

To report a SNMP trap to NEC ESMPRO Manager, you need to specify an IP address of EM console or LAN console on which NEC ESMPRO Manager runs by using the ADD SNMP TRAPRECEIVER command on the CLI. For details, refer to "Command line interface (CLI) (EM card)" and "command specification."



Important

Before you start using NEC ESMPRO Manager, make sure the EM language type setting is "ENGLISH" by using the SHOW EM STATUS command on the CLI of the EM card. For more detail about how to confirm and configure the language type, refer to "Commands".

# NEC DianaScope Manager, Agent

NEC DianaScope is software designed for reducing operational management costs by remotely managing servers.

The DianaScope is primarily made up of "NEC DianaScope Manager" running on a management PC (called a "DianaScope server") and "NEC DianaScope Agent" running on a managed server. (The management PC, the EM console can live together in one PC.) The DianaScope Manager has information collection and server monitoring functions by communication with the EM card in the blade enclosure. For information on how to install, configure and operate NEC DianaScope, refer to the NEC DianaScope Installation Manual and user's guide of CPU blade.

Check that the versions of NEC DianaScope Manager and NEC DianaScope Agent are following versions or later.

DianaScope Manager (Ver. 1.09.00)  
DianaScope Agent  
- Windows version (Ver. 2.04.01)  
- Linux version (Ver. 2.04.01)

NEC DianaScope Manager and NEC DianaScope Agent can be downloaded from the distribution site below.

<http://www.nec.co.jp/express/>

- Setting a user password of DianaScope Gateway

NEC DianaScope Manager requires you to enter an authentication key when a server is registered. Enter the user password of NEC DianaScope Gateway that you have set by the SET DSGPASSWORD command on the CLI of an EM card. (For details, refer to "Initial settings" "Commands" and the installation manual of NEC DianaScope.)

- Setting a status of NEC DianaScope Gateway

The status (enable/disable) of NEC DianaScope Gateway should be set to "enable" to use monitoring function of NEC DianaScope Manager. (The default setting is "enable.") You can confirm the status of NEC DianaScope Gateway by using the SHOW DSGSTATE command on the CLI of the EM card. For details, refer to "Commands".)

- Setting an IP address of an EM card

When using NEC DianaScope, you need to specify multiple of four for the last numeric value of <IP address of floating IP (Active EM)> (like 192.168.1.4 or 192.168.1.8). (You can confirm the IP address of an EM card by the SET NETWORK ADDRESSRANGE command on the CLI of an EM card. For details, refer to "Commands".)

# Troubleshooting

This chapter provides general troubleshooting information focusing on problems that might occur with the blade enclosure. Read users guides and manuals of modules including CPU blades and peripheral equipment as well. If descriptions in them are different from what is described here, follow the instructions in those manuals.

## Power supply

If the POWER LED of a CPU blade is not lit in green although you turned on it, check:

- The power supply control unit such as uninterruptible power supply is switched on.
- The power distribution board is switched on.
- The power cords are securely connected to the blade enclosure.
- The power cords of the blade enclosure are securely connected to a power-supply tap.
- The power-supply tap cord is securely installed on the uninterruptible power supply (UPS).
- The power units are securely installed on the blade enclosure.
- The number of power units installed on the blade enclosure is appropriate or not.
- The redundancy mode of the power supplies on the blade unit is appropriate.
- The CPU blade is securely installed on the blade enclosure.

Check the following when remote power-on via network does not work. (Wake on LAN does not work):

- Haven't you just used the forceful power-off? (The function to forcefully power off the CPU blade by keeping pressing the power switch of the CPU blade for four or more seconds)
- Wake on LAN does not work after the forceful power-off is performed. Perform a regular shut down process after starting the CPU blade once, or power-off the AC switch and then power it on again. Before powering off the AC switch, make sure that other CPU blades are not operating. This also applies when the DC of CPU blade is normally powered off on the BIOS/EFI window.
- Haven't you sent a Magic Packet right after you powered off the AC power?
- Allow one minute after AC power starts to be supplied to CPU blade. If you attempt a start by Wake on LAN within one minute from the AC power starts to be supplied, the CPU blade may not be powered on. (It takes about one minute from start of the AC power supply to initialization of BMC on the CPU blade.)

# Input/output

If nothing is displayed on the console window:

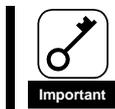
- Check that the console is powered on.
- Check that the window is not disturbed by software (by moving a mouse, or pressing Shift key and so on)
- Check that the brightness of a console is not set to the minimum.
- For the LAN console, check that a console terminal is properly connected to a LAN connector.
- For the local console, check that it is supported by the CPU blade you are using.
- For the local console, check that a video monitor is properly connected to the SUV connector of the CPU blade.

If you can not enter anything on the console:

- For the LAN console, check if the keyboard and mouse are properly connected to the console terminal.
- For the local console, check if it is supported by the CPU blade you are using.
- For the local console, check if the keyboard and mouse are properly connected to the SUV connector of the CPU blade.
- If you cannot enter a command because the console terminal is incorrectly displayed while operating the CLI, restart the software for terminal emulator or re-connect to it once after terminating the CLI.

If a remote media (such as DVD-ROM drive, FDD) is suddenly disconnected:

- Though rarely, this problem can occur depending on the load of network. An error message saying "unexpected error" is displayed on the remote media window. Close the start window of the EXPRESSSCOPE engine (Web window), and then reconnect it.
- Network can get heavily loaded especially when you are installing an OS on a CPU blade, which increases likeliness of the problem to occur. It is recommended to install OS through a DVD-ROM drive connected to SUV cable or a Linux network server (for Linux only. For details, refer to the Linux OS manual).



If performing or checking what is mentioned above does not solve the problem, this product may be failing. Contact your sales or maintenance agent.



---

---

---

---

---



---

---

---

---

---

# Disposal

Contact NEC sales representative before disposal, collection or recycle of the device.

# Transfer to third party

If this device or any of its accessories is transferred (or sold) to a third party, observe the following instructions:

- Main unit of the blade enclosure  
When this equipment is transferred (or sold) to a third party, hand this User's Guide as well.
- Software shipped with the blade enclosure

When the software shipped with this equipment is transferred (or sold) to a third party, the following conditions should be satisfied.

Transfer all items shipped with this equipment. The transferring party should keep no copy of any kind.

Satisfy conditions related to transfer and relocation as described in conditions to use software attached to the software.

Transfer the blade enclosure after uninstalling software if transfer of the software is not permitted.

# Specification

|                                    |  |
|------------------------------------|--|
| Model                              | Blade Enclosure (SIGMABLADE-H)   |
| Type                               | N8405-024F   |
| Maximum allowable configuration    |  |
| CPU blade                          | Up to 16   |
| Power Unit                         |  |
| Voltage                            | AC200 - 240V $\pm$ 10%   |
| Frequency                          | 50/60 Hz $\pm$ 1Hz   |
| Inlet                              | 2 (Up to 6)  |
| Fan                                | 4 (Up to 8)  |
| Size (W×D×H)                       | 485mm×820mm×445mm (10U)<br>(Including projection)  |
| Maximum electric power consumption | 10415W (Maximum configuration)   |
| Weight                             | 67kg (Blade Enclosure (SIGMABLADE-H) with no accessories installed)<br>~ 209kg (Maximum configuration*1) |
| Operation environment              | Temperature: 10~35%<br>Humidity: 20~80% (Non condensing)   |

\*1 Weight, when the maximum number of CPU Blades (including NEC Express5800/140Ba-10) and other options are installed.

## Tackling instantaneous voltage drop of power

This product may cause inconvenience when an instantaneous voltage drop occurs on due to thunder or other factors. It is recommended to use a device such as uninterruptible power supply system (UPS) to tackle instantaneous voltage drop of power.

To customer: Ask the sales staff or distribution source to write an emergency contact when a trouble occurs.

Emergency contact name: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

Address: \_\_\_\_\_

|   |
|---|
| <p>N8405-024F<br/>Blade Enclosure (SIGMABLADE-H)<br/>User's Guide</p> <p>Apr. 2008<br/>2nd version<br/>NEC Corporation</p> <p>5-7-1 Shiba Minato-ku, Tokyo Japan<br/>81-3-3454-1111</p> |
|---|

This document is printed on recycled paper.

This manual may be replaced if there is pages missing, or paging disorder.  
© NEC Corporation 2006-2008, © Hewlett-Packard Development Company, L.P. 2006

No part of this document may be reproduced in any form, including photocopying or translation to another language, without the prior written consent of NEC Corporation.

<Intentionally Blank>



\*855- 900677- A.J.\*



PN# 456-01750-000