

Hitachi Compute Blade 2500 Series Management Module User Guide

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Preface

This document describes how to use the Compute Blade 2500 series.

This preface includes the following information:

Notice: The use of Compute Blade 2500 series and all other Hitachi Data Systems products is governed by the terms of your agreement(s) with Hitachi Data Systems.

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Intended Audience

This document is intended for the personnel who are involved in planning, managing, and performing the tasks to prepare your site for Compute Blade installation and to install the same.

This document assumes the following:

- The reader has a background in hardware installation of computer systems.
- The reader is familiar with the location where the Compute Blade will be installed, including knowledge of physical characteristics, power systems and specifications, and environmental specifications.

Product Version

This document revision applies to support for CB2500 Web Console Client.

Release Notes

Read the release notes before installing and using this product. They may contain requirements or restrictions that are not fully described in this document or updates or corrections to this document.

Document Organization

The table below provides an overview of the contents and organization of this document. Click the chapter title in the left column to go to that chapter. The first page of each chapter provides links to the sections in that chapter.

Chapter	Description
Chapter 1, Management Module Overview	Gives an overview of the management modules.
Chapter 2, Preparations for Using the Management Module	Describes the basic configuration for operating the management module.
Chapter 3, Efficient Management of Servers Using the Management Module	Describes how to efficiently manage each system unit using the functionality provided by the management module.
Chapter 4, Server Maintenance and Management by Management Modules	Explains how to maintain and manage a server blade by using management modules.
Chapter 5, Commands That Can Be Executed From the CLI Console	Describes the commands that can be executed from the CLI console and how to use them.
Appendix A, Software license information	Describes software license information of management module.
Appendix B, HCSM alert log message	Describes HCSM alert log message.

Referenced Documents

- Hitachi Compute Blade 2500 Series Getting Started Guide, MK-99CB2500003
- Hitachi Compute Blade 2500 Series UEFI Setup Guide, MK-99CB2500005
- Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide, MK-99CB2500006
- Hitachi Compute Blade 2500 Series MIB User Guide, MK-99CB2500007
- Hitachi Compute Blade Series SMASH and IPMI User's Guide, MK-99COM144
- Hitachi Compute Blade Emulex Adapter User's Guide for Hardware, MK-99COM104

Document Conventions

The term "Compute Blade" refers to all the models of the Compute Blade, unless otherwise noted.





The Hitachi Virtualization Manager (HVM) name has been changed to Hitachi logical partitioning manager (LPAR manager, or LP). If you are using HVM based logical partitioning feature, substitute references to Hitachi logical partitioning manager (LPAR manager, or LP) with HVM.

This document uses the following typographic conventions:

Convention	Description
Bold	Indicates text on a window, other than the window title, including menus, menu options, buttons, fields, and labels. Example: Click OK .
<i>Italic</i>	Indicates a variable, which is a placeholder for actual text provided by the user or system. Example: <i>copy source-file target-file</i> Note: Angled brackets (< >) are also used to indicate variables.
screen/code	Indicates text that is displayed on screen or entered by the user. Example: # <code>pairdisplay -g oradb</code>
< > angled brackets	Indicates a variable, which is a placeholder for actual text provided by the user or system. Example: # <code>pairdisplay -g <group></code> Note: Italic font is also used to indicate variables.
[] square brackets	Indicates optional values. Example: [<code>a b</code>] indicates that you can choose a, b, or nothing.
{ } braces	Indicates required or expected values. Example: { <code>a b</code> } indicates that you must choose either a or b.
vertical bar	Indicates that you have a choice between two or more options or arguments. Examples: [<code>a b</code>]

Convention	Description
	indicates that you can choose a, b, or nothing. { a b } indicates that you must choose either a or b.

This document uses the following icons to draw attention to information:

Icon	Meaning	Description
 WARNING	WARNING	This indicates the presence of a potential risk that might cause death or severe injury.
 CAUTION	CAUTION	This indicates the presence of a potential risk that might cause relatively mild or moderate injury.
NOTICE	NOTICE	This indicates the presence of a potential risk that might cause severe damage to the equipment and/or damage to surrounding properties.
 Note	Note	Calls attention to important or additional information.
 Tip	Tip	This indicates advice on how to make the best use of the equipment.

Conventions for storage capacity values

Physical storage capacity values (for example, disk drive capacity) are calculated based on the following values:

Physical capacity unit	Value
1 kilobyte (KB)	1,000 (10^3) bytes
1 megabyte (MB)	1,000 KB or $1,000^2$ bytes
1 gigabyte (GB)	1,000 MB or $1,000^3$ bytes
1 terabyte (TB)	1,000 GB or $1,000^4$ bytes
1 petabyte (PB)	1,000 TB or $1,000^5$ bytes
1 exabyte (EB)	1,000 PB or $1,000^6$ bytes

Logical storage capacity values (for example, logical device capacity) are calculated based on the following values:

Logical capacity unit	Value
1 block	512 bytes
1 KB	1,024 (2^{10}) bytes
1 MB	1,024 KB or $1,024^2$ bytes
1 GB	1,024 MB or $1,024^3$ bytes

Logical capacity unit	Value
1 TB	1,024 GB or 1,024 ⁴ bytes
1 PB	1,024 TB or 1,024 ⁵ bytes
1 EB	1,024 PB or 1,024 ⁶ bytes

Getting help

The Hitachi Data Systems customer support staff is available 24 hours a day, seven days a week. If you need technical support, log on to the Hitachi Data Systems Portal for contact information: <https://portal.hds.com>

Comments

Please send us your comments on this document: doc.comments@hds.com. Include the document title and number including the revision level (for example, -07), and refer to specific sections and paragraphs whenever possible. All comments become the property of Hitachi Data Systems Corporation.

Thank you!

Management Module Overview

This chapter gives an overview of the management modules.

- [Management modules](#)
- [Settings for the consoles used for management module operations](#)

Management modules

Management modules are hardware that manage an entire system unit by monitoring the environment of the system unit and by controlling various modules in the system unit, such as server blades, switch modules, power supply modules, and fan modules. If the management modules detect a system failure, they can notify the administrator via email, SNMP, or another method.

This manual describes how to use management modules and other related equipment to set up the system unit.

Management modules provide consoles for viewing the status of the system unit and for configuring the system unit settings. To manage the CB 2500 system unit, use an external PC that is connected to the system unit via the management LAN. This PC is called the system console. When you operate the system unit through the system console, you can select a console type depending on the intended use. The following three types of consoles are provided:

- Web console
This feature allows you to operate the CB 2500 by using the GUI of the system console.
- CLI console
This feature allows you to operate the CB 2500 by executing commands in the system console.
- LCD touch console
This is an I/O device. By connecting the LCD touch console to a USB port on the system unit, you can check the status of the system unit and operate the system unit. By using the LCD touch console, you can set up the system unit without using the system console.

Settings for the consoles used for management module operations

This section describes the consoles that are used to operate the management modules.

Logging in to the Web console

This section describes how to log in to the Web console.

To log in to the Web console:

1. When using the web console from the web browser, start a browser on the system console, and enter the URL (enter "https://192.168.0.1/"). When using the Web Console Client, enter the management module IP address ("192.168.0.1") and the port number to connect with https ("443") in the CB2500 Web Console Client, and click the connect button.



Note: If you changed the IP address or port number for the management modules, enter the URL of the web browser or the IP address and port number of the CB2500 Web Console Client that matches the changed settings.

2. Enter the user account and password for the system administrator.
The user account and password are set to their initial values (the values at shipping time). Enter the following values:
 - User account: "administrator"
 - Password: "password"



Note: We strongly recommend that you change the password after logging in.

Related topics

- [Components of the Web console on page 1-3](#)
- [Dashboard of the Web console on page 1-5](#)
- [Setting up a user account on page 2-34](#)

Components of the Web console

The following figure shows the components of the Web console.

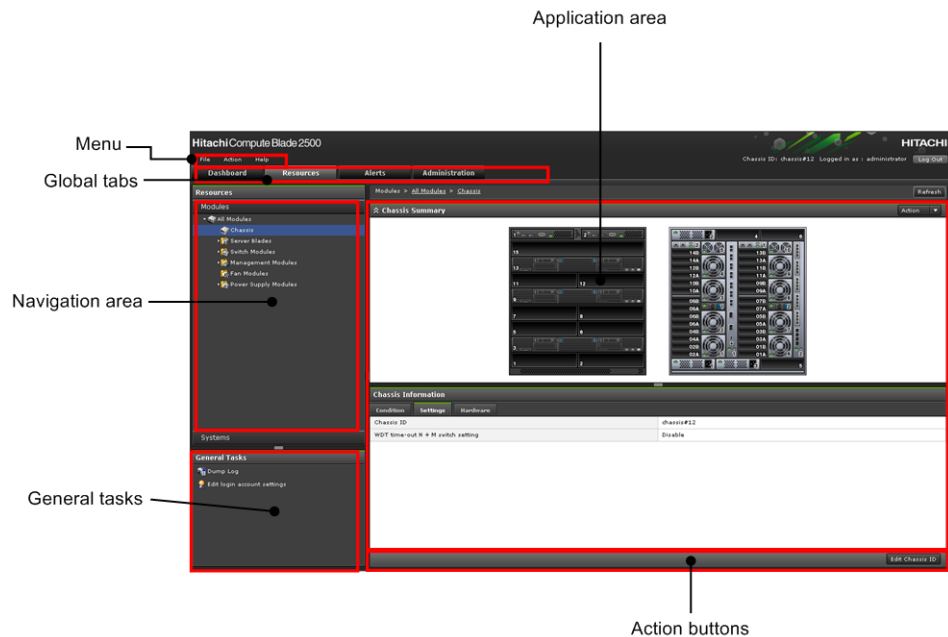


Figure 1-1 Components of the Web console

Table 1-1 List of the components of the Web console

Area (Menu or Pane)	Item		Description
Menu	File	Save web console log	Downloads Web console logs.
		Log out	Logs out from the Web console.
	Action	Dump Log	Downloads logs from a management module.
		Edit login account settings	Changes settings such as the display language and the password that the user currently uses to log in.
	Help	User's Guide	Displays the User's Guide.
		About	Displays information about the management module firmware version.
	Maintenance mode		Indicates that one or more modules are in maintenance mode.
	Log out		Logs out from the Web console.
Global tab	Dashboard tab		When you log in to the Web console, this window appears first. This tab gives an overview of the system unit's operating status and power consumption, and displays a list of events (log) that occurred in the system unit.
	Resources tab		Manages installed modules and resources.
	Alerts tab		Displays and downloads the failure information and logs that were recorded in the system unit.
	Administration tab		Configures basic settings for the system unit and settings for connecting to other systems.
Navigation area	The left pane of the window displays the modules and functionality that you can operate and configure in a tree format. From this tree, select the module or functionality you want to configure.		
General Tasks	Dump Log		Downloads logs from a management module.

Area (Menu or Pane)	Item	Description
	Edit login account settings	Changes settings such as the display language and the password that the user currently uses to log in.
Application area	Displays details about the module or functionality that was selected in the Navigation area, action items for operating the module or functionality, and action buttons.	

Dashboard of the Web console

When you log in to the Web console, the Dashboard appears first. The Dashboard displays the operating status of the system unit, power consumption, and a list of events that occurred in the system unit (the system event log). The following figure shows the window components.

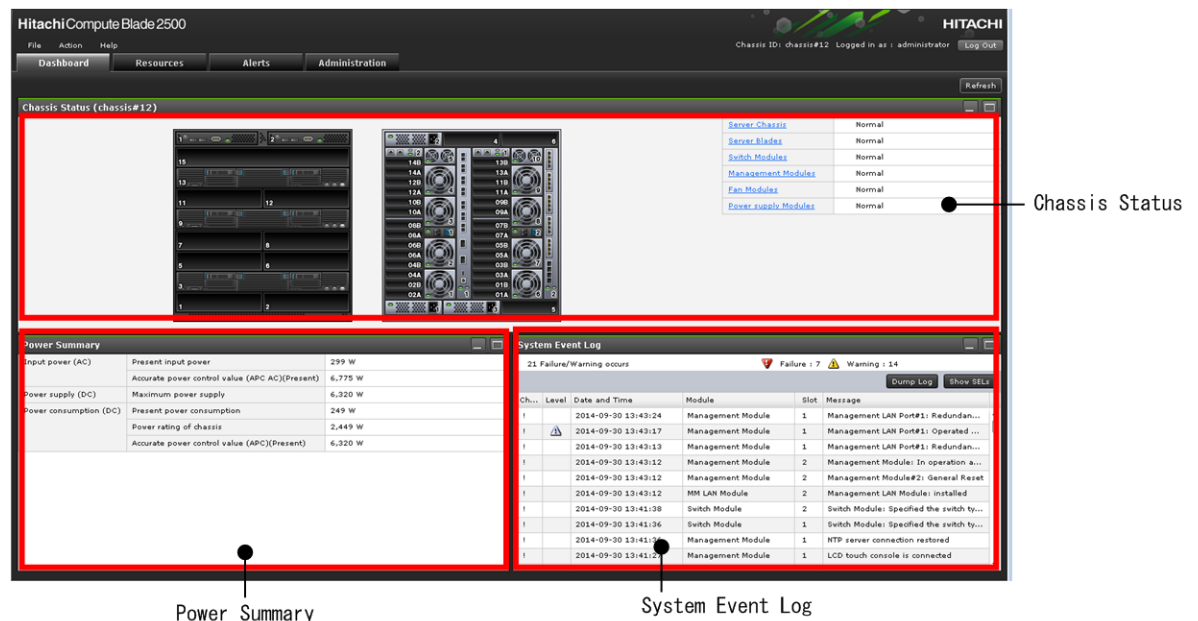


Figure 1-2 Dashboard

Chassis status

The operating status for each type of installed module is displayed. The table below describes the possible operating statuses.

If a module is in a warning or failure state, check the details in the system event log.

Table 1-2 Chassis status icons







Icon	Description
No border	The module installed in the applicable location is running normally.
	The module installed in the applicable location is in a warning state. Check the warning details in the system event log.
	The module installed in the applicable location is in a failure state. Check the failure details in the system event log.
	The module installed in the applicable location is being initialized, and the module type cannot be recognized yet.
	The module installed in the applicable location is set to maintenance mode.

Table 1-3 Summary of chassis statuses (located to the right of the chassis image)

Icon	Description
Normal	The modules are running properly.
 Warning	One or more modules are in a warning state. Check the warning details in the system event log.
 Failure	One or more modules are in a failure state. Check the failure details in the system event log.

Power summary

Displays the input power value and the power consumption value.

Table 1-4 Power summary

Item		Description
Input power (AC)	Present input power	Displays the amount of power (AC) that is currently being supplied to the system unit.
	Accurate power control value (APC AC) (Present)	Displays the value calculated by converting the upper limit for APC power consumption to AC power.
Power supply (DC)	Maximum power supply	Displays the maximum power supply of the system unit.




Item		Description
Power consumption (DC)	Present power consumption	Displays the total power consumption of the installed modules.
	Power rating of chassis	Displays the total rated power of the installed modules.
	Accurate power control value (APC) (Present)	Displays the upper limit for APC power consumption.

System event log

Displays the log of events that occurred in the system unit. A summary of the number of unchecked failures is displayed in the upper part of the pane.

Note that this list displays only the 100 most recent events. To view all events recorded in the system unit, click the **Show SELs** button to open the system event log window. Click the **Dump Log** button to download logs from a management module.

Table 1-5 Occurred event

Item	Description
Check	<p>Indicates whether the event is already checked.</p> <ul style="list-style-type: none"> Blank: This event is already checked. Events that are already checked are excluded from the number of unchecked events that is displayed as a summary. ! : This event is not checked. Events that are not yet checked are included in the number of unchecked events that is displayed as a summary.
Level	<p>There are the four event levels: normal, caution, warning, and failure. The event level is indicated as follows:</p> <ul style="list-style-type: none"> Blank: Indicates an event recorded when the user's operation or the system unit's behavior was normal. A blank is also displayed for caution-level events.  : Indicates an event requiring user caution occurred, such as a communication failure or a configuration error.  : Indicates an event recorded when a failure occurs on a module but the module can continue operating. Check the details of the warning and remove the cause of the problem.  : Indicates an event recorded when a failure occurred on a module and the module can no longer operate. Check the details of the failure and take the appropriate action.
Date and Time	Displays the date and time when the event occurred.
Module	Displays the module where the event occurred.
Slot	Displays the number of the slot where the module is installed.

Item	Description
Message	Displays a general description of the event.

The contents on the Web console will not be automatically updated. To update the displayed information, click the **Refresh** button. The **Refresh** button is located in the top area of the application.



Note: When using the web console from the web browser, press the **save** button within two minutes after the dialog for selecting a location for a downloaded file to be saved opens on the browser. If Internet Explorer is used and you press the button after two or more minutes pass, the file is not saved as the correct size. Instead, the message "Internet Explorer cannot download [IP address] - [File name]. Server returned invalid or unrecognized response." is returned or the file is incorrectly saved as a smaller size. In such a case, download the file again.

Related topics

- [Controlling power consumption by using the power control functionality on page 2-102](#)
- [Checking the system event log on page 4-3](#)

Logging in to the CLI console

This section describes how to log in to the CLI console.

Tasks to complete in advance

Install terminal software for the system console in advance. For some OSs (including Linux), terminal software is already installed as the default settings of the OS. The terminal software must provide the following functionality:

- Use of Telnet (for Telnet connections)
- Use of SSH version2 (for SSH connections)



Note:

- Input and output characters might be limited depending on specifications of the terminal software. For the type of the terminal to be emulated, set the same type as that of the terminal for the OS to be used.
- Depending on terminal settings, Japanese output might not be possible.

To log in to the CLI console:

1. Start a terminal emulator (such as Telnet) for the system console.
2. For LAN connections, connect to the IP address (192.168.0.1) for management modules via SSH or Telnet.
For serial connections, specify the COM port number for the system console to which the management module is connected.



Note: To use the CLI console in a serial connection, first expand the window width so that each entered command can fit on a single line. If a command exceeds a single line, the command lines and execution results might not be displayed correctly in the command prompt.

If a connection is successfully established, the Login prompt appears.

3. In the Login prompt, enter the user account for the system administrator and then press the [Enter] key.

The initial value (the value at shipping time) of the user account is "administrator".

4. Enter the password and then press the [Enter] key.

The initial value (the value at shipping time) of the password is "password".



Note: If password expiration dates are set to be managed, you might not be able to log in if the password expires. To be able to log in again, see [Setting a password expiration date on page 2-35](#) to update the password.

Note that you need the account privilege to update the password.

- If you specify the setting to deny login attempts when the password expires, the following message appears and the user cannot login when a user who has the expired password attempts to log in:

Your password has expired.

- If you specify the setting that requires the password to be updated when the password expires, the message below appears when a user who has the expired password attempts to log in. Enter the current and new passwords by following the displayed message. The management module changes the password to enable the user to log in.

Your password has expired. Please change the password.

Old password: (Enter the current password.)

New password: (Enter the new password.)

Retype password: (Enter the new password again.)

If you incorrectly enter the current password three times, the connection with the CLI console is closed.



Note: We strongly recommend that you change the password after logging in.

After you log in, the initial window appears.

Related topics

- [CLI console initial window on page 1-10](#)
- [Logging out from the CLI console on page 1-11](#)
- [Setting up a user account on page 2-34](#)
- [Setting a password expiration date on page 2-35](#)

CLI console initial window

This section describes the items that are displayed in the initial window after you log in.

The following is an example of the initial window:

```
Compute Blade CB 2500 Management Module
ALL RIGHTS RESERVED, COPYRIGHT (C), 2014, HITACHI, LTD.
Chassis ID       : chassis#2
Firmware Revision : A0100-A-1234
```

The initial window displays the following items:

Chassis ID

The chassis ID

Firmware Revision

The version of the management module firmware

\$

The CLI prompt For each account, you can specify either of the following formats for the CLI prompt:

- *cid(n)\$*: *cid* is the chassis ID, and *n* is the slot number of the management module.
- *\$*: Initial setting (the setting at shipping time)

When the password expiration date of a logged-in user approaches, the initial window displays the following message that prompts the user to change their password:

```
Your password will expire soon. Please change password before
expiration.
```

If there is a user whose password has expired when a user who has the account privilege logs in, the initial window displays the following warning message:

```
There is the account that the password has expired.
```

If there is a user whose password expiration date is approaching when a user who has the account privilege logs in, the initial window displays the following warning message:

```
There is the account that the password will expire soon.
```

Related topics

- [Logging in to the CLI console on page 1-8](#)
- [Setting the chassis ID to identify the server chassis on page 2-30](#)
- [Updating management module firmware on page 4-31](#)

Logging out from the CLI console

To log out from the CLI console, enter `exit` in the CLI prompt and then press the `Enter` key.



Tip: If you set a session timeout value, you will be logged out automatically after a certain period of time during which no operations are performed. When you log in, the time registered for the account is applied as the non-operation timeout value. You can change the non-operation timeout value for each account. The initial setting (the setting at shipping time) of the non-operation timeout period is 10 minutes.

Related topics

- [exit on page 5-282](#)

LCD touch console specifications and functionality

The following figure shows the external view of the LCD touch console.

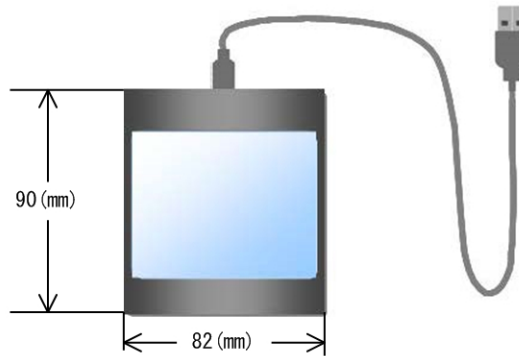


Figure 1-3 External view of the LCD touch console

The specifications for the LCD touch console are as follows:

Table 1-6 Hardware specifications for the LCD touch console

Item	Specifications
USB cable length	1.5 m
LCD touch console operation unit	Display resolution: 320 x 240 dots Number of output colors: 18-bit color Power: Supplied from the server chassis Internal memory: No data storage area that the user can use.

A USB flash drive is required to use some functionality. When you use the LCD touch console, prepare a USB flash drive. The following table shows USB flash drives that can be used.

Table 1-7 USB flash drives that can be used in LCD touch console functionality

Item	Specifications
Capacity	A maximum of 32 GB
Format	FAT 32
USB interface	1.1 and 2.0

Related topics

- [Connecting the LCD touch console to the server chassis on page 1-12](#)

Connecting the LCD touch console to the server chassis

To connect the LCD touch console to the server chassis, connect the USB cable of the LCD touch console to a USB connection port on the front of a management module. Note that "management module" here means the active management module. The management module has two USB connection ports. You can use the LCD touch console regardless of which USB connection port is connected.



Note:

- If you connect the LCD touch console to a USB port that is disabled, the LCD touch console displays "Please wait...", and the screen does not change. Connect the LCD touch console to a USB port that is enabled.
- If you disable a USB port to which the LCD touch console is connected, the LCD touch console might operate differently from normal. To disable USB ports, first remove the connected LCD touch console.



Tip: You cannot use a USB hub or a USB switching device to connect the LCD touch console and the server chassis.

Related topics

- [LCD touch console specifications and functionality on page 1-11](#)
- [Disabling a USB port on page 2-25](#)

Preparations for Using the Management Module

This chapter describes the basic configuration for operating the management module.

- ☐ [Language settings](#)
- ☐ [Time settings](#)
- ☐ [Strengthening the security of management modules and BMC](#)
- ☐ [Strengthening security by using digital certificates](#)
- ☐ [Setting the chassis ID to identify the server chassis](#)
- ☐ [User management using management modules](#)
- ☐ [Network settings](#)
- ☐ [Operating identification lamps of each module](#)
- ☐ [Power supply operation for a server blade](#)
- ☐ [Efficient operation of server blades by SMP configurations](#)
- ☐ [Operating server blades by using the remote console](#)
- ☐ [Operating server blades by using the OS console](#)
- ☐ [Setting server blades, switch modules, and Hitachi fibre channel adapter](#)

- ☐ [Setting WWNs and MAC addresses](#)
- ☐ [Controlling power consumption by using the power control functionality](#)
- ☐ [Specifying all settings for a server chassis by using an import file](#)

Language settings

You can select either English or Japanese as the language to use to operate the system unit. Note that, if the language settings of the account are configured, the account settings have priority over the language settings of the management module.

You can set the language to use to operate the system unit from the Web console or the CLI console.

To set the language for the system unit from the Web console:

1. From the tree view in the **Administration** tab, select **Language**.
2. Click the **Edit** button.
3. Change the language settings, and then log out of the Web console.
The change will take effect when you next log in.

To set the language for the system unit from the CLI console:

1. You can use the `show language system` command to check the current language settings. To change the language settings, execute the `set language system` command.

Related topics

- [show language system on page 5-209](#)
- [set language system on page 5-209](#)

Time settings

This section explains how to set the time of the system unit.

Time settings that can be specified in the management module

You can set up the date, time, time zone, and daylight saving time (DST) in the management module. You can also synchronize the time of the management module with the time of a server configured outside the system unit or the time of modules in the system unit.

Set the correct time in the management module before starting system unit operation.

Table 2-1 Time information that can be set in the management module

Operation	Web console	CLI console	LCD touch console
Setting the time for the management module	Y	Y	Y

Operation	Web console	CLI console	LCD touch console
Synchronizing the time of the management module with the time of an NTP server	Y	--	--
Synchronizing the time of the management module with the time of other modules	Y	--	--

Note that you can collectively set the time zone and DST by using the import functionality during initial setup.

Related topics

- [Time settings to enable DST on page 2-4](#)
- [Setting the time of the management module on page 2-5](#)
- [Synchronizing the time of the management module with the time of an NTP server on page 2-6](#)
- [Synchronizing the time of the management module with the time of other modules on page 2-7](#)
- [Specifying all settings for a server chassis by using an import file on page 2-125](#)

Time settings to enable DST

You can enable DST in the management module. The following describes the meaning of the DST start and end dates when DST is enabled from each console.

From each console of the management module, you can specify the condition for the DST start and end dates by combining [Month], [Date], [Day of the week], and [Time]. For [Month] and [Time], the displayed months and times are the DST start and end dates.

- When [Date] is specified:
DST starts and ends on the specified month and date. In this condition, the specification for [Day of the week] is disabled.
- When [First day on or after the specified date] is specified:
DST starts and ends on the first specified day of the week on or after the specified date. For example, when [First day on or after the specified date] is Sunday and [Date] is 8, the date is the first Sunday on or after 8th of the month, that is, the second Sunday.
- When [Last day on or before the specified date] is specified:
DST starts and ends at the first specified day of the week on or before the specified date. For example, when [Last day on or before the specified date] is Sunday, [Month] is 3, and [Date] is 24, the date is the first Sunday on or before the 24th of March, that is, the second Sunday from the end of the month.

- When [Last day in the month] is specified:
DST starts and ends at the first specified day of the week on or before the specified date.
For example, when [Last day on or before the specified date] is Sunday, [Month] is 3, and [Date] is 24, the date is the first Sunday on or before the 24th of March, that is, the second Sunday from the end of the month. In this condition, the specification for [Date] is disabled.

Related topics

- [Time settings that can be specified in the management module on page 2-3](#)
- [Setting the time of the management module on page 2-5](#)

Setting the time of the management module

To set time information of the system unit, use the Web console, the CLI console, or the LCD touch console. You can set up the date, time, time zone, and DST.

To set the time of the management module from the Web console:

1. From the tree view in the **Administration** tab, select **Date and Time**.
2. In the **Local time** tab or the **Time zone** tab, click the **Edit** button.
3. Specify the necessary items, and perform the processing.

To set the time of the management module from the CLI console:

1. Execute the following commands to match your purpose.

Table 2-2 Commands used for setting a time

Operation item	Command
Displaying the time settings	<code>show time local</code>
Changing the time settings	<code>set time local</code>
Displaying the time zone setting	<code>show time timezone</code>
Changing the time zone setting	<code>set time timezone</code>
Displaying the daylight saving time setting	<code>show time dst</code>
Changing the daylight saving time setting	<code>set time dst</code>

To set the time of the management module from the LCD touch console:

1. From the System settings menu, touch the **Time settings** button.
2. The Time settings window appears.

Related topics

- [Time settings that can be specified in the management module on page 2-3](#)
- [show time local on page 5-207](#)
- [set time local on page 5-204](#)
- [show time timezone on page 5-208](#)
- [set time timezone on page 5-205](#)
- [show time dst on page 5-206](#)
- [set time dst on page 5-202](#)

Synchronizing the time of the management module with the time of an NTP server

If you install an NTP server outside the system unit, you can synchronize the time of the management module with the time of the NTP server.

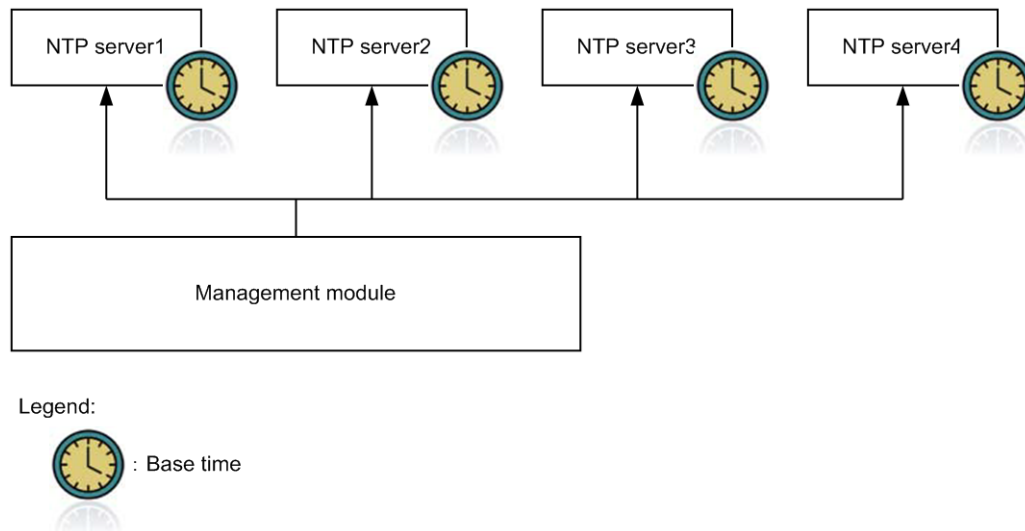


Figure 2-1 NTP server linkage

You can install a maximum of four NTP servers, and include plural servers in a redundant configuration in preparation for a failure. If you enable the time synchronization using an NTP server, synchronization is performed immediately after the system unit starts, and then continuously every 30 minutes.

In the initial settings (the settings at shipping time) of the system unit, linking with an NTP server is disabled.

To enable linkage with an NTP server from the Web console:

1. From the tree view in the **Administration** tab, select **Date and Time**.
2. In the **NTP** tab, click the **Edit** button.
3. Specify the necessary items, and perform the processing.

If you are specifying an NTP server by its host name, specify the FQDN by using a maximum of 255 characters. For FQDN, this item consists of alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9), hyphens (-), periods (.), and colons (:).

Related topics

- [Time settings that can be specified in the management module on page 2-3](#)

Synchronizing the time of the management module with the time of other modules

You can synchronize the time of BMC and LPAR manager by using the time of the management module as a reference.

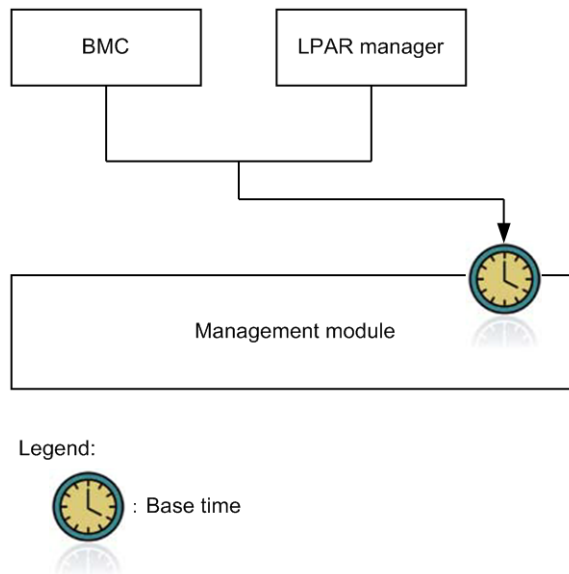


Figure 2-2 Management module time synchronization

In the BMC and LPAR manager time settings, `Synchronizing from management module` must be selected. If time synchronization is enabled, synchronization is performed immediately after BMC and LPAR manager are booted, and then continuously every 15 minutes.

To set the time of BMC from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select the target server blade.
2. From the **Edit** menu in the **BMC** tab, select **BMC time**.
3. Set the BMC time adjustment method to `Using NTP servers`.



Note: For CB520X B1/B2/B3, BMC time adjustment method is only set to **Synchronize time to the management module using NTP**.

Related topics

- [Time settings that can be specified in the management module on page 2-3](#)

Strengthening the security of management modules and BMC

This section explains how to strengthen the security of management modules and BMC.

Services provided by management modules and their security settings

The following table describes the functionality provided to secure the management modules.

(A): Supported protocol

(B): Default port number

(C): Ciphertext or cleartext

(D): Service disabled

(E): Restriction on the connection source IP address

(F): Changing port number

(G): Available if the security strength is set to [High]

Table 2-3 Functionality provided by management modules

Functionality	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Web console	HTTP	80	Cleartext	Y ¹	Y ²	Y	--
	HTTPS ³	443	Ciphertext	Y ¹	Y ²	Y	Y
CLI console	Telnet	23	Cleartext	Y ¹	Y ²	--	--
	SSH ⁴	22	Ciphertext	Y ¹	Y ²	--	Y
Sending and receiving files	FTP	20, 21	Cleartext	Y ¹	Y ²	--	--
	SFTP	22	Ciphertext	Y ¹	Y ²	--	Y
Email notification ¹⁰	SMTP (StartTLS)	25	Select cleartext or ciphertext	Y ⁵	--	Y	Y
SNMP functionality (polling) ¹⁰	SNMP (v1/v2c)	161	Cleartext	Y ⁶	Y	Y	--
	SNMP (v3)	161	Select cleartext or ciphertext	Y ⁶	Y	Y	Y

Functionality	(A)	(B)	(C)	(D)	(E)	(F)	(G)
SNMP functionality (trapping) ¹⁰	SNMP (v1/v2c)	162	Cleartext	γ ⁵	Y	Y	--
	SNMP (v3)	162	Select cleartext or ciphertext	γ ⁵	Y	Y	Y
LDAP linkage	LDAP (StartTLS)	389	Ciphertext	γ ⁵	--	Y	Y
Time synchronization	NTP	123	Cleartext	γ ⁵	--	--	Y
HCSM linkage (command)	HTTPS	443	Ciphertext	γ ⁷	Y	Y	Y
HCSM linkage (alert)	Hitachi protocol	22611	Ciphertext	γ ⁵	Y	Y	Y
HA monitor linkage	Hitachi protocol	-- ⁸	Cleartext	γ ⁹	--	Y	Y
Hi-Track	HTTPS	443	Ciphertext	γ ⁷	Y	Y	Y
Syslog transfer	SYSLOG	514	Select cleartext or ciphertext	γ ⁵	--	Y	Y
<p>Legend:</p> <p>Y: Can be set</p> <p>--: Cannot be set</p> <p>Notes:</p> <ol style="list-style-type: none"> Connections from all IP addresses are not allowed. The port is open. Connections to both IPv4 networks and IPv6 networks become impossible. This setting is necessary for IPv4 networks and IPv6 networks. A certificate error (warning) is displayed whenever an IPv6 address is used for HTTPS access. Connection using version 1 is not supported. Disabling the functionality also disables the service. No communication is performed with respect to the port. Disabling the functionality also disables the service. The port is open. Disabling the functionality also disables the service. You can also disable the service by disabling HTTPS. The port is open. By default, no port number is set. The port number is set when HA monitor is used. Disabling the functionality also disables the service. The port is blocked. For management module firmware version A0320 or later, you can change the security strength to a level different from that of the management module. Security strength changes can be configured only from the CLI console. 							

Services provided by BMC and their security settings

The following table describes the functionality provided to secure the BMC.

(A):Supported protocol

(B):Default port number

- (C):Ciphertext or cleartext
 (D):Service disabled
 (E):Restriction on the connection source IP address
 (F):Changing port number
 (G):Available if the security strength is set to [High]

Table 2-4 Functionality provided by BMC

Functionality	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Server blade Web console	HTTPS	443	Ciphertext	Y	Y	--	Y
IPMI over LAN	IPMI v1.5	623	Cleartext	Y	Y	--	--
	IPMI v2.0	623	Ciphertext	Y	Y	--	Y ¹
Remote console	Hitachi protocol	5001	Ciphertext	Y	Y	Y	Y
Syslog transfer	SYSLOG	514	Select cleartext or ciphertext	Y	--	Y	Y
Legend: Y: Can be set --: Cannot be set Notes: 1. Connection is available only when Cipher suite ID is 3 and both Username and Password are not blank.							

Security strength for management modules and BMC

The management interfaces of management modules and BMC have the following two security strengths: [Default] and [High]. The initial setting (the setting at shipping time) is [Default]. You can increase security in the following ways by setting the security strength to [High]:

- If encrypted communication is available, cleartext communication is not allowed.
- For encrypted communication, only encryption algorithms with high security strength are used.

Table 2-5 Setting security strength for management modules and BMC

Operation	Web console	CLI console	LCD touch console
Checking the security strength settings for management modules and BMC	Y	Y	--

Operation	Web console	CLI console	LCD touch console
Changing the security strength settings for management modules and BMC	Y	Y	--



Note: If you use the web console from the web browser with the security strength setting for the management module is [High], use Internet Explorer to connect to the Web console of the management module. To use Firefox to connect to the Web console of the management module, set the security strength for the management module to [Default].

Related topics

- [Points to check before setting the security strength for management modules and BMC on page 2-11](#)
- [Differences in usable functionality depending on the security strength settings on page 2-12](#)
- [Setting the security strength for management modules and BMC on page 2-17](#)

Points to check before setting the security strength for management modules and BMC

- If you set the security strength for the management module to [High] when the HTTPS service is disabled, the Web console and HCSM become unusable. Be careful when changing the settings.
- You can change the security strength for the management module when all of the following conditions are met:
 - All server blades have been initialized.
 - All server blades are powered off.
 - All management modules have been initialized.
- If you change the security strength settings for the management module, all management modules will be restarted. The changed settings are applied at restart.
If you change the security strength settings for BMC, the changed settings are instantly applied without restarting.
- If the security strength for management modules is set to [High], you cannot use management tools that connect to the management modules by using SNMP v1/v2c.

Related topics

- [Security strength for management modules and BMC on page 2-10](#)

Differences in usable functionality depending on the security strength settings

The table below describes the relationship between the security strength for management modules and server blades and the usable functionality. In the table, Y indicates available functionality, and N indicates unavailable functionality.

TLS

Cipher suite	Management module		Server blade	
	Security strength		Security strength	
	Default	High	Default	High
TLS_RSA_WITH_AES_128_CBC_SHA	Y	N	Y	Y
TLS_RSA_WITH_AES_256_CBC_SHA	Y	N	Y	Y
TLS_DHE_RSA_WITH_AES_128_CBC_SHA	Y	N	N	N
TLS_DHE_DSS_WITH_AES_128_CBC_SHA	Y	N	N	N
TLS_EMPTY_RENEGOTIATION_INFO_SCSV	Y	Y	N	N
TLS_RSA_WITH_AES_128_CBC_SHA256	Y	Y	Y	Y
TLS_RSA_WITH_AES_256_CBC_SHA256	Y	Y	Y	Y
TLS_DHE_RSA_WITH_AES_256_GCM_SHA384	Y	Y	N	N
TLS_DHE_DSS_WITH_AES_256_GCM_SHA384	Y	Y ²	N	N
TLS_DHE_RSA_WITH_AES_128_CBC_SHA256	Y	Y	N	N
TLS_DHE_DSS_WITH_AES_128_CBC_SHA256	Y	Y ²	N	N
TLS_DHE_RSA_WITH_AES_256_CBC_SHA256	Y	Y	N	N
TLS_DHE_DSS_WITH_AES_256_CBC_SHA256	Y	N	N	N
TLS_DHE_RSA_WITH_AES_256_SHA	Y	N	N	N
TLS_DHE_DSS_WITH_AES_256_SHA	Y	N	N	N
TLS_RSA_WITH_AES_256_GCM_SHA384	Y	Y	N	N
TLS_RSA_WITH_AES_128_GCM_SHA256	Y	Y	N	N

Cipher suite	Management module		Server blade	
	Security strength		Security strength	
	Default	High	Default	High
TLS_DHE_RSA_WITH_3DES_EDE_CBC_SHA	Y ¹	N	N	N
TLS_DHE_DSS_WITH_3DES_EDE_CBC_SHA	Y ¹	N	N	N
TLS_DHE_RSA_WITH_AES_128_GCM_SHA256	Y	Y	N	N
TLS_DHE_DSS_WITH_AES_128_GCM_SHA256	Y	Y ²	N	N
TLS_RSA_WITH_3DES_EDE_CBC_SHA	Y ¹	N	Y	Y ³
TLS_RSA_WITH_RC4_128_MD5	Y	N	N	N
TLS_RSA_WITH_RC4_128_SHA	Y	N	N	N
TLS_DHE_DSS_WITH_RC4_128_SHA	Y ²	N	N	N
Notes: 1. Syslog transfer does not support the cipher suite. 2. Only syslog transfer supports the cipher suite. 3. The cipher suite is supported for the following server blades and its firmware versions. <ul style="list-style-type: none"> For CB 520H B3, server blade firmware 08-93 or earlier. For CB 520H B4, server blade firmware 10-24 or earlier. For CB 520X B1, server blade firmware 07-72 or earlier. For CB 520X B2, server blade firmware 09-61 or earlier. For CB 520X B3, server blade firmware 11-21 or earlier. 				

Server certificate (public-key algorithm)	Management module		Server blade	
	Security strength		Security strength	
	Default	High	Default	High
RSA1024	N	N	N	N
RSA2048	Y	Y	Y	Y
RSA4096	N	N	N	N
DSA1024	N	N	N	N

Server certificate (self-signed certificate) Signature hash algorithm	Management module		Server blade	
	Security strength		Security strength	
	Default	High	Default	High
SHA-1	Y	N ¹	N	N
SHA-256	Y	Y	Y	Y
SHA-384	N	N	N	N
Notes:				
1. This is available when the version of the management module firmware is earlier than A0160.				

SSH (Management module)

Host-key algorithm	Security strength	
	Default	High
RSA1024	N	N
RSA2048	Y	Y
RSA4096	N	N
DSA1024	Y	N

Key exchange algorithm	Security strength	
	Default	High
diffie-hellman-group1-sha1	Y	N ¹
diffie-hellman-group14-sha1	Y	Y
diffie-hellman-group-exchange-sha1	Y	N ¹
diffie-hellman-group-exchange-sha256	Y	Y
Notes:		
1. This is available when the version of the management module firmware is earlier than A0320.		

Encryption algorithm	Security strength	
	Default	High
3des	N	N
3des-cbc	Y	N ¹
aes128-cbc	Y	N ¹
aes192-cbc	Y	N ¹
aes256-cbc	Y	N ¹

Encryption algorithm	Security strength	
	Default	High
aes128-ctr	Y	Y
aes192-ctr	Y	Y
aes256-ctr	Y	Y
blowfish-cbc	Y	N
cast128-cbc	Y	N
arcfour	Y	N
arcfour128	Y	N
arcfour256	Y	N
rijndael-cbc@lysator.liu.se	Y	N
Notes:		
1. This is available when the version of the management module firmware is earlier than A0320.		

Message authentication algorithm	Security strength	
	Default	High
hmac-md5	N	N
hmac-sha1	Y	Y
hmac-ripemd160	N	N
hmac-ripemd160@openssh.com	N	N
umac-64@openssh.com	Y	N
hmac-sha1-96	Y	N ¹
hmac-md5-96	Y	N ¹
hmac-sha2-256	Y	Y
hmac-sha2-512	Y	Y
Notes:		
1. This is available when the version of the management module firmware is earlier than A0320.		

SSH (Server blade)

Host-key algorithm	Security strength	
	Default	high
RSA1024	N	N
RSA2048	Y	Y

Host-key algorithm	Security strength	
	Default	high
RSA4096	N	N
DSA1024	Y	Y

Key exchange algorithm	Security strength	
	Default	high
ecdh-sha2-nistp256	Y	Y
ecdh-sha2-nistp384	Y	Y
ecdh-sha2-nistp521	Y	Y
diffie-hellman-group-exchange-sha256	Y	Y

Encryption algorithm	Security strength	
	Default	high
3des-cbc	Y	N ¹
aes128-cbc	Y	N ¹
aes192-cbc	Y	N ¹
aes256-cbc	Y	N ¹
aes128-ctr	Y	Y
aes192-ctr	Y	Y
aes256-ctr	Y	Y
Note: 1. This is available when the server blade firmware version is below. <ul style="list-style-type: none"> For CB 520H B3, server blade firmware version 08-95 or earlier. For CB 520H B4, server blade firmware version 10-26 or earlier. For CB 520X B1, server blade firmware version 07-74 or earlier. For CB 520X B2, server blade firmware version 09-63 or earlier. For CB 520X B3, server blade firmware version 11-23 or earlier. 		

Message verification algorithm	Security strength	
	Default	high
hmac-sha2-256	Y	Y
hmac-sha2-512	Y	Y

SNMP v3

Encryption algorithm	Management module		Server blade	
	Security strength		Security strength	
	Default	High	Default	High
None	Y	N	SNMP is not supported.	
DES	Y	N		
AES128	Y	Y		

Authentication algorithm	Management module		Server blade	
	Security strength		Security strength	
	Default	High	Default	High
None	Y	N	SNMP is not supported.	
MD5	Y	N		
SHA1	Y	Y		

Related topics

- [Security strength for management modules and BMC on page 2-10](#)

Setting the security strength for management modules and BMC

To set the security strength for management modules and BMC, use the Web console or the CLI console.

To set the security strength for management modules and BMC from the Web console:

1. In the **Resources** tab, from the tree view under **Systems**, select **Security strength setting**.
2. In the **Security strength** tab, click the **Edit** button.
3. Change the security strength settings.

To set the security strength for management modules and BMC from the CLI console:

1. To check the current security strength, execute the `show security setting` command. To change the security strength, execute the `set security strength` command.

Related topics

- [Security strength for management modules and BMC on page 2-10](#)
- [Points to check before setting the security strength for management modules and BMC on page 2-11](#)

- [show security setting on page 5-214](#)
- [set security strength on page 5-210](#)

TLS version settings

TLS is used for encrypted communications at management interfaces for management modules and BMC. You can enable or disable each TLS version.

You can change the setting for the TLS versions below. In the initial settings (the settings at shipping time), this setting is enabled for all versions. You cannot disable all of the TLS versions.

- TLS 1.0
- TLS 1.1
- TLS 1.2

The following table shows which management module consoles can be used in each operation.

Table 2-6 TLS version settings

Operation	Web console	CLI console	LCD touch console
Configuring the TLS version settings for management modules	Y	Y	--
Configuring the TLS version settings for BMC	Y	--	--

Related topics

- [Configuring TLS version settings on page 2-18](#)

Configuring TLS version settings

To configure the TLS version settings for management modules and BMC, use the Web console or the CLI console. From the CLI console, you can configure the TLS version settings for management modules only.



Note:

- If the security strength for management modules and BMC is set to [High], only TLS 1.2 is enabled among TLS versions for management modules, and other versions are disabled. For BMC, SMASH (WS-Management) uses TLS 1.0.
- If the security strength is set to [High] or [Default] and communication is enabled only with TLS 1.2, connections to HCSM that do not support TLS 1.2 are not available. For details about the procedure required to use HCSM, see the HCSM instruction manuals.

- The TLS version settings for BMC are not included in the configuration information of server blades inherited from N+M cold standby. When configuring N+M cold standby, set the same BMC security strength to both the active and standby server blades.
-

To configure the TLS version settings for management modules from the Web console:

1. In the **Resources** tab, from the tree view under **Systems**, select **Security strength setting**.
2. In the **TLS version** tab, click the **Edit** button.
3. Change the TLS settings.

To configure the TLS version settings for management modules from the CLI console:

1. To check the current setting of each TLS version, execute the `show security setting` command. To change the TLS version settings, execute the `set security tls mgmt-module` command.

To configure the TLS version settings for BMC from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select the target server blade.
2. In the **BMC** tab, click the **Edit** button to select Server blade Web console.
3. Change the TLS settings.

Related topics

- [TLS version settings on page 2-18](#)
- [Setting the BMC of a server blade on page 2-72](#)
- [show security setting on page 5-214](#)
- [set security tls mgmt-module on page 5-212](#)

IP address restriction settings for management module services

For Telnet, FTP, SSH/SFTP, HTTP, and HTTPS services, you can specify the following settings per service.

- Enable and disable the service.
- Set connectable IP addresses.

If you set connectable IP addresses, connections from IP addresses other than the set IP addresses are refused.

You can set connectable IP addresses for each type of network: IPv4 networks and IPv6 networks.

You can specify a range of connectable IP addresses (in network address format) for each IPv4 network service and for each IPv6 network service.
- Change the port number (for HTTP and HTTPS only).

Note that you can collectively set the allowance of Telnet, SSH/SFTP, FTP, HTTP, and HTTPS connections by using the import functionality during initial setup.

You can change service settings from each console of the management module.

Table 2-7 IP address restriction settings for management module services

Operation	Web console	CLI console	LCD touch console
Editing Telnet connection settings	Y	Y	Y
Editing FTP connection settings	Y	Y	Y
Editing SSH/SFTP connection settings	Y	Y	Y
Editing HTTP connection settings	Y	Y	Y
Editing HTTPS connection settings	Y	Y	Y

Related topics

- [Editing the Telnet connection settings on page 2-20](#)
- [Editing the FTP connection settings on page 2-21](#)
- [Editing the SSH/SFTP connection settings on page 2-21](#)
- [Editing the HTTP connection settings on page 2-22](#)
- [Editing the HTTPS connection settings on page 2-22](#)
- [Specifying all settings for a server chassis by using an import file on page 2-125](#)

Editing the Telnet connection settings

To edit the Telnet connection settings, use the Web console, the CLI console, or the LCD touch console.

To edit the Telnet connection settings from the Web console:

1. From the tree view in the **Administration** tab, select **Service**.
2. In the **Telnet** tab, click the **Edit** button.
3. Set the necessary items, and perform the processing.

To edit the Telnet connection settings from the CLI console:

1. To check the current Telnet connection settings, execute the `show remote-access protocol telnet` command. To edit the settings, execute the `set remote-access protocol telnet` command.

To edit the Telnet connection settings from the LCD touch console:

1. From the System settings menu, touch the **Service settings** button.
2. The Service settings window appears.

Related topics

- [IP address restriction settings for management module services on page 2-19](#)
- [show remote-access protocol telnet on page 5-246](#)
- [set remote-access protocol telnet on page 5-234](#)

Editing the FTP connection settings

To edit the FTP connection settings, use the Web console, the CLI console, or the LCD touch console.

To edit the FTP connection settings from the Web console:

1. From the tree view in the **Administration** tab, select **Service**.
2. In the **FTP** tab, click the **Edit** button.
3. Set the necessary items, and perform the processing.

To edit the FTP connection settings from the CLI console:

1. To check the current FTP connection settings, execute the `show remote-access protocol ftp` command. To edit the settings, execute the `set remote-access protocol ftp` command.

To edit the FTP connection settings from the LCD touch console:

1. From the System settings menu, touch the **Service settings** button.
2. The Service settings window appears.

Related topics

- [IP address restriction settings for management module services on page 2-19](#)
- [show remote-access protocol ftp on page 5-240](#)
- [set remote-access protocol ftp on page 5-228](#)

Editing the SSH/SFTP connection settings

To edit the SSH/SFTP connection settings, use the Web console, the CLI console, or the LCD touch console.

To edit the SSH/SFTP connection settings from the Web console:

1. From the tree view in the **Administration** tab, select **Service**.
2. In the **SSH/SFTP** tab, click the **Edit** button.
3. Set the necessary items, and perform the processing.

To edit the SSH/SFTP connection settings from the CLI console:

1. To check the current SSH/SFTP connection settings, execute the `show remote-access protocol ssh` command. To edit the settings, execute the `set remote-access protocol ssh` command.

To edit the SSH/SFTP connection settings from the LCD touch console:

1. From the System settings menu, touch the **Service settings** button.
2. The Service settings window appears.

Related topics

- [IP address restriction settings for management module services on page 2-19](#)
- [show remote-access protocol ssh on page 5-245](#)
- [set remote-access protocol ssh on page 5-233](#)

Editing the HTTP connection settings

To edit the HTTP connection settings, use the Web console, the CLI console, or the LCD touch console.

To edit the HTTP connection settings from the Web console:

1. From the tree view in the **Administration** tab, select **Service**.
2. In the **HTTP** tab, click the **Edit** button.
3. Set the necessary items, and perform the processing.

To edit the HTTP connection settings from the CLI console:

1. To check the current HTTP connection settings, execute the `show remote-access protocol http` command. To edit the settings, execute the `set remote-access protocol http` command.

To edit the HTTP connection settings from the LCD touch console:

1. From the System settings menu, touch the **Service settings** button.
2. The Service settings window appears.

Related topics

- [IP address restriction settings for management module services on page 2-19](#)
- [show remote-access protocol http on page 5-242](#)
- [set remote-access protocol http on page 5-230](#)

Editing the HTTPS connection settings

To edit the HTTPS connection settings, use the Web console, the CLI console, or the LCD touch console.

To edit the HTTPS connection settings from the Web console:

1. From the tree view in the **Administration** tab, select **Service**.
2. In the **HTTPS** tab, click the **Edit** button.
3. Set the necessary items, and perform the processing.

To edit the HTTPS connection settings from the CLI console:

1. To check the current HTTPS connection settings, execute the `show remote-access protocol https` command. To edit the settings, execute the `set remote-access protocol https` command.

To edit the HTTPS connection settings from the LCD touch console:

1. From the System settings menu, touch the **Service settings** button.
2. The Service settings window appears.

Related topics

- [IP address restriction settings for management module services on page 2-19](#)
- [show remote-access protocol https on page 5-243](#)
- [set remote-access protocol https on page 5-231](#)

Login banner settings

As a method for warning users who attempt unauthorized access, the system administrator can set a warning banner to appear before the display of the login window of the Web console or the login prompt (`login:`) of the CLI console. In the initial settings (the settings at shipping time), this functionality is disabled. To enable the functionality, you need to set a text message to be displayed in a login banner.

From the management module, you can enable or disable a login banner, and set a text message to be displayed in a login banner. You can use the following consoles.

Table 2-8 Login banner settings

Operation	Web console	CLI console	LCD touch console
Setting the display of a login banner	Y	--	--

Related topics

- [Setting the display of a login banner on page 2-23](#)

Setting the display of a login banner

To disable or enable the display of a login banner and set a text message to be displayed in the login banner, use the Web console.

The following characters can be set for a login banner:

- Maximum number of characters in the message: 1,599 (approximately 80 characters x 20 lines)
- Available character types: alphanumeric characters, symbols, space characters (ASCII character codes from 0x20 to 0x7e), and line feed characters (LF)

However, the percent sign (%), whose ASCII character code is 0x25, and the back slash (\), whose ASCII character code is 0x5c, are excluded. Japanese characters including one-byte Kana characters cannot be used.



Tip:

- If you disable the display of a login banner, the login banner is not displayed but the text content that was set is retained. If you re-enable the display of a login banner, the text content that was set can be displayed.
- A login banner is backed up when you save management module settings. Therefore, if you recover settings, the login banner is also recovered to the state when it was saved.

To set the display of a login banner from the Web console:

1. From the tree view in the **Administration** tab, select **Login banner**. Whether the display of a text message is enabled or disabled is displayed, as is the body of the text message.
2. Click the **Edit** button.
3. Set the necessary items, and perform the processing.

Related topics

- [Login banner settings on page 2-23](#)

Disabling the Web console functionality

To prevent unauthorized access, you can disable operations from the Web console. You can enable or disable the Web console independently for both the case where the Web console is connected from the management LAN ports and the case where the Web console is connected from the maintenance LAN port (MAINT) used by maintenance personnel. In the initial settings (the settings at shipping time), the Web console is enabled.



Note: For usual operation, do not disable the Web console operations performed from the maintenance port. If you do so, you will not be able to perform maintenance work.

To check whether the Web console is enabled, execute the `show web-console function` command from the CLI console. To toggle the Web console setting between enabled and disabled, execute the `show web-console function` command from the CLI console.

Related topics

- [Functionality available for management interfaces of each module on page 2-39](#)
- [Management network on page 2-40](#)
- [show web-console function on page 5-284](#)
- [set web-console function on page 5-283](#)

Disabling a USB port

To prevent unauthorized use of USB devices, you can disable USB ports for the management module. You can also specify the settings for each USB port. You can use the following consoles.

Table 2-9 Settings to disable or enable a USB port

Operation	Web console	CLI console	LCD touch console
Disabling or enabling a USB port	Y	Y	--

Related topics

- [Disabling or enabling a USB port on page 2-25](#)

Disabling or enabling a USB port

To disable or enable a USB port, you can use the Web console or the CLI console.

To disable or enable a USB port from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select **Management Modules**.
2. From the **Action** pull-down menu, click **Edit ManagementModule USB Configuration**.

To disable or enable a USB port from the CLI console:

1. To check the USB port settings, execute the `show chassis usb validity` command. To disable or enable a USB port, execute the `set chassis usb validity` command.



Note:

- If you disable a USB port to which a USB device is connected, the USB device might operate differently from normal. To disable USB ports, first remove the connected USB devices.
- If you connect the LCD touch console to a USB port that is disabled, the LCD touch console displays "Please wait...", and the screen does not change. Connect the LCD touch console to a USB port that is enabled.



Tip: If you disable USB ports, you cannot use functionality that uses USB devices, such as operating the system unit from the LCD touch console and specifying all settings for a server chassis by using an import file.

Related topics

- [Disabling a USB port on page 2-25](#)
- [show chassis usb validity on page 5-15](#)
- [set chassis usb validity on page 5-8](#)

Strengthening security by using digital certificates

This section explains how to use digital certificates to strengthen security from the Web console.

Digital certificates

You can achieve the functionality below by using digital certificates. You can use self-signed certificates and certificates signed by a certificate authority.

- **Authenticating the management module**
When you use the Web Console, the management module provides the digital certificate. You can verify the management module by checking the CA that has signed the digital certificate.
- **Encrypting communications between the client PC and the management module**
You can encrypt communication when using the Web console to prevent communication from being tapped or tampered with.
- **Authenticating BMC**
When you use the server blade Web console or remote console, BMC provides the digital certificate. You can verify BMC by checking the CA that has signed the digital certificate.
- **Encrypting communications between the Web browser and BMC, or the remote console and BMC**
You can encrypt communication when using the Web console or remote console of the server blade to prevent communication from being tapped or tampered with.

Related topics

- [Specifications for using digital certificates on page 2-27](#)
- [Using self-signed certificates on page 2-28](#)
- [Using digital certificates signed by certificate authority on page 2-29](#)

Specifications for using digital certificates

The following table lists the specifications when using digital certificates on the Web console.

Table 2-10 Digital certificate specifications for the Web console

Item	Description
Public key algorithm, bit length	RSA (2048 bits)
Signature hash algorithm	SHA-1, SHA-256 ¹
Format of certificates that can be imported	PEM
Format of certificates when downloaded	PEM
Format of certificates that can be created	PEM
Information about the subject that can be included in the certificate	See the table below.
Notes:	
1. We recommend using SHA-256 for the signature hash algorithm.	

Table 2-11 Information about the subject that can be included in the certificate

Subject	Description
Country (C)	Shows two letters for a country.
State or province (ST)	Shows the name of a state or province. This item can be no more than 30 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
Locality (L)	Shows the name of a city or region. This item can be no more than 50 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
Organization (O)	Shows the name of an organization (company). This item can be no more than 60 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
Organizational unit (OU)	Shows the name of an organizational unit. This item can be no more than 60 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
Common name (CN)	This item must be entered. Shows a common name (a domain name when the management module is connected).

Subject	Description
	This item can be no more than 60 characters long, and can contain alphanumeric characters, spaces, and the following symbols: - . : []
Email address	Shows an email address. Displayable ASCII characters are available.
DN qualifier	Shows a DN qualifier. This item can be no more than 60 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
Surname	Shows a surname. This item can be no more than 60 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
Given name	Shows a given name. This item can be no more than 60 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
Initials	Shows initials. This item can be no more than 20 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?

Related topics

- [Digital certificates on page 2-26](#)
- [Using self-signed certificates on page 2-28](#)
- [Using digital certificates signed by certificate authority on page 2-29](#)

Using self-signed certificates

To use a self-signed certificate, perform the following procedure.

1. Create a digital certificate.
Use the CLI command `create self-signed server certificate` to create a self-signed digital certificate.
If you cannot use this CLI command, this indicates that a self-signed digital certificate using SHA-1 was already available when the product was shipped. Go to step 2.
2. Import the digital certificate to a client PC.
 - o **Using the web console from the web browser**
From the Web browser, download the digital certificate to a client PC, and import the digital certificate to the Web browser of the client PC.
For details on how to download the digital certificate from the Web browser and import the digital certificate to the web browser, see the Web browser's Help.



Note: When using the web console from the web browser, press the **save** button within two minutes after the dialog for selecting a location for a downloaded file to be saved opens on the browser. If Internet Explorer is used and you press the button after two or more minutes pass, the file is not saved as the correct size. Instead, the message "Internet Explorer cannot download [IP address] - [File name]. Server returned invalid or unrecognized response." is returned or the file is incorrectly saved as a smaller size. In such a case, download the file again.

- **Using the Web Console Client**

A warning message may be displayed when connecting to the management module from the CB2500 Web Console Client. In that case, the management module digital certificate will be presented. Import the digital certificate to the client PC.

For details about how to import the digital certificate to the client PC, see the client PC Help.

3. Connect to the Web console by using HTTPS.
You can use the encryption functionality of communication paths.

Related topics

- [Digital certificates on page 2-26](#)
- [Specifications for using digital certificates on page 2-27](#)
- [create self-signed server certificate on page 5-248](#)

Using digital certificates signed by certificate authority

To use a digital certificate signed by a certificate authority, perform the following procedure.

1. Create a certificate signing request (CSR) from the Web console.
To create a CSR for the management module, from the tree view in the **Administration** tab, click **Certificate** and then the **Create CSR** button. When the version of the management module firmware is A0160 or later, the signature hash algorithm of the CSR is SHA-256. When the version is earlier than A0160, the signature hash algorithm of the CSR is SHA-1.
To create a CSR for BMC, in the **Resources** tab, from the tree view under **Modules**, select the target server blade, and then in the **BMC** tab, click **Edit** and then **Edit certificate**. From the pull-down menu in the **BMC server certificate settings** dialog box, select **Create CSR**.
2. Submit the created CSR to a certificate authority to obtain the signed digital certificate.
3. Import the signed digital certificate from the Web console.
To create a CSR for the management module, from the tree view in the **Administration** tab, click **Certificate** and then the **Import server certificate** button.

To import a BMC certificate, in the **Resources** tab, from the tree view under **Modules**, select the target server blade, and then in the **BMC** tab, click **Edit** and then **Edit certificate**.



Note: Use a character encoding other than UTF-8 for a digital certificate to be imported to the management module. If you use UTF-8 encoding, a part of the digital certificate information might not be displayed after the digital certificate is imported.

Make sure that the displayed digital certificate information matches the obtained digital certificate information before importing. If you fail to import the digital certificate, perform the procedure again from CSR creation.

4. Connect to the Web console by using HTTPS

You can use the encryption functionality of communication paths. To enable the management module authentication functionality, the root certificate for the CA must have been imported to the client PC. For details about the confirmation method, see the client PC Help or ask the CA.

Related topics

- [Digital certificates on page 2-26](#)
- [Specifications for using digital certificates on page 2-27](#)

Setting the chassis ID to identify the server chassis

This section describes chassis IDs that are set for server chassis.

Chassis ID

You can register an identifier called a chassis ID in a server chassis. Chassis IDs are used to identify equipment when information about the equipment connected from the Web console, CLI console, and LCD touch console is displayed.

You can set the chassis ID using no more than 20 characters. In the initial settings (the settings at shipping time), a part of the server chassis serial number is set for the chassis ID.

The table below describes the consoles used when you set the chassis ID from the management module.



Tip: You can also set the chassis ID from HCSM.

Table 2-12 Chassis ID settings

Operation	Web console	CLI console	LCD touch console
Setting the chassis ID	Y	Y	--

Related topics

- [Setting the chassis ID on page 2-31](#)

Setting the chassis ID

To set the chassis ID, use the Web console or the CLI console.

To set the chassis ID from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select **Chassis**.
2. In the **Settings** tab, click the **Chassis ID** button.

To set the chassis ID from the CLI console:

1. To check the current chassis ID setting, execute the `show chassis setting` command. To set the chassis ID, execute the `set chassis id` command.

Related topics

- [Chassis ID on page 2-30](#)
- [show chassis setting on page 5-12](#)
- [set chassis id on page 5-7](#)

User management using management modules

This section explains how to manage user information by using the management module.

Management module roles

On the management module consoles, you can customize operation privileges for each user. For example, to fit the system administrator role, you can divide users into those who have the privileges to operate server blades and those who have the privileges to operate server chassis.

The following table describes the privileges that can be assigned to the roles.

Table 2-13 Privileges assignable to roles

Privilege name	Description
Server blade	Can operate and configure server blades. Each server blade slot has its own privileges.
Switch module	Can operate and configure switch modules. Each switch module slot has its privileges.
Network	Can configure networks.
Chassis	Can operate and configure server chassis.
Account	Can add or delete accounts and roles.

In addition to the above privileges, you can add the following settings:

- To permit only viewing of the content, grant the "readonly" attribute to the role.
- To deny remote accesses to server blades (accesses by using a remote console or an OS console), grant the "Disable Remote Console launch" attribute to the role.

In addition, server chassis have a built-in role (Administrators) to which all privileges are granted. You cannot change the privileges of the Administrator role.



Tip: When server blades are in an SMP configuration, assign the privileges for all server blades constituting the SMP configuration.

The following table describes the consoles used when you set a role from the management module.

Table 2-14 Role settings

Operation	Web console	CLI console	LCD touch console
Setting a role	Y	Y	--

Related topics

- [Setting a role on page 2-32](#)
- [Operating server blades by using the remote console on page 2-66](#)
- [Operating server blades by using the OS console on page 2-68](#)

Setting a role

To set (create, modify, or delete) a role, use the Web console or the CLI console. You can register up to 16 roles other than the built-in role (Administrator).

To set a role from the Web console:

1. From the tree view in the **Administration** tab, click **Users and Roles**.
2. From the **Action** pull-down menu, click **Show and edit role settings**.
3. Set the role to be granted to each role.

To set a role from the CLI console:

1. Execute the following commands to match your purpose.

Table 2-15 Commands used for setting a role

Operation item	Command
Displaying roles	<code>show user role</code>
Adding a role	<code>add user role</code>
Modifying a role	<code>modify user role</code>
Deleting a role	<code>delete user role</code>

Related topics

- [show user role on page 5-197](#)
- [add user role on page 5-172](#)
- [modify user role on page 5-181](#)
- [delete user role on page 5-177](#)

Management module user accounts

On the management module, you need an account to perform the following operations.

- Logging in to the Web console and the CLI console
The requirement for each account to enter a password can prevent unauthorized login to the Web console or the CLI console. Multiple accounts can be created so that each user uses a different account.
- Sending and receiving files by using FTP
You can use FTP to send files to, and receive files from, a user directory. To use the functionality to send and receive files, you need to enter an account and password.



Tip: You do not need an account to log in to the LCD touch console because a PIN is set to prevent unauthorized login.

The following table describes the consoles used when you set the user management account from the management module.

Table 2-16 User account settings

Operation	Web console	CLI console	LCD touch console
Setting a user account	Y	Y	--

Related topics

- [Initial account settings \(the settings at shipping time\) on page 2-34](#)
- [Setting up a user account on page 2-34](#)
- [Setting a PIN for the LCD touch console on page 2-38](#)

Initial account settings (the settings at shipping time)

The following table describes the account that is registered in the management module in the initial settings (the settings at shipping time).

Table 2-17 Initial settings (the settings at shipping time)

Item	Setting value
User name	administrator
Status	Enabled
Role	Administrators
Language	Follows the system settings
CLI console prompt	<i>chassis-ID(slot-number-for-management-module)\$</i>
Session timeout	10 minutes
Password	password

Setting up a user account

To set (create, modify, or delete) a role, use the Web console or the CLI console. You can register up to 16 user accounts.

**Tip:**

- Set the account name for the user account, using no more than 31 characters. The name can contain alphanumeric characters and the following symbols: - . _ The account name must start with an alphanumeric character.
- Set the password for the user account, using no more than 31 ASCII characters.

Information you need to check in advance

- Initial settings (the settings at shipping time)

To set a user account from the Web console:

1. From the tree view in the **Administration** tab, click **Users and Roles**.
2. Click the **Create**, **Delete**, or **Edit** button.
A dialog box corresponding to the clicked button appears.
3. Specify the necessary items, and perform the processing.



Tip: From the **Edit login account settings** button under [General Tasks] in the lower left of the window, you can edit the account of the currently logged-in user.

To set a user account from the CLI console:

1. Execute the following commands to match your purpose.

Table 2-18 Commands used for user account settings

Operation item	Command
Displaying user accounts	show user account
Adding a user account	add user account
Modifying a user account	modify user account
Deleting a user account	delete user account
Changing the password for a user account	change-password user account

Related topics

- [Management module user accounts on page 2-33](#)
- [Initial account settings \(the settings at shipping time\) on page 2-34](#)
- [show user account on page 5-191](#)
- [add user account on page 5-170](#)
- [modify user account on page 5-178](#)
- [delete user account on page 5-176](#)
- [change-password user account on page 5-174](#)

Setting a password expiration date

You can set a expiration date for passwords used to log in to the Web console or the CLI console of the management module.

For the management module, if you set the period (the number of days) for which passwords are considered to be valid, you can manage the password expiration dates.

If you create an account or change the password, the expiration date is set again for the password of that account.

The expiration date is calculated and set as follows: the-day-when-the-operation-is-performed + the-period-for-which-the-password-is-considered-to-be-valid. Passwords are valid until when the number of days left is 0.



Tip: If [Password expiration date] is 0, the password is considered valid for that day (until the system time changes to the next day).

To display or set information related to management of the password expiration dates, the account privilege is required.

You can set one of the following for the operation when the password of an account expires:

- Require the password to be updated.
- Deny login attempts.

If you specify the setting that requires update of the password, the management module displays a window for updating the password to allow login when a user requires logging in to the console by using the expired password. Then, the user with that account can change the password.

If you specify the setting to deny login attempts, users cannot log in to the console of the management module. The administrator needs to change the expired password. In this case, if you specify the setting for the user to change the expired password and there is a new login request, the management module displays a window to update the password only once, and then allows the user to login. Then, the user of that account can change the password.

If the password of an account that has the account privilege expires, the operation is the same as the setting that requires the password to be updated, regardless of the setting.

This functionality is available for accounts registered in the management module. When linking with an LDAP server, the management module does not manage the password expiration dates for user accounts in the LDAP directory.

In the initial settings (when shipped), management of the password expiration dates is disabled.

Table 2-19 Initial settings (settings at shipping time) for the management of the password expiration dates

Item	Setting value
Management of password expiration date	Disable
Password expiry period (day)	-----
Change expired password	Disable



Tip: To manage the password expiration dates, set a value in the range from 1 to 365 (days) for [Password expiry period (day)].

The following table describes the consoles used when you set a password expiration date from the management module.

Table 2-20 Settings for password expiration dates

Operation	Web console	CLI console	LCD touch console
Setting a password expiration date	Y	Y	--

Related topics

- [Management module user accounts on page 2-33](#)
- [Setting up a user account on page 2-34](#)
- [Setting a password expiration date on page 2-37](#)

Setting a password expiration date

You can set a password expiration date by using the Web console or the CLI console.

To set management of the password expiration dates from the Web console:

1. From the tree view in the **Administration** tab, click **Users and Roles**.
2. Select the **Password Policy** tab.
3. Click the **Edit** button, and set the required item.

To set the management of the password expiration dates from the CLI console:

1. To display the settings for the management of the password expiration dates, execute the `show user password policy` command. To set management of the password expiration dates, execute the `show user password policy` command.

Related topics

- [Management module user accounts on page 2-33](#)
- [Setting up a user account on page 2-34](#)
- [Setting a password expiration date on page 2-35](#)
- [show user password policy on page 5-196](#)
- [set user password policy on page 5-189](#)

User management using an LCD touch console

Account authentication is not performed for the LCD touch console. To prevent inappropriate use of the console, you can manage users by using either of the following methods:

- Set a personal identification number (PIN) for the LCD touch console.
- Disable the LCD touch console functionality.

If you forget the PIN or you want to disable PIN authentication, you can initialize the PIN.

The following table describes the consoles used when you change the user management settings for the LCD touch console from the management module.

Table 2-21 User management using an LCD touch console

Operation	Web console	CLI console	LCD touch console
Setting a PIN for the LCD touch console	--	--	Y
Initializing a PIN for the LCD touch console	Y	Y	--
Disabling the LCD touch console functionality	--	Y	--

Related topics

- [Setting a PIN for the LCD touch console on page 2-38](#)
- [Initializing a PIN for the LCD touch console on page 2-39](#)
- [Disabling the LCD touch console functionality on page 2-39](#)

Setting a PIN for the LCD touch console

The PIN settings for an LCD touch console are set for the entire system unit. Therefore, enter the same PIN even when using a different LCD touch console. You can set a password consisting of a four-digit number. In the initial settings (the settings at shipping time), PIN authentication is disabled.

To set a PIN for the LCD touch console:

1. From the System settings menu, touch the **PIN settings** button.
2. The PIN settings window for the LCD touch console appears.



Note: The window does not display the PIN code, so keep your PIN in a secure place. If you forget the PIN, you can initialize it from the Web console. If you initialize the PIN, PIN authentication is disabled.

Related topics

- [User management using an LCD touch console on page 2-37](#)
- [Initializing a PIN for the LCD touch console on page 2-39](#)

Initializing a PIN for the LCD touch console

To initialize a PIN for the LCD touch console, use the Web console.

To initialize a PIN for the LCD touch console from the Web console:

1. From the tree view in the **Administration** tab, click **Users and Roles**.
2. From the **Actions** menu, click **Initialize LCD PIN**.

To initialize a PIN for the LCD touch console from the CLI console:

1. Execute the `clear lcd password` command.

Related topics

- [User management using an LCD touch console on page 2-37](#)
- [Setting a PIN for the LCD touch console on page 2-38](#)
- [clear lcd password on page 5-168](#)

Disabling the LCD touch console functionality

To disable the LCD touch console functionality, use the CLI console. If the functionality is disabled, the LCD touch console becomes inoperable even if it is connected to a system unit.

In the initial settings (the settings at shipping time), the LCD touch console functionality is enabled.

To disable the LCD touch console functionality from the CLI console:

1. To check the current settings, execute the `show lcd setting` command.
To enable or disable the functionality, execute the `set lcd validity` command.

Related topics

- [User management using an LCD touch console on page 2-37](#)
- [show lcd setting on page 5-169](#)
- [set lcd validity on page 5-168](#)

Network settings

This section describes networks for operating the system unit.

Functionality available for management interfaces of each module

Each management module, server blade, and switch module installed in the system unit has its own management interface.

By connecting the management interface of each module to the network, you can establish communication with consoles and management software such as HCSM and SNMP.

Note that, when two management modules are installed in the system unit, only the management interface of the active management module is active.

Management network

The management network is configured to enable operations from the management module to each module.

L2SW, which is embedded in the management module, and the management interfaces of each module can be connected to each other in the system unit. The management module has an external output port (MGMT1). You can connect the management module to the management interface of a module by connecting a cable to MGMT1.

Note that MGMT2 of the management module cannot be used.

The following figure shows an outline of the management network.

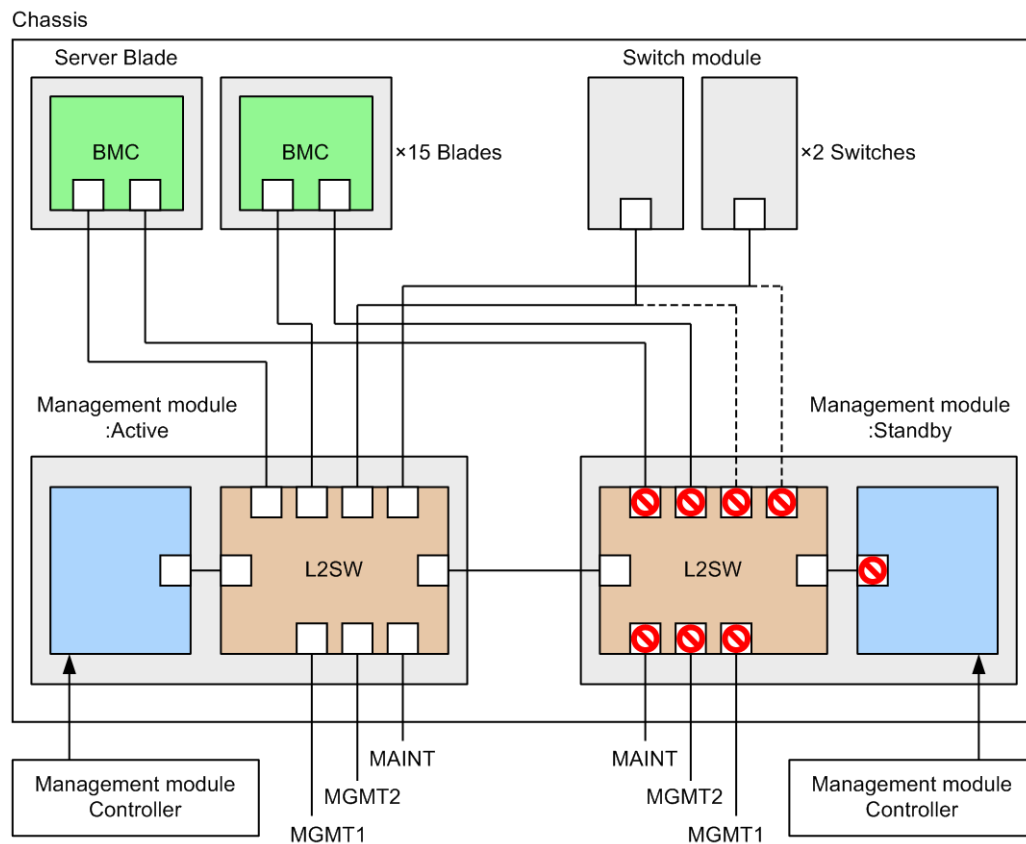


Figure 2-3 Management network



Note:

- Do not connect a cable to the MAINT port. This port is used exclusively for maintenance work by maintenance personnel.

- The ports of the standby management module are usually closed. These ports are opened if a failure occurs on the management module or Link Fault Tolerance is enabled.
-

Internal network

Apart from the management network, the system unit has an internal network within the unit. The internal network is used for the following purposes:

- Controlling communication between the management modules
- Controlling communication between the management module and server blades
- Controlling communication between the management module and switch modules

The system unit uses a 24-bit mask network (subnet mask: 255.255.255.0) for the internal network. For the IP address/subnet mask, 192.168.253.0/255.255.255.0 is set in the initial settings (the settings at shipping time) of the system unit. The IP address used in the internal network cannot be used outside the system unit. If you want to use the network IP address specified with 192.168.253.0/255.255.255.0 outside the system unit, change the internal network settings.

The following table describes the consoles used when you change the internal network settings from the management module.

Table 2-22 Internal network settings

Operation	Web console	CLI console	LCD touch console
Changing the IP address of the internal network	Y	Y	--

Related topics

- [Changing the IP address of the internal network on page 2-41](#)

Changing the IP address of the internal network

To change the IP address of the internal network, use the Web console.

Operations that you need to perform in advance

- Stop the server blade operation.
If you change the IP address while server blades are in operation, a failure event that might occur during restart of the management module might not be detected.

To change the IP address of the internal network from the Web console:

1. In the **Resources** tab, from the tree view under **Systems**, select **Network**, and then **Internal LAN**.
2. Click the **Edit** button, and set the IP address.
Changing the IP address restarts the management module.

To change the IP address of the internal network from the CLI console:

1. Execute the `set mgmt-module int-lan` command.
If you change the IP address, the management module is restarted.

Related topics

- [Internal network on page 2-41](#)
- [set mgmt-module int-lan on page 5-105](#)
- [show mgmt-module int-lan on page 5-112](#)

IP address settings

You can configure the network for management interfaces of each module from the management module.

By using functionality that supports IPv6 networks, you can set IPv4 addresses and IPv6 addresses.

In this manual, the term "IP addresses" indicates both IPv4 addresses and IPv6 addresses.

The following table describes the initial settings (the settings at shipping time) of IP addresses. IPv6 addresses are disabled.

Table 2-23 IP address (IPv4) settings at shipping time

Module	IP address	Subnet mask	Default gateway
Management module	192.168.0.1	255.255.255.0	0.0.0.0
Server blades 1 to 15	0.0.0.0	0.0.0.0	0.0.0.0
Switch module 1	0.0.0.0	0.0.0.0	0.0.0.0
Switch module 2	0.0.0.0	0.0.0.0	0.0.0.0

From the management module, you can change the IP address settings for each module. Note that you can collectively set the IP address of the management module, server blades, and switch modules by using the import functionality during initial setup.

Table 2-24 IP address settings

Operation	Web console	CLI console	LCD touch console
Setting the IP address of the management module	Y	Y	Y
Setting the IP address of a server blade	Y	Y	--
Setting the IP address of a switch module	Y	Y	--
Setting DNS servers	Y	Y	--

Related topics

- [IP address setting items on page 2-43](#)
- [Setting the IP addresses of management modules, server blades, and switch modules on page 2-44](#)
- [Specifying all settings for a server chassis by using an import file on page 2-125](#)

IP address setting items

To connect to the management interface of each module, set the items below.

If you want to use IPv6 networks, set both an IPv4 address and IPv6 address.

Item		Window
IPv4 networks	IPv4 address	Set the IPv4 address, subnet mask, and default gateway that are used for connecting to the management interface for each module over IPv4 networks.
	Subnet mask	
	Default gateway	
IPv6 networks	Static address <ul style="list-style-type: none"> • IPv6 address • Prefix • Default gateway 	Set the IPv4 address, prefix, and default gateway that are used for connecting to the management interface for each module over IPv6 networks. Specify IPv6 addresses in the format defined in RFC 4291. For details on how to set up IPv6 addresses, access the following URL: https://www.iana.org/assignments/ipv6-address-space/ipv6-address-space.xhtml
	Stateless address	Enable or disable Stateless Address Autoconfiguration (SLAAC). If SLAAC is enabled, IPv6 addresses are generated automatically based on the prefixes and interface IDs

Item	Window
	<p>distributed by a router (MAC addresses), and set for the management interfaces of modules.</p> <p>You can set Enable or disable Stateless Address Autoconfiguration for management modules and server blades.</p>



Note:

- Even if you connect to management modules over an IPv6 network, you cannot delete the IPv4 address.
- If you change the IPv4 address or IPv6 address that is being connected to a management module via the Web console or the CLI console, the IPv4 or IPv6 connection is closed.
- To use HA monitor and LPAR manager, use an IPv4 network.
- To connect to server blades over IPv6 networks, the firmware of the server blades must support IPv6 networks.
- To use Stateless Address Autoconfiguration on server blades, the server blade firmware must support the functionality.
- To connect management modules over IPv6 networks, set static addresses. You cannot enable only stateless addresses.
- To connect HCSM and management modules over IPv6 networks, set static addresses and disable stateless addresses.
- To connect to a management module via an IPv6 network, set global unicast addresses for the IPv6 addresses. For default gateways, set the link local address or global unicast address of the router that exists in the same link as the management modules. We recommend setting the link local address.
- To connect to the switch module over an IPv6 network, configure settings so that the management modules can connect to the switch module over the IPv6 network.

Related topics

- [Setting the IP addresses of management modules, server blades, and switch modules on page 2-44](#)

Setting the IP addresses of management modules, server blades, and switch modules

To set the IP addresses of management modules, server blades, and switch modules, use the Web console, the CLI console, or the LCD touch console.



Tip: You do not need to set the IP addresses of the non-primary server blades in an SMP configuration if those blades do not use IPMI over LAN, SMASH-CLP, or WS-Management. Use the IP addresses of the initial settings (the settings at shipping time).

To set the IP addresses of management modules, server blades, and switch modules, from the Web console:

1. In the **Resources** tab, from the tree view under **Systems**, select **Network**, and then **Management LAN**.
2. In the **IP Address (v4)** tab or **IP Address (v6)** tab, click the **Edit** button.
3. Change the settings of the necessary items.

To set the IP addresses of management modules, server blades, and switch modules, from the CLI console:

1. Execute the following commands to match your purpose.
You cannot set IPv6 stateless addresses from the CLI console.

Table 2-25 Commands used for setting the IP addresses of management modules, server blades, and switch modules

Operation item	Command
Checking the IPv4 address of the management module	<code>show mgmt-module mgmt-lan</code>
Changing the IPv4 address of the management module	<code>set mgmt-module mgmt-lan</code>
Checking the IPv6 address of the management module	<code>show mgmt-module mgmt-v6 setting</code>
Changing the IPv6 address of the management module	<code>set mgmt-module mgmt-v6 address</code>
Checking the IPv4 address of a server blade	<code>show blade mgmt-lan</code>
Changing the IPv4 address of a server blade	<code>set blade mgmt-lan</code>
Checking the IPv6 address of a server blade	<code>show blade mgmt-v6 setting</code>
Changing the IPv6 address of a server blade	<code>set blade mgmt-v6 address</code>
Checking the IPv4 address of a switch module	<code>show sw-module mgmt-lan</code>
Changing the IPv4 address of a switch module	<code>set sw-module mgmt-lan</code>
Checking the IPv6 address of a switch module	<code>show sw-module mgmt-v6 setting</code>
Changing the IPv6 address of a switch module	<code>set sw-module mgmt-v6 address</code>

To set the IP address of the management module from the LCD touch console:

1. From the System settings menu, touch the **Network settings** button.
2. The Network settings window appears.
3. Change the settings of the necessary items.

Only the IPv4 address of the management module can be set from the LCD touch console. To set other IP addresses from the LCD touch console, set up import files.

Related topics

- [IP address settings on page 2-42](#)
- [Specifying all settings for a server chassis by using an import file on page 2-125](#)
- [show mgmt-module mgmt-lan on page 5-114](#)
- [set mgmt-module mgmt-lan on page 5-101](#)
- [show mgmt-module mgmt-v6 setting on page 5-115](#)
- [set mgmt-module mgmt-v6 address on page 5-102](#)
- [show blade mgmt-lan on page 5-79](#)
- [set blade mgmt-lan on page 5-51](#)
- [show blade mgmt-v6 setting on page 5-80](#)
- [set blade mgmt-v6 address on page 5-52](#)
- [show sw-module mgmt-lan on page 5-146](#)
- [set sw-module mgmt-lan on page 5-140](#)
- [show sw-module mgmt-v6 setting on page 5-147](#)
- [set sw-module mgmt-v6 address on page 5-141](#)

Setting DNS servers

You can register a maximum of three DNS servers for IPv4 addresses and IPv6 addresses, respectively. You can specify whether DNS servers for IPv4 addresses are to be accessed first or DNS servers for IPv6 addresses are to be accessed first, when name resolutions are performed on DNS servers.

A maximum of three DNS servers are used in total from DNS servers for IPv4 addresses and for IPv6 addresses. Either DNS servers for IPv4 addresses or DNS servers for IPv6 addresses are preferentially used based on the priority setting. If three servers are used, an access attempt will not be made to DNS servers.

If four or more DNS servers are registered, DNS servers that have the fourth or lower priority are not used.

Example:

The following example shows the usage sequence in the following configuration:

- Setting values
 - Priority setting: IPv6
 - DNS server 0 for IPv4 addresses: 192.168.0.200
 - DNS server 1 for IPv4 addresses: 192.168.0.201
 - DNS server 2 for IPv4 addresses: 0.0.0.0 (not configured)
 - DNS server 0 for IPv6 addresses: 2001:2000::100:100

DNS server 1 for IPv6 addresses: 2001:2000::100:101
DNS server 2 for IPv6 addresses: 0.0.0.0 (not configured)

- o Usage sequence
 - a. 2001:2000::100:100
 - b. 2001:2000::100:101
 - c. 192.168.0.200

Note: The IP address 192.168.0.201 is the fourth priority, and the server is not used.

To set DNS servers, use the Web console or the CLI console.

To set DNS servers from the Web console:

1. In the **Resources** tab, from the tree view under **Systems**, select **Network**, and then **Management LAN**.
2. In the **DNS** tab, click the **Edit** button.
3. Change the settings of the necessary items.

To set DNS servers from the CLI console:

1. Execute the following commands to match your purpose.

Table 2-26 Commands used for setting DNS servers

Operation item	Command
Check DNS servers used for IPv4 addresses.	show mgmt-module mgmt-lan
Set DNS servers used for IPv4 addresses.	set mgmt-module dns
Check DNS servers used for IPv6 addresses.	show mgmt-module mgmt-v6 setting
Set DNS servers used for IPv4 addresses.	set mgmt-module dns
Check the priorities of DNS servers used for IPv4 addresses or DNS servers used for IPv6 addresses.	show mgmt-module mgmt-v6 setting
Set the priorities of DNS servers used for IPv4 addresses and DNS servers used for IPv6 addresses.	set mgmt-module dns

Related topics

- [show mgmt-module mgmt-lan on page 5-114](#)
- [set mgmt-module dns on page 5-98](#)
- [show mgmt-module mgmt-v6 setting on page 5-115](#)

Configuring Management LAN of Management Module and Server Blade BMC via DHCP

Management module and server blade BMC can use DHCP to configure their IPv4 Management LAN settings. The following figure shows the LAN ports that support DHCP and DDNS.

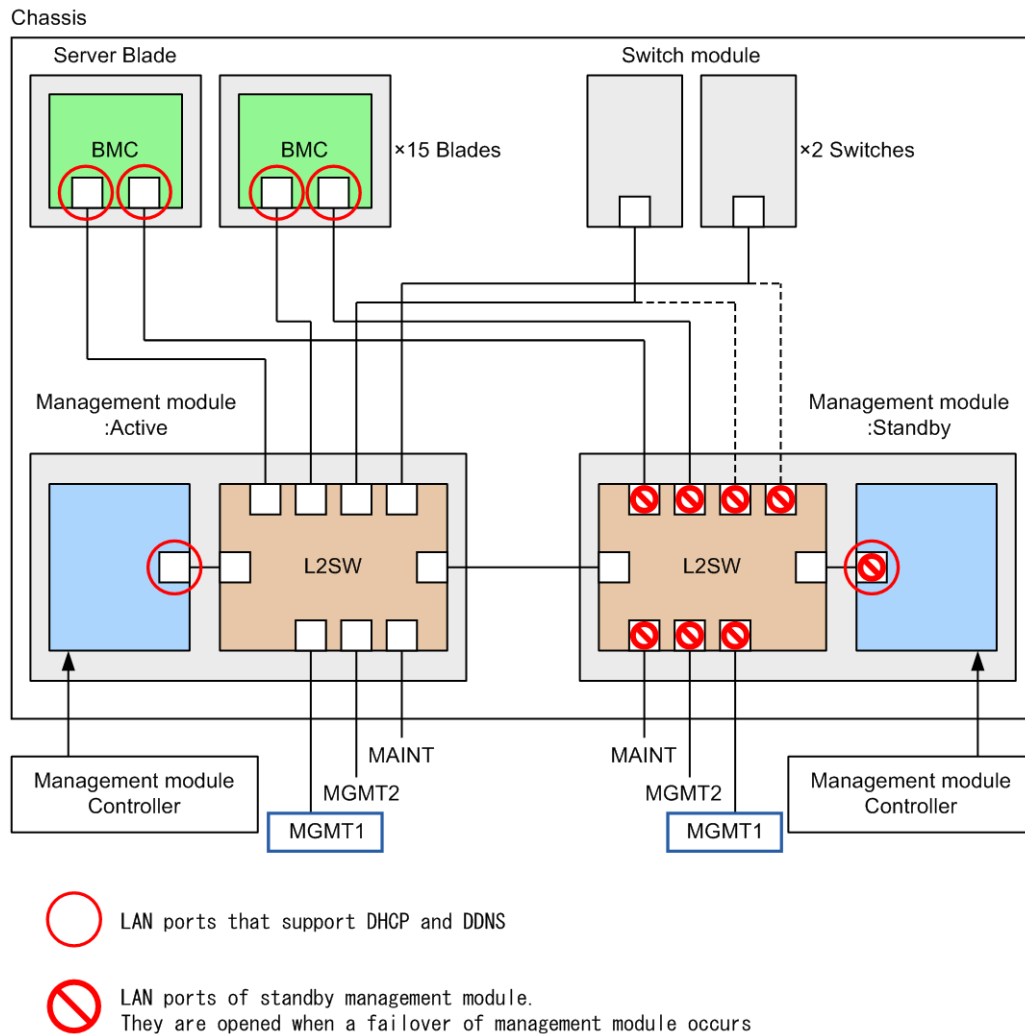


Figure 2-4 Management LAN ports that support DHCP and DDNS

Parameters obtained via DHCP

Management module and server blade BMC can use DHCP to obtain the following parameters.

- IPv4 address and subnet mask
- IPv4 default gateway (only 1 router can be configured)
- IPv4 DNS servers (up to 3 DNS servers can be configured)
- Domain name

IPv4 address, subnet mask and default gateway are applied to management LAN that can be accessed through management LAN port 1 (MGMT1).

Hostname sent to DHCP server

When management module and server blade BMCs request IP address via DHCP, they send their hostnames to DHCP server via Host Name Option (code=12) of DHCP messages. The default hostname is a string like the following.

Management module:

323GG-RE4xxxxxx-Yxxxxxxx

Server blade BMC:

323GG-RV3xxxxxxx-Yxxxxxxx

You can distinguish management module and server blade BMC by checking the first 9 characters of the default hostname. The default hostname of management module starts with 323GG-RE4 and the default hostname of server blade BMC starts with 323GG-RV3.

Settings of DHCP functionality

The settings of DHCP functionality can be configured by using CLI commands or Web console. Each management module and server blade BMC has its own DHCP settings and they can be configured individually.

To set DHCP settings using the Web console:

1. In the Resources tab, from the tree view under **Systems**, select **Network**, and then **Management LAN**.
2. In the **IP address(v4)** tab, click the **Edit** button.
3. Change the settings of necessary items.

To set DHCP settings using the CLI console:

Execute the following commands.

Table 2-27 CLI commands for DHCP settings

Operation item		Value	Command
IPv4 address assign mode		Static: Do not use DHCP and use the settings set by CLI or Web console. DHCP: Use DHCP to configure IPv4 address and other management LAN settings.	set mgmt-module mgmt-lan set blade mgmt-lan
Use DHCP supplied settings	Default gateway	Disable:	

Operation item		Value	Command
	DNS server	Ignore the settings distributed by DHCP server and use the setting set by CLI or Web console. Enable: Use the settings distributed by DHCP server.	
	Domain name		

When IPv4 address assign mode is changed from DHCP to Static, the parameters assigned via DHCP are preserved and used as static settings.

Settings of server blade BMC can also be configured by IPMI commands. For more information, see the manual *Hitachi Compute Blade Series SMASH and IPMI User's Guide*.

Validation of parameters assigned via DHCP

When management module or server blade BMC receives a DHCPACK message, it checks if the parameters assigned by the DHCPACK message are valid or not. If some parameter is invalid, the parameters are discarded and a DHCPDECLINE message is sent to the DHCP server.

Table 2-28 Validation check for parameters assigned via DHCP

Parameter	Condition
IPv4 address	IPv4 address is valid if all the following conditions are met. <ul style="list-style-type: none"> It is a unicast address. It is not a "this" network address, local loopback address or broadcast address. It is not the same address as IPv4 default gateway. IPv4 default gateway is included in the subnet determined by the IPv4 address and subnet mask (checked only when IPv4 default gateway is configured). It is not included in Maintenance LAN or Internal LAN. The subnet determined by the IPv4 address and subnet mask does not include Maintenance LAN or Internal LAN.
Subnet mask	Subnet mask is valid if network bits are all 1b and host bits are all 0b.
IPv4 default gateway	IPv4 default gateway is valid if all the following conditions are met. <ul style="list-style-type: none"> It is a unicast address. It is not a "this" network address, local loopback address or broadcast address. It is not the same address as IPv4 address. IPv4 default gateway is included in the subnet determined by the IPv4 address and subnet mask (checked only when IPv4 default gateway is configured). It is not included in Maintenance LAN or Internal LAN.

Parameter	Condition
IPv4 DNS server	<p>IPv4 DNS server is valid if all the following conditions are met.</p> <ul style="list-style-type: none"> • It is a unicast address. • It is not a "this" network address, local loopback address or broadcast address. • It is not the same address as IPv4 address. • It is included in the subnet determined by the IPv4 address and subnet mask (checked only when IPv4 default gateway is 0.0.0.0).
Domain name	<p>Domain name is valid if all the following conditions are met.</p> <ul style="list-style-type: none"> • It is a string up to 63 characters which consists of A-Z, a-z, 0-9, hyphen (-) and period (.). Empty string is acceptable. • The first and last characters are A-Z, a-z or 0-9. • It does not include periods occurring in succession.

Restarting DHCP sequence

To restart DHCP sequence on management module, use `set mgmt-module mgmt-lan` command to change IPv4 address assign mode from DHCP to Static. Then use the command again to set IPv4 address assign mode back to DHCP.

To restart DHCP sequence on server blade BMC, use `set blade mgmt-lan` command instead.

A new IPv4 address is requested when management module failover occurs

If a failover of management module occurs, the management module and each server blade BMC in the chassis releases the assigned IPv4 address and requests a new IPv4 addresses via DHCP after the failover. Therefore, IPv4 address of management module and server blade BMC can be changed after the failover.

Do not distribute IP address which conflicts with Maintenance LAN and Internal LAN

With the initial settings, the subnets 192.168.254.0/255.255.255.0 and 192.168.253.0/255.255.255.0 are used as Maintenance LAN and Internal LAN. DHCP servers must not distribute IP address in a subnet which includes Maintenance LAN or Internal LAN. For example, DHCP server must not distribute IP address/subnet mask=192.168.0.10/255.255.0.0 because the subnet 192.168.0.0/255.255.0.0 includes Maintenance LAN and Internal LAN.

Using LCD touch console

You can check some parameters assigned via DHCP by using LCD touch console. You can also change IPv4 address assign mode of management

module from DHCP to Static. Checking or modifying DHCP and DDNS settings by using LCD touch console is not supported.

To check IPv4 address, subnet mask and default gateway of management module:

1. From the **System settings** menu, touch the **Network settings** button.
2. The **Network settings** window appears and you can see IPv4 address, subnet mask and default gateway.

To check IPv4 address of server blade BMC:

1. From the **Maintenance** menu, touch the **Server Blade (SB)** button.
2. In the Server blade window, select the target server blade.
3. From the pull-down menu, select **Detail information**.
4. The **Detail information** window appears and you can see IPv4 address of server blade BMC.

To change IPv4 address assign mode of management module from DHCP to Static:

1. From the **System settings** menu, touch the **Network settings** button.
2. The **Network settings** window appears.
3. If you change the settings, the IPv4 address assign mode of management module is set to Static.

Restrictions

The following management software cannot be used when IPv4 address assign mode of management module or server blade BMC is DHCP.

- HCSM
- Hitachi Compute Adviser
- HA monitor
- LPAR manager

Management module firmware must not be downgraded to A0150 or earlier when IPv4 address assign mode of management module is DHCP.

Registering DNS record of Management Module and Server Blade BMC via DDNS

Management module and server blade BMC can use Dynamic DNS (DDNS) to register their A records to DNS servers. The settings of DDNS can be configured by using CLI commands or Web console. Each management module and server blade BMC has its own DDNS settings and they can be configured individually.

To set DDNS settings using the Web console:

1. In the **Resources** tab, from the tree view under **Systems**, select **Network**, and then **Management LAN**.

2. In the **IP address(v4)** tab, click the **Edit** button.
3. Change the settings of necessary items.

To set hostname and domain name of management module using the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select **Chassis**.
2. In the **Settings** tab, click the **Edit Host Name** button or the **Edit Domain Name** button.
3. Change the settings.

To set hostname and domain name of server blade BMC using the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select **Server blades**.
2. Select the target server blade and you can see the hostname and domain name of the server blade BMC. You can also modify the hostname and domain name.

To set DDNS settings, hostname and domain name using the CLI console:

Execute the following commands.

Table 2-29 CLI commands for DDNS settings

Setting	Setting	Command
DDNS	Disable: Do not use DDNS. Enable: Use DDNS to register A record to DNS servers.	<pre>set mgmt-module mgmt-lan set blade mgmt-lan</pre>
Hostname	A string up to 63 characters. A-Z, a-z, 0-9 and hyphen (-) can be used. The first and last characters must be A-Z, a-z or 0-9.	<pre>set mgmt-module name set blade name</pre>
Domain name	A string up to 63 characters. A-Z, a-z, 0-9, hyphen (-) and period (.) can be used. The first and last characters must be A-Z, a-z or 0-9. Periods must not occur in succession.	

Management module and server blade BMC create their A records from their FQDN and IPv4 address of management LAN. FQDN consists of hostname and domain name.

The hostname of server blade BMC can be obtained and modified by IPMI Get/Set Management Controller Identifier String commands as well as by CLI command and Web console.

The default hostname of management module is the serial number of chassis.
The default hostname of server blade BMC is the serial number of server blade. The default domain name is an empty string.

Troubleshooting for DHCP and DDNS functionalities

Table 2-30 Troubleshooting for DHCP and DDNS functionalities

No	Item	Description
1	Category	DHCP
	Problem	Cannot connect to management module or server blade BMC. DHCP server receives DHCPDECLINE message.
	Action	<ol style="list-style-type: none"> 1. Check the DHCP server settings to see if the parameters distributed by the DHCP server meet the condition described on Table 2-28 Validation check for parameters assigned via DHCP on page 2-50. 2. Change the settings of DHCP server so that the parameters distributed by the DHCP server meet the condition. <code>show mgmt-module int-lan</code> and <code>show mgmt-module mnt-lan</code> commands can be used to show the subnet of Internal LAN and Maintenance LAN. If you need to change the subnet of Internal LAN, log in to CLI console using serial port of management module and use <code>set mgmt-module int-lan</code> command.
	Note	Only support personnel can change Maintenance LAN settings. If you need to change the subnet of Maintenance LAN, contact support personnel. You can log in to CLI console via telnet or SSH by assigning static IPv4 address to management LAN. See section 5 for how to use LCD touch console to disable DHCP and assign static IPv4 address.
2	Category	DHCP
	Problem	Cannot connect to management module or server blade BMC. DHCP server does not receive DHCPDECLINE message.
	Action	<ol style="list-style-type: none"> 1. Log in to CLI console using the serial port of management module. 2. Run <code>show mgmt-module mgmt-lan</code> command to check DHCP settings and IPv4 address of management module. To check server blade BMC, use <code>show blade mgmt-lan</code> command. 3. If management module and server blade BMC have valid IPv4 address assigned

No	Item	Description
		<p>by DHCP server, the LAN to which CB2500 is connected may have some problem. Check the LAN configuration.</p> <p>4. If no IPv4 address is assigned by DHCP server, communication between those modules and DHCP server may have failed for some reason. Check the log of DHCP server to see whether the DHCP server received DHCPDISCOVER and DHCPREQUEST.</p> <p>5. If DHCP server did not receive DHCPDISCOVER and DHCPREQUEST, the LAN to which CB2500 is connected may have some problem. Check the LAN configuration.</p> <p>6. If you do not see any problem in the DHCP server or LAN, log in to CLI and run <code>export log failure</code> command to collect dump log. After downloading dump log, contact support personnel.</p>
	Note	You can download dump log to USB flash memory by using LCD touch console. You can also download dumplog using ftp/stfp after changing IPv4 address assign mode of management module to Static.

Improving failure handling by configuring management modules in a redundant configuration

In the initial configuration (the configuration at shipping time), the CB 2500 has two management modules installed. If management modules are configured in a redundant configuration, system unit operations can continue even if a failure occurs in one of the management modules.

If management modules are configured in a redundant configuration, only the management interfaces of the active management module are enabled and the ports of the standby management module are closed.

If a failure occurs in the active management module, the standby management module becomes the active management module to continue operations. The ports of the new active management module are opened, and the management interfaces are enabled. The IP addresses of the management interface of the new active management module are assigned as follows:

Address type	Address allocation
IPv4 address	The IP addresses of the previously active management modules are inherited. To connect to the management interfaces of management modules, you do not need to be aware of which management module is active.
IPv6 static address	

Address type	Address allocation
IPv6 stateless address	<p>IPv6 addresses are generated automatically based on the prefixes and interface IDs distributed by a router (MAC addresses), and are then assigned.</p> <p>The IPv6 addresses are different from those of the previously active management modules.</p>



Tip: The LAN cables need to be connected to both the active and standby management modules to continue operations even after the management modules are switched.

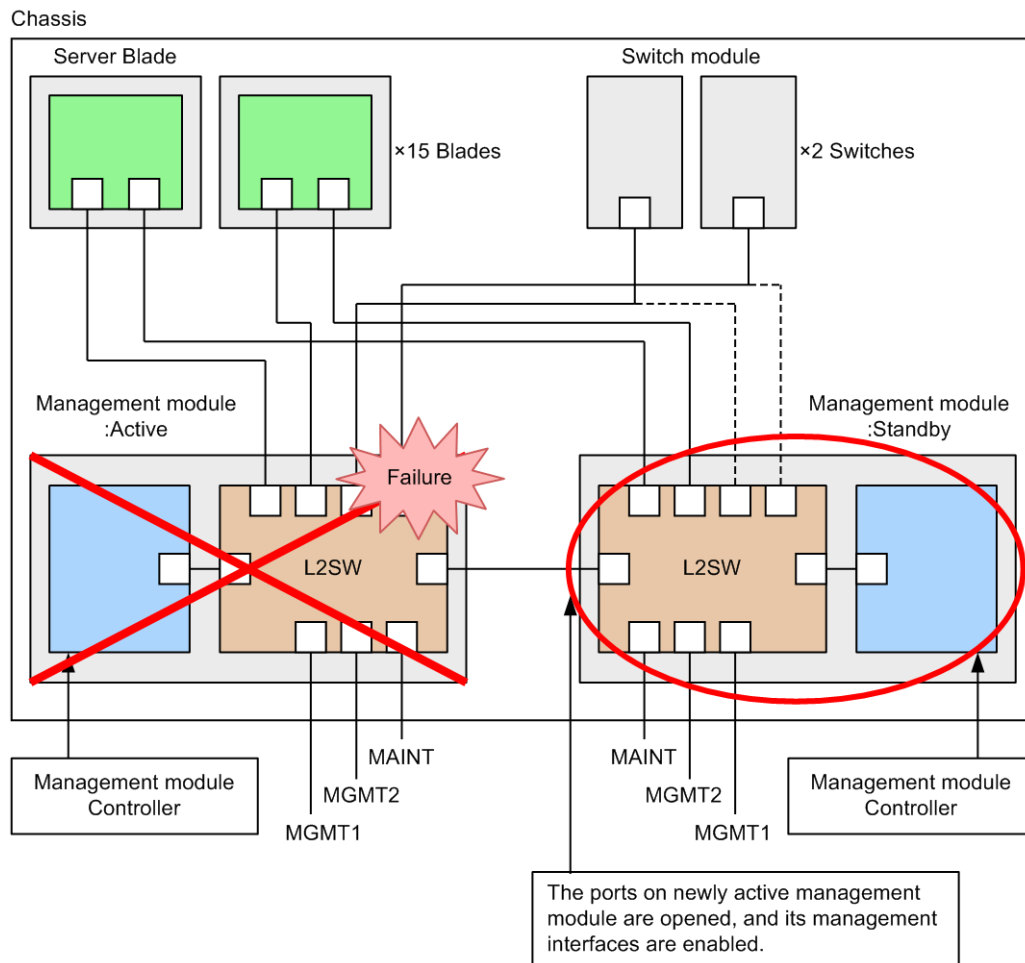


Figure 2-5 Example of management modules configured in a redundant configuration

Improving failure handling by configuring management networks in a redundant configuration

You can configure the management network in a redundant configuration if the management modules are in a redundant configuration. This functionality is called Link Fault Tolerance (LFT). The figure below shows an outline of LFT.

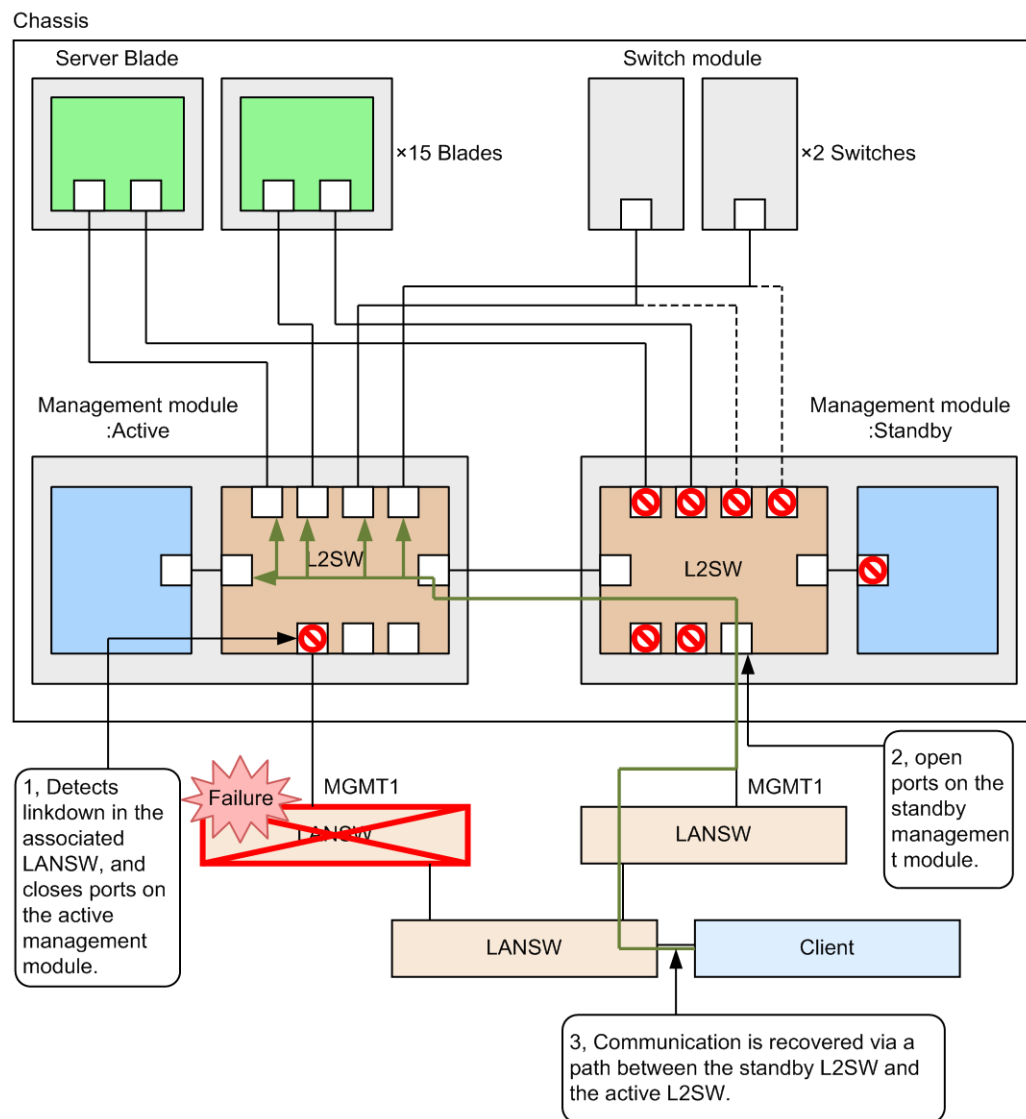


Figure 2-6 Link Fault Tolerance

MGMT1 is the port used for LFT. This port can be enabled or disabled. The factory default is enabled.

If a link-down state is detected on a port of the active management module continuously for three seconds while the LFT is enabled, the port is switched. After the port is switched, if a link-up state is detected on the port of the active management module continuously for 180 seconds, the port is recovered.

You can change the link-down detection time for switching and link-up detection time for recovery in the range from one to 3600 seconds.

You can configure the LFT functionality from the management module.

Table 2-31 Redundancy settings of the management network

Operation	Web console	CLI console	LCD touch console
Changing the monitoring time for the management network	Y	--	--

Related topics

- [Changing the monitoring time for the management network on page 2-58](#)

Changing the monitoring time for the management network

Use the Web console to change the monitoring time for the management network.

To configure the management network in a redundant configuration from the Web console:

1. In the **Resources** tab, from the tree view under **Systems**, select **Network**, and then **Link Fault Tolerance**.
2. Click the **Edit** button.
3. Change the settings of any necessary items.

Related topics

- [Improving failure handling by configuring management networks in a redundant configuration on page 2-56](#)

Operating identification lamps of each module

This section describes the identification lamps installed on the system unit.

Identification lamp

Identification lamps called identification LEDs (LID) are installed in the modules below. From the appearance of the system unit, you can identify the module on which operations are being performed based on the indicator statuses of the identification lamps.

- Management module
- Management LAN module
- Server blade
- I/O adapter
- Switch module

You can turn on or off identification lamps from the management module.

Table 2-32 Identification lamp operation

Operation	Web console	CLI console	LCD touch console
Operating the identification lamp of the management module	Y	Y	Y
Operating the identification lamp of a management LAN module	Y	Y	Y
Operating the identification lamp of a server blade	Y	Y	Y
Operating the identification lamp of an I/O adapter	Y	Y	--
Operating the identification lamp of a switch module	Y	Y	Y

Related topics

- [Operating the identification lamp of the management module on page 2-59](#)
- [Operating the identification lamp of a management LAN module on page 2-60](#)
- [Operating the identification lamp of a server blade on page 2-61](#)
- [Operating the identification lamp of an I/O adapter on page 2-61](#)
- [Operating the identification lamp of a switch module on page 2-62](#)

Operating the identification lamp of the management module

To operate the identification lamp of the management module, use the Web console, the CLI console, or the LCD touch console.

To operate the identification lamp of the management module from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select the target management module.
2. From the **Condition** tab, click the **LID ON** button or the **LID OFF** button.

To operate the identification lamp of the management module from the CLI console:

1. To check whether the identification lamp is currently lit, execute the `show mgmt-module status` command. To edit the settings, execute the `set mgmt-module led` command.

To operate the identification lamp of the management module from the LCD touch console:

1. From the **Maintenance** menu, touch the **Management Module (MM)** button.
2. In the Management module window, click the target management module.
3. From the pull-down menu, select **LID ON/OFF**, and then touch the **Operation** button.
4. The LID window appears.

Related topics

- [Identification lamp on page 2-58](#)
- [show mgmt-module status on page 5-120](#)
- [set mgmt-module led on page 5-97](#)

Operating the identification lamp of a management LAN module

To operate the identification lamp of a management LAN module, use the Web console, the CLI console, or the LCD touch console.

To operate the identification lamp of a management LAN module from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select the target management module.
2. From the **Management LAN Module** tab, click the **LID ON** button or the **LID OFF** button.

To operate the identification lamp of a management LAN module from the CLI console:

1. To check whether the identification lamp is currently lit, execute the `show mgmt-lan-module status` command. To edit the settings, execute the `set mgmt-lan-module led` command.

To operate the identification lamp of a management LAN module from the LCD touch console:

1. From the **Maintenance** menu, touch the **Management Module (MM)** button.
2. In the Management module window, click the target management module.
3. From the pull-down menu, select **Management LAN LID ON/OFF**, and then touch the **Operation** button.
4. The Management LAN LID ON/OFF window appears.

Related topics

- [Identification lamp on page 2-58](#)

- [show mgmt-lan-module status on page 5-130](#)
- [set mgmt-lan-module led on page 5-127](#)

Operating the identification lamp of a server blade

To operate the identification lamp of a server blade, use the Web console, the CLI console, or the LCD touch console.



Tip: In an SMP configuration, you can operate individual identification lamps of the server blades constituting the SMP configuration.

To operate the identification lamp of a server blade from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select the target server blade.
2. From the **Condition** tab, click the **LID ON** button or the **LID OFF** button.

To operate the identification lamp of a server blade from the CLI console:

1. To check whether the identification lamp is currently lit, execute the `show blade status` command. To edit the settings, execute the `set blade led` command.

To operate the identification lamp of a server blade from the LCD console:

1. From the **Maintenance** menu, touch the **Server Blade (SB)** button.
2. In the Server blade window, click the target server blade.
3. From the pull-down menu, select **LID ON/OFF**, and then touch the **Operation** button.
4. The LID window appears.

Related topics

- [Identification lamp on page 2-58](#)
- [show blade status on page 5-87](#)
- [set blade led on page 5-48](#)

Operating the identification lamp of an I/O adapter

To operate the identification lamp of an I/O adapter, use the Web console, the CLI console, or the LCD touch console.

To operate the identification lamp of an I/O adapter from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select the target server blade.

2. From the **I/O Board** tab, click the **LID ON** button or the **LID OFF** button.

To operate the identification lamp of an I/O adapter from the CLI console:

1. To check whether the identification lamp is currently lit, execute the `show iobd status` command. To edit the settings, execute the `set iobd led` command.

Related topics

- [Identification lamp on page 2-58](#)
- [show iobd status on page 5-135](#)
- [set iobd led on page 5-132](#)

Operating the identification lamp of a switch module

To operate the identification lamp of a switch module, use the Web console, the CLI console, or the LCD touch console.

To operate the identification lamp of a switch module from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select the target switch module.
2. From the **Condition** tab, click the **LID ON** button or the **LID OFF** button.

To operate the identification lamp of a switch module from the CLI console:

1. To check whether the identification lamp is currently lit, execute the `show sw-module status` command. To edit the settings, execute the `set sw-module led` command.

To operate the identification lamp of a switch module from the LCD touch console:

1. From the **Maintenance** menu, touch the **Switch module (SW)** button.
2. In the Server blade window, click the target switch module.
3. From the pull-down menu, select **LID ON/OFF**, and then touch the **Operation** button.
4. The LID window appears.

Related topics

- [Identification lamp on page 2-58](#)
- [show sw-module status on page 5-148](#)
- [set sw-module led on page 5-138](#)

Power supply operation for a server blade

This section explains how to control the power supplies of server blades.

Power supply operation for a server blade by using the management module

You can operate the power supply of a server blade by using the management module. For details about how to turn on and off and restart the power supply, see the *Hitachi Compute Blade 2500 Series Getting Started Guide*. This manual explains how to set the operation of the server blade to prepare for a trouble such as a power outage.

The following table describes the consoles used when you set the operation of a server blade from the management module.

Table 2-33 Power supply operation for a server blade

Operation	Web console	CLI console	LCD touch console
Setting the server blade operation performed when the power supply of the system unit is restored	Y	Y	--

Related topics

- [Setting the server blade operation performed when the power supply of the system unit is restored on page 2-63](#)

Setting the server blade operation performed when the power supply of the system unit is restored

From the Web console or the CLI console, set the server blade operation (power on/off, or recover the status before the failure occurred) performed when the system unit is turned on. You can automatically restore the power supply of the server blade when power is restored after a power outage.



Note:

- If the N+M cold standby functionality is enabled, make sure that you set the server blade restore operation by using the management module. If you configure a power supply restore operation from the UEFI setup menu, automatic server power-on might not work correctly.
- For a standby server blade in N+M cold standby, set the operation to [Power OFF]. If the standby server blade operation is set to [Power ON], N+M cold standby failover cannot be performed for the server blade.



Tip: If peripheral devices need to start before the server blade, you can set the waiting time from booting the server chassis to turning on the server blade to no more than 60 minutes.

To set the operation of a server blade from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select the target server blade.
2. In the **Settings** tab, click the **Edit Server Blade settings** button.
3. Set the time to wait until power is restored, and the operation to perform when power is restored.

To set the operation of a server blade from the CLI console:

1. Execute the `set blade ac-recovery` command.

Related topics

- [Power supply operation for a server blade by using the management module on page 2-63](#)
- [Preparation for running the server blades in a redundant configuration \(N+M cold standby\) on page 3-6](#)
- [set blade ac-recovery on page 5-41](#)

Efficient operation of server blades by SMP configurations

An SMP configuration is composed of multiple server blades. This section describes SMP configurations.

SMP configurations for server blades

CB 2500 server blades support 2-blade SMP configurations and 4-blade SMP configurations. In a 2-blade SMP configuration, two server blades are connected by a 2-blade SMP connection board. In a 4-blade SMP configuration, four server blades are connected by a 4-blade SMP connection board. A maximum of eight CPUs can be used in an inter-blade SMP configuration.

In a 2-blade SMP configuration or a 4-blade SMP configuration, the server blade installed in the slot with the smallest server blade slot number (the lower left slot of the front of the unit) is called the primary server blade. The numbers of the server blade slots in which the primary server blade of a 2-blade SMP configuration can be installed are 1, 3, 5, 9, 11, and 13. The numbers of the server blade slots in which the primary server blade of a 4-blade SMP configuration can be installed are 1 and 9.

You can use management modules to configure SMP configurations. You can separately specify an SMP configuration pattern for slot numbers 1 to 8 and for slot numbers 9 to 15.

Table 2-34 SMP configuration settings

Operation	Web console	CLI console	LCD touch console
Configuring SMP configurations for server blades.	Y	Y	--

Related topics

- [Configuring SMP configurations for server blades on page 2-65](#)

Configuring SMP configurations for server blades

To configure an SMP configuration for server blades, use the Web console or the CLI console. Before you change settings, connect the server blades that are to constitute an SMP configuration to an SMP connection board.



Note:

- If you cannot configure an SMP configuration for server blades due to a problem such as a server blade or an SMP connect board not being installed, a message indicating the problem appears.
- You cannot include different models of server blades or different types of processors together in an SMP configuration.

To configure an SMP configuration for server blades from the Web console:

1. In the **Resources** tab, from the tree view under **Systems**, click **SMP Management**.
2. Click the **SMP configuration settings** button.
The **SMP configuration settings** dialog box appears.
3. Select the configuration to be configured and then click the **Confirm** button.

To configure an SMP configuration for server blades from the CLI console:

1. Execute the `show blade smp construction` command to check the current SMP configuration settings. To change SMP configuration settings, execute the `set blade smp construction` command.

Related topics

- [SMP configurations for server blades on page 2-64](#)
- [show blade smp construction on page 5-86](#)
- [set blade smp construction on page 5-57](#)

Operating server blades by using the remote console

This section explains how to operate server blades by using the remote console.

Remote console

The remote console is a tool for remotely controlling the VGA display, keyboard, mouse, CD/DVD, or FD as the graphical console of each server blade. You can start a remote console from the Web console or a Web browser of the system console.

You can manage remote console sessions from a management module console.

For an overview and details about how to set up the remote console, see the *Hitachi Compute Blade 2500 Series Getting Started Guide*.

Table 2-35 Remote console operations

Operation	Web console	CLI console	LCD touch console
Starting the remote console	Y	--	--
Checking remote console session information	--	Y	--
Disconnecting remote console sessions	--	Y	--

Related topics

- [Starting the remote console on page 2-66](#)
- [Checking remote console session information on page 2-67](#)
- [Disconnecting remote console sessions on page 2-67](#)

Starting the remote console

You can start the remote console in one of two ways: from the Web console of the server blade and from the Web console of a management module. When you use the CB2500 Web Console Client, start the remote console using Web console of the server blade. If you want to change only the server blade settings, we recommend that you operate from the Web console of the server blade. For details, see the *Hitachi Compute Blade 2500 Series Getting Started Guide*.

This manual explains how to start the remote console from the Web console of a management module.



Note: To start the remote console in the environment where multiple IP addresses are assigned to BMC, start the remote console by using a system console that can connect to any BMC IP addresses.

To start the remote console from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select the target server blade.



Tip: In an SMP configuration, select the primary server blade.

2. From the **Server blade Action** menu in the **Condition** tab, click **Start Remote Console**.

The remote console window appears. If the server blade is powered on, a VGA window of the server blade appears. If the server blade is powered off and video is not output, No Signal is displayed.



Tip: When you start a remote console, a warning message might appear depending on the Java VM version. Click **Yes** or **Run**.

When you use the CB2500 Web Console Client and click **Start Remote Console**, the login window of server blade Web console is displayed.

Related topics

- [Remote console on page 2-66](#)

Checking remote console session information

Use the CLI console to check remote console session information.

To check remote console sessions from the CLI console:

1. Execute the `show blade bmc session` command.

Related topics

- [Remote console on page 2-66](#)
- [show blade bmc session on page 5-61](#)

Disconnecting remote console sessions

To disconnect remote console sessions, use the CLI console.

To disconnect remote console sessions from the CLI console:

1. Execute the `disconnect blade bmc session` command.

Related topics

- [Remote console on page 2-66](#)
- [disconnect blade bmc session on page 5-33](#)

Operating server blades by using the OS console

This section explains how to operate server blades by using the OS console.

OS console

The OS console provides functionality to transfer serial port input and output of the server blade to the system console via a LAN, and to remotely control a serial console.



Tip: The OS console cannot be used for the following operations. For these operations, use the remote console.

- Operation before booting the OS
- OS installation

Table 2-36 OS console operations

Operation	Web console	CLI console	LCD touch console
Starting the OS console	--	Y	--

Related topics

- [Checking OS serial port settings on page 2-68](#)
- [Starting the OS console on page 2-70](#)
- [Notes on using the OS console on page 2-70](#)

Checking OS serial port settings

The OS console uses the COM2 port of the server blade. The setting method is different for each type of server blade OS.

For Windows:

Confirm that the COM2 port settings of the OS are the following.

Table 2-37 COM2 port settings

Item	Settings
Port	COM2
Baud rate	115200
Data	8 bits
Parity	None
Stop	1 bit
Flow control	None
Recommended terminal type	VT100



Tip: The OS console cannot be used as Windows Special Administration Console (SAC).

For Linux:

Set the following OS parameters.

Table 2-38 Example of Red Hat Enterprise Linux 6 parameters

Item	Settings
grub.conf setting For Legacy BIOS boot mode: /boot/grub/grub.conf For EFI boot mode: /boot/efi/EFI/redhat/ grub.conf	Add <code>console=tty0 console=ttyS1,115200</code> at the end of each kernel line.
Create /etc/init/ttyS1.conf	The content of <code>ttyS1.conf</code> is shown below. <pre>#ttyS1 -agetty stop on runlevel [S016] start on runlevel [23] respawn exec agetty -h -L -w /dev/ttyS1 115200 vt100-nav</pre>
/etc/securetty setting	Add <code>ttyS1</code> .

Table 2-39 Example of Red Hat Enterprise Linux 7 parameters

Item	Settings
grub.cfg setting	<ol style="list-style-type: none"> Modify <code>/etc/default/grub</code> as follows. Setting before modification: <pre>GRUB_TERMINAL_OUTPUT="console" GRUB_CMDLINE_LINUX="rd.lvm.lv=rhel/swap crashkernel=auto rd.lvm.lv=rhel/root"</pre> Setting after modification: <pre>GRUB_TERMINAL_OUTPUT="serial console" GRUB_CMDLINE_LINUX="rd.lvm.lv=rhel/swap crashkernel=auto rd.lvm.lv=rhel/root console=tty0 console=ttyS1,115200"</pre> Do <code>grub2-mkconfig</code> command to update <code>gurb.cfg</code> after modifying <code>/etc/default/grub</code> file. For Legacy BIOS boot mode: <pre>#grub2-mkconfig -o /boot/grub2/grub.cfg</pre> For EFI boot mode: <pre>#grub2-mkconfig -o /boot/efi/EFI/redhat/grub.cfg</pre>
/etc/securetty setting	Add <code>ttyS1</code> .

**Note:**

- In Red Hat Enterprise Linux 7, do not modify `grub.cfg` by yourself.
-

Related topics

- [OS console on page 2-68](#)

Starting the OS console

Use the CLI console to start the OS console.

To start the OS console from the CLI console:

1. Execute the `change console -b` command.
-

**Tip:**

- If another terminal is using the OS console, you cannot start the OS console.
 - If you are disconnected from a network while using the OS console, the OS console session might remain for a while. This state can be released by disconnecting the remote console session.
-

Related topics

- [OS console on page 2-68](#)
- [change console on page 5-281](#)

Notes on using the OS console

This section provides notes on using the OS console.

OS console operations

- Input operation
Keyboard entry is assumed, and fast data input such as file transfer is not supported. Use the keyboard for input operation.
- Recovering a session when it becomes disconnected
Depending on your environment, the window display might become significantly slower, or the terminal software session might become disconnected. In such a case, reconnect to the OS console. Note that applications that output a lot of characters might have lower performance because of their output processing. For these applications, evaluate their purposes in advance, and suppress display of the output if necessary.
- Characters missed when transferred
If you cut and paste characters into the OS console, some characters might be left out.

If the system console displays garbled characters:

Character codes or display colors might be handled differently by the system console and server blades. The following describes causes of garbled characters in the system console and actions to be taken.

Cause	Recovery procedure
The communication condition is incorrectly set.	Check the software settings on the system console side.
An inappropriate character set is selected in the software on the system console side.	In the software on the system console side, select an appropriate character set.
Inappropriate character codes are sent from the software (such as Windows and Linux) of the sending side.	See the documentation for the software on the sending side, and then take action.

Linux System Request key functionality

To use the System Request key functionality in the OS console, send the following sequence.

Item	Operation
For Telnet connection	Send a Telnet IAC (interpreted as command) break sequence, or send <code>Ctrl + \</code> . How a break signal is sent from terminal software varies depending on the software. For details, see the documentation for your terminal software.
For an SSH connection	Send <code>Ctrl + \</code> .

Related topics

- [OS console on page 2-68](#)
- [Checking OS serial port settings on page 2-68](#)

Setting server blades, switch modules, and Hitachi fibre channel adapter

This section explains how to specify the settings of modules such as server blades and switch modules by using a management module.

Modules that can be operated from a management module

The settings of modules such as server blades and switch modules that are installed in the CB 2500 can be directly specified from the management module, or can be specified after using links to jump to the console of each module. Performing operations on the management module console provides

unified management of the CB 2500 modules without connecting to other consoles.

You can specify the settings of the following types of modules from a management module console.

Table 2-40 Module settings that can be specified from a management module

Operation	Web console	CLI console	LCD touch console
Setting the BMC of a server blade	Y	--	--
Setting the UEFI of a server blade	Y	--	--
Setting a switch module	--	Y	--
Setting a Hitachi fibre channel adapter ¹	Y	Y	--
Setting LPAR manager ²	Y	Y	--
Notes: 1. For details about the Hitachi fibre channel adapter settings in LP mode, see the "Setting up the HBA boot driver" section in the <i>Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide</i> . 2. For details about the LPAR manager settings, see the <i>Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide</i> .			

Related topics

- [Setting the BMC of a server blade on page 2-72](#)
- [Setting the UEFI for a server blade on page 2-89](#)
- [Setting a switch module on page 2-90](#)
- [Setting a Hitachi fibre channel adapter on page 2-90](#)

Setting the BMC of a server blade

To change the BMC settings of a server blade, use the Web console.

To set the BMC from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select the target server blade.
2. In the **BMC** tab, click the **Edit** button to select the item to be edited.
3. Specify the necessary items, and perform the processing.
The specified items are immediately applied.



Note: If you specify an asset management tag of a server blade, the tag information is applied to the following items:

- The **Product name** field displayed in the **Hardware** tab of the server blade
- The server name displayed in HCSM

Related topics

- [BMC setting items for a server blade on page 2-73](#)

BMC setting items for a server blade

This section describes items that can be set for the BMC.

BMC time items

Table 2-41 BMC time items

Item		Description
Time adjustment method		Uses NTP to regularly adjust the time with management modules. For the CB 520H B3/B4, time can be synchronized manually or by using the IPMI command.
Time zone		Enter the BMC time zone between -12:00 and +14:00.
Daylight saving time	Use	Select either [Enable] or [Disable] for daylight saving time of the BMC.
	Start date	Enter the date in the <i>MM-DD</i> format (M and D indicate a number between 0 and 9). You can specify 00-00 or a valid date
	Start condition	Select one from the following: <ul style="list-style-type: none">• Start date• The first Start day of the week after Start date• The last Start day of the week before Start date• The last Start day of the week
	Start day of the week	Select No set, Sun, Mon, Tue, Wed, Thu, Fri, or Sat.
	Start time	Enter the time in the <i>HH:MM</i> format (H and M indicate a number between 0 and 9). You can specify the time in the range from 00:00 to 23:59.
	End date	The setting format is the same as the start date.
	End condition	Select one from the following: <ul style="list-style-type: none">• End date• The first End day of the week after End date• The last End day of the week before End date

Item		Description
		<ul style="list-style-type: none"> The last End day of the week
	End day of the week	The setting format is the same as the start day of the week.
	End time	The setting format is the same as the start time.

Network

Table 2-42 Network

Item		Description
Restriction on the connection source IPv4 address	Use	<p>Select [Enable] or [Disable].</p> <p>If you select [Enable], only connections from the IPv4 addresses that are set for allowed IPv4 addresses 1 to 4 are permitted.</p> <p>If you select [Disable], connections from all IP addresses are allowed.</p> <p>However, even if you select [Disable], if incorrect values are entered to allowed IPv4 addresses 1 to 4, this setting fails.</p>
	Allowed IPv4 address 1	<p>Enter an IPv4 address to be permitted to connect to the BMC in the xxx.xxx.xxx.xxx format or the CIDR format (xxx.xxx.xxx.xxx/yy). To permit connection only to the specified IPv4 address, enter the address in the xxx.xxx.xxx.xxx format. To collectively permit connection by using the high-order bits of an IPv4 address, enter the address in the CIDR format. All IPv4 addresses that have the common numeric values for the number of bits specified by yy from the beginning of the IPv4 address in xxx.xxx.xxx.xxx will be permitted connection (xxx indicates a number between 0 and 255). For yy, specify a number between 8 and 30 as the network address prefix length.</p> <p>Example: If 192.168.0.1/16 is specified, all IPv4 addresses that are in the 192.168.xxx.xxx format will be permitted connection.</p> <p>This setting restricts connection for the following functionality:</p> <ul style="list-style-type: none"> Server blade Web console Remote console IPMI over LAN
	Allowed IP address 2	
	Allowed IP address 3	
	Allowed IP address 4	
Restriction on the connection source IPv6 address	Use	<p>Select [Enable] or [Disable].</p> <p>If you select [Enable], only connections from the IP addresses that are set for allowed IPv6 addresses 1 to 4 are permitted.</p> <p>If you select [Disable], connections from all IP addresses are permitted.</p>

Item		Description
		However, even if you select [Disable], if incorrect values are entered to allowed IPv6 addresses 1 to 4, the setting fails.
	Allowed IPv6 address 1	<p>Enter an IPv6 address to be permitted to connect to the BMC in hexadecimal notation separated by colons (:) every 16 bits (xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx) or in hexadecimal notation with prefix (xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx/yyy). If there are consecutive blocks of 0s, you can specify two colons (::) instead of 0s. However, only one such replacement is allowed.</p> <p>Example: FEDC:0:0:3210:0:0:7654:3210 to FEDC::3210:0:0:7654:3210</p> <p>To collectively permit connection by using the high-order bits of IPv6 addresses, enter the address in the hexadecimal notation with prefix. All IPv6 addresses that have the common numeric values for the number of bits specified by yyy from the beginning of the IPv6 address will be permitted connection. For yyy, specify a value from 1 to 128 as prefix length.</p> <p>Example: If you specify FEDC:BA98:7654:3210:FEDC:BA98:7654:3210/64 or FEDC:BA98:7654:3210::/64, all IPv6 addresses in the range of <i>FEDC:BA98:7654:3210:xxxx:xxxx:xxxx:xxxx</i> are permitted.</p> <p>This setting restricts connection for the following functionality:</p> <ul style="list-style-type: none"> • Server blade Web console • Remote console • IPMI over LAN
	Allowed IPv6 address 2	
	Allowed IPv6 address 3	
	Allowed IPv6 address 4	

BMC user account items

Table 2-43 BMC user account items

Item		Description
Password aging	Use	Select [Disable] or [Enable].
	Password expiry period(day)	If you select [Disable] for Use, 0 is set. If you select [Enable] for Use, enter a value in the range from 1 to 365 for this item.
User account 1	Use	Select [Disable] or [Enable]. User account 1 cannot be set to [Disable].
	User name	You can enter a character string of 1 to 16 characters. The string can contain alphanumeric characters and the following symbols: . _ \$ - = + * % ? @ / ' ! ~ ; ^ () [] { } , `

Item		Description
		The symbols <, >, &, #, ", \, and spaces cannot be used. The first character must be an alphanumeric character.
	Password	You can enter a character string of 1 to 20 characters. The string can contain alphanumeric characters and symbols (excluding the following invalid symbols). The symbols <, >, &, #, ", and spaces cannot be used.
	Password (Confirm)	Enter the same character string as [Password].
	Password expiration date	Displays the number of days left until the password expiration date, regardless of whether the password aging functionality is disabled or enabled. When the number of days left is 0, you need to set the password again if the password aging functionality is enabled.
User account 2	Same as user account 1.	Same as user account 1. However, for user accounts 2 through 4, you can specify [Disable] for [Use].
User account 3		
User account 4		



Note: For CB 520X B1 and CB 520H B3, the password aging functionality of the BMC user account settings is supported for the following versions:

Server blade firmware

- For CB 520X B1, server blade firmware 07-18 or later.
- For CB 520H B3, server blade firmware 08-19 or later.

IPMI/SMASH user accounts

Table 2-44 IPMI/SMASH user accounts

Item		Description
Password aging	Use	Select [Disable] or [Enable].
	Password expiry period(day)	If you select [Disable] for Use, 0 is set. If you select [Enable] for Use, enter a value in the range from 1 to 365 for this item.
User account 2	Use	Select [Disable] or [Enable].
	User name	You can enter a character string of 1 to 16 characters. The string can contain alphanumeric characters and the following symbols: . _ \$ - = + * % ? @ / ' ! ~ ; ^ () [] { } , `

Item		Description
		The symbols <, >, &, #, ", \, and spaces cannot be used. The first character must be an alphanumeric character.
	Password	You can enter a character string of 1 to 20 characters. The string can contain alphanumeric characters and symbols (excluding the following invalid symbols). The symbols <, >, &, #, ", and spaces cannot be used.
	Password (Confirm)	Enter the same character string as [Password].
	Privilege	You can select from the following privilege levels: <ul style="list-style-type: none"> Administrator (initial setting) Operator User Callback NO ACCESS
	Password expiration date	Displays the number of days left until the password expiration date, regardless of whether the password aging functionality is disabled or enabled. When the number of days left is 0, you need to set the password again if the password aging functionality is enabled.
User account 3	Same as user account 2.	Same as user account 2.
User account 4		
User account 5		
User account 6		
User account 7		
User account 8		
User account 9		



Note: For details, see Hitachi Compute Blade Series SMASH and IPMI User's Guide.



Note: For CB 520X B1 and CB 520H B3, the password aging functionality of the IPMI/SMASH user account settings is supported for the following versions:

Server blade firmware

- For CB 520X B1, server blade firmware 07-18 or later.
- For CB 520H B3, server blade firmware 08-19 or later.

Server blade Web console

Table 2-45 Server blade Web console

Item		Description
Use		Select [Disable] or [Enable]. The server blade Web console only supports HTTPS connections. If you set [Disable], the BMC will discard HTTPS connections. In addition, you will not be able to start the remote console.
Enable login		Select Disable or Enable. The default value is Enable. With this item disabled, https connection is available but login is not.
HTTPS port number		Port number of the server blade Web console. Shows 443. The port number cannot be changed.
TLS version	TLS v1.0 TLS v1.1 TLS v1.2	Select [Disable] or [Enable]. If you select [Disable], the TLS version cannot be used to connect to the server blade Web console. If you set the security strength to [High], only TLS 1.2 will be enabled and other versions will be fixed to [Disable].

Remote console

Table 2-46 Remote console

Item		Description
Use		Select [Disable] or [Enable]. If you set [Disable], the BMC will discard connection requests from KVM/vMedia clients.
Port number		Enter the port number for receiving connection requests from KVM/vMedia clients. Specify a port number in the range from 1024 to 65535.
TLS version	TLS v1.0 TLS v1.1 TLS v1.2	Select [Disable] or [Enable]. If you select [Disable], the TLS version cannot be used to connect to the remote console. If you set the security strength to [High], only TLS 1.2 will be enabled and other versions will be fixed to [Disable].



Note: The following numbers cannot be used as a remote console port number.
5985, 5986, 5988, and 5989

To use a remote console, set the port number to a value other than those listed above.

IPMI over LAN

Table 2-47 IPMI over LAN

Item	Description
Use	Select [Disable] or [Enable]. If you select [Disable], BMC will discard RMCP/RMCP+ packets.
Port number	Shows 623. The port number cannot be changed.

SMASH (WS-Management)

Table 2-48 SMASH (WS-Management)

Item	Setting values
Use	Select [Disable] or [Enable]. If you select [Disable], the BMC discards connection requests from WS-Management clients. If you set the security strength to [High], this item is fixed to [Disable].
Port number	Enter the port number for receiving connection requests from WS-Management clients. Specify 5986 or a port number in the range from 1024 to 65535.
TLS versions (TLS v1.0, TLS v1.1, and TLS v1.2)	Select [Enable] or [Disable]. If you select [Disable], the TLS version cannot be used to connect from WS-Management clients. If the security strength is set to [High], only TLS1.2 is enabled. Others will be fixed to [Disable].

SMASH (CLP)

Table 2-49 SMASH (CLP)

Item	Setting values
Use	Select [Disable] or [Enable]. If you select [Disable], the BMC discards connection requests from SSH clients.
Port number	Enter the port number for receiving connection requests from SSH clients. Specify 22 or a port number in the range from 1024 to 65535.

login banner

Table 2-50 login banner

Item	Setting values
Use	Select [Disable] or [Enable]. If you select [Enable], a login banner is displayed on the login window of the server blade Web console and the SMASH (CLP) login window.
Message	You can enter a maximum 100 lines or 1600 characters for the message displayed in the login banner. Displayable ASCII characters are available.

Asset Information items

Table 2-51 Asset Information items

Item	Setting values
Asset Tag	Sets an asset tag for a server blade. You can enter no more than 63 alphanumeric characters and symbols.



Note: For CB 520H B3, Asset Information settings are not supported for the following server blades and firmware:

Server blade firmware

- For CB 520H B3, server blade firmware 08-36 or earlier.

DNS

Table 2-52 DNS

Item		Setting values
Priority		Select IPv4 or IPv6. If you select IPv4, IPv4 DNS servers are used first. If you select IPv6, IPv6 DNS servers are used first.
DNS (IPv4)	DNS server 1	Enter the IPv4 address of a DNS server in the format of xxx.xxx.xxx.xxx. If no DNS server is used, do not enter any values.
	DNS server 2	
	DNS server 3	
DNS (IPv6)	DNS server 1	Enter the IPv6 address of a DNS server in hexadecimal notation separated by colons (:) every 16 bits (xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx). If there are consecutive blocks of 0s, you can specify two colons (::) instead of 0s. However, only one such replacement is allowed. Example: FEDC:0:0:3210:0:0:7654:3210 to FEDC::3210:0:0:7654:3210
	DNS server 2	
	DNS server 3	

Item	Setting values
	If no DNS server is used, do not enter any values.

Syslog transmission

Table 2-53 Syslog transmission

Item	Setting values
Use	Select [Disable] or [Enable]. If you select [Enable], the syslog for BMC is transferred to an external syslog server.
Syslog destination server	Enter the IPv4 address for the syslog destination server in the format of xxx.xxx.xxx.xxx or in FQDN (a maximum of 127 characters).
Audit event notice	Select Notify or Not notify.
Port number	Specify the port number to be used to connect to the target Syslog server. Specify 514 or a number between 1 and 65535 for the port number.
Transfer protocol	Select UDP or TCP or TLS.
TLS version	If TLS is selected as the transfer protocol, specify the TLS version.
Format	Select the operation or audit log format for the system logs to transfer. For details on the formats, see Syslog format in Log format on page 3-83 .

LDAP

Table 2-54 LDAP

Item	Setting values
LDAP server settings	Use
	Select [Disable] or [Enable]. If you select [Enable], LDAP is used in SMASH authentication. If you enable this item, you cannot use the RADIUS functionality.
	User authentication method
	Select an authentication method. <ul style="list-style-type: none"> Only LDAP authentication Use LDAP authentication if local authentication fails. If you select [Only LDAP authentication], you cannot login LDAP supported BMC services using local accounts.
	LDAP server 1
	LDAP server 2
	Enter the IPv4 address for an LDAP server in the format of XXX.XXX.XXX.XXX or in FQDN (a maximum of 127 characters).

Item		Setting values
Connection settings	LDAP server 3	
	Port number	Specify the number of the port that is used for connecting to LDAP servers. Specify 398 or a value in the range from 1024 to 65535 for the port number.
	TLS version	Specify a TLS version that is used for connecting to the LDAP servers.
	Anonymous binding	Select [Disable] or [Enable]. If you select [Disable], the specified bind DN and bind password is used to bind LDAP servers.
	Bind DN	Specify a DN used for binding. You can use a maximum of 254 ASCII characters. However, you cannot use a space character for the first or last character. This item is used when anonymous binding is disabled.
Directory search settings	Bind password	Specify a password used for binding. You can use a maximum of 32 ASCII characters. This item is used when anonymous binding is disabled.
	Bind password (for confirmation)	Enter the same characters as those entered in the Bind password field.
	Base DN	Specify the DN which is the starting point of directory searching.
	Login ID attribute	Specify the user entry attribute that is used as the login ID. If you do not specify this item, sAMAccountName is used.
	Role attribute	Specify the user entry attribute that is used to obtain the role for the user. If you do not specify this item, the user is assumed to have no role. For details on how to set roles, see the descriptions about registration of user accounts.
Group authentication settings	Search timeout period (in seconds)	Specify a period (in seconds) from when the specified LDAP server does not return any responses while searching the user entry to when a timeout occurs. Specify 10 seconds or a value in the range from 1 to 20 seconds.
	Referral number	LDAP has the referral functionality, which returns a referral instructing an LDAP client to query another LDAP server when the specified LDAP server cannot find the user entry information. As the number of referrals, specify the number of LDAP servers to be queried as 10 or a value in the range from 0 to 10. If you specify 0, the referral functionality is disabled.
Group authentication settings	Authentication method	Select a group authentication method. <ul style="list-style-type: none"> [Disable group authentication]: Does not perform authentication based on the groups that are set in the LDAP server.

Item		Setting values
		<ul style="list-style-type: none"> [Static Groups]: Performs authentication based on the groups specified for group DNs 1 to 5 and the roles specified for group DNs 1 to 5. [Dynamic Groups]: Performs authentication based on the groups that were temporarily created from the search DN and search filter which were entered by the user.
	Group DN 1	Specify the DN for the group entry. This item is used when the group type is "static group". If the user is not a member of the groups specified for group DNs 1 to 5, user authentication fails and the user cannot log in to the BMC service.
	Role of group DN 1	Specify the role for the group entry. This item is used when the group type is "static group". If the user is not a member of any groups specified for group DNs 1 to 5, the group role specified in this item is not assigned to the user. You can select one of the following 5 group roles: <ul style="list-style-type: none"> [None]: No group role is assigned. [Use the role of user entry]: Instead of the group role, the user entry role specified in [Role attribute] of [Directory search setting] is used. [Administrator]: The group members can use each service of the server blade BMC. [SMASH]: The group members can use the SMASH-CLP and WS-Management for the server blade BMC. [Remote Console]: The group members can use Remote Console and Web console for the server blade BMC.
	Group DN 2	Same as group DN 1. Same as the role of group DN 1.
	Role of group DN 2	
	Group DN 3	
	Role of group DN 3	
	Group DN 4	
	Role of group DN 4	
	Group DN 5	
	Role of group DN 5	
	Search DN	Specify the DN which is a starting point of directory searching when a dynamic group is created.
	Search filter	Specify an attribute and an attribute value. Temporarily forms a dynamic group by grouping the user entries located under the search DN that satisfies the attribute and attribute value that are specified for this item.

Item		Setting values
	Dynamic group role	<p>Specify the role for the group entry. This item is used when the group type is "dynamic group". If the user is not a member of the dynamic group, the group role specified for this item is not assigned to the user. You can select one of the following four group roles:</p> <ul style="list-style-type: none"> • [None]: No group role is assigned. • [Use the user entry role]: Instead of the group role, the user entry role specified in [Role attribute] of [Directory search setting] is used. • [Administrator]: The group members can use each service of the server blade BMC. • [SMASH]: The group members can use the SMASH-CLP and WS-Management for the server blade BMC. • [Remote Console]: The group members can use Remote Console and Web console for the server blade BMC.



Note: Setting for Remote Console role option for Group DN role 1 to 5 and Dynamic group Role in LDAP items are not supported by the following versions.

Server blade firmware

- For CB 520H B3, server blade firmware 08-58 or earlier.
- For CB 520H B4, server blade firmware 10-04 or earlier.
- For CB 520X B1, All of the server blade firmware version.
- For CB 520X B2, server blade firmware 09-36 or earlier.
- For CB 520X B3, server blade firmware 11-02 or earlier.

RADIUS

Table 2-55 RADIUS

Item		Setting values
RADIUS server settings	Use	<p>Select [Disable] or [Enable].</p> <p>If you enable this item, RADIUS is used for SMASH authentications.</p> <p>If you enable this item, you cannot use the LDAP functionality.</p>
	User authentication method	<p>Select a user authentication method.</p> <ul style="list-style-type: none"> • RADIUS authentication only • If Local authentication fails, try RADIUS authentication
RADIUS server1 settings	Server name	<p>Enter the IPv4 address for a RADIUS server in the format of XXX.XXX.XXX.XXX or in FQDN (maximum of 127 characters).</p>

Item		Setting values
	Authentication method	Select an authentication method. <ul style="list-style-type: none"> PAP CHAP MS-CHAPv2
	Port number (Authentication)	Enter the destination port number for authentication of the RADIUS server. Specify 1812 or a value in the range from 1 to 65535 for the port number.
	Shared Secret	Enter a key character string shared between BMC and the RADIUS server. You can enter a character string of 32 to 64 characters. The string can contain alphanumeric characters and the following symbols: . _ \$ - = + * % ? : @ / \ ' ! ~ ; ^ () [] { } , ` . The symbols < , > , & , # , " , and spaces cannot be used.
	Retransmit retry	Enter the number of times to reconnect to the RADIUS server if the RADIUS server does not respond. Specify 3 time or a value in the range from 1 to 10 times.
	Timeout period(sec)	Enter the period (in seconds) from when the RADIUS server does not respond to when a timeout occurs. Specify 10 seconds or a value in the range from 1 to 60 seconds.
RADIUS server2 settings	Same as the RADIUS server1 settings.	Same as the RADIUS server1 settings.
RADIUS server3 settings		



Note: For CB 520X B1 and CB 520H B3, the RADIUS functionality is supported for the following versions:

Server blade firmware

- For CB 520X B1, server blade firmware 07-18 or later.
- For CB 520H B3, server blade firmware 08-19 or later.

BMC Hostname

Table 2-56 BMC Hostname

Item	Setting values
Hostname	For a host name, you can specify alphanumeric characters and hyphens (-). The specifiable length is 1 through 63 characters. Note that you can specify only alphanumeric characters for the first and the last character of a host name. The default value for the host name is the product number of the server blade.

Item	Setting values
	Depending on when the server blade was shipped, the default value for the host name might be DCMI<MAC-address>. If a server blade is changed during maintenance, the host name might become either DCMI<MAC-address> or the product number of the server blade that was used for maintenance. In either of these cases, the default value for the host name will not be a duplicate of another.
Domain name	For a domain name, you can specify alphanumeric characters, periods (.), and hyphens (-). The specifiable length is 1 through 63 characters. You can leave out the domain name. Note that you can specify only alphanumeric characters for the first and the last character of a domain name. Note also that periods (.) cannot be specified in succession.



Note: The BMC Hostname functionality is not supported for the following server blades and firmware versions:

Server blade firmware

- For CB 520X B1.
- For CB 520X B2, server blade firmware 09-27 or earlier.
- For CB 520H B3, server blade firmware 08-46 or earlier.
- For CB 520H B4, server blade firmware 10-04 or earlier.

Error recovery

Table 2-57 Error recovery

Item	Setting values
Power consumption problem	From the following, select the operation that BMC will perform if a Power consumption error occurs. Note that, if DCMI mode is enabled, Restart ME will not work. <ul style="list-style-type: none"> • Run at minimum CPU frequency (default) • Restart ME
CPU frequency problem CPU 周波数異常	From the following, select the operation that BMC will perform if a CPU frequency error occurs. Note that, if DCMI mode is enabled, none of the following operations will work. <ul style="list-style-type: none"> • Restart ME (default) ME リスタート (初期値) • N+M cold standby N+M コールドスタンバイ • Issue NMI NMI 発行 • Force Power OFF 強制電源 OFF • Do nothing

Item	Setting values
	何もしない



Note: The Power consumption problem setting in the Error recovery settings is not supported for the following server blades and firmware versions:

Server blade firmware

- For CB 520X B1.
- For CB 520X B2.
- For CB 520X B3.
- For CB 520H B3, server blade firmware 08-90 or earlier.
- For CB 520H B4, server blade firmware 10-20 or earlier.



Note: The CPU frequency problem setting in the Error recovery settings is not supported for the following server blades and firmware versions:

Server blade firmware

- For CB 520X B1.
- For CB 520X B2.
- For CB 520X B3.
- For CB 520H B3, server blade firmware 08-84 or earlier.
- For CB 520H B4, server blade firmware 10-16 or earlier.

Certificate settings

Table 2-58 Certificate settings - Current certificate information

Item		Setting values
Version		Displays the certificate version. This is a value from 1 to 3.
Serial number		Displays the serial number of the key.
Public key algorithm and key length		Displays the algorithm used by the SSL public key and key length. The available algorithm is RSA and the key length is 2048 bits.
Date and time when the certificate was issued		Displays the date and time when the certificate was issued
Expiration date of the certificate		Displays the expiration date of the certificate.
Issuer	Common name (CN)	Certificate authority (issuer)
Subject	Country (C)	Shows two letters for a country.
	State or province (ST)	Shows the name of a state or province. This item can be no more than 30 characters long, and can contain alphanumeric characters,

Item		Setting values
		spaces, and the following symbols: ' () + , - . / : = ?
	Locality (L)	Shows the name of a city or region. This item can be no more than 50 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
	Organization (O)	Shows the name of an organization (company). This item can be no more than 60 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
	Organizational unit (OU)	Shows the name of an organizational unit. This item can be no more than 60 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
	Common name (CN)	This item must be entered. Displays a common name (a domain name used when the management module is connected). This item can be no more than 60 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - .
	Email address	Shows an email address. Displayable ASCII characters are available.
	DN qualifier	Shows a DN qualifier. This item can be no more than 60 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
	Surname	Shows a surname. This item can be no more than 60 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
	Given name	Shows a given name. This item can be no more than 60 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
	Initials	Shows initials. This item can be no more than 20 characters long, and can contain alphanumeric characters, spaces, and the following symbols: ' () + , - . / : = ?
SHA1 fingerprint		Displays the fingerprint for the certificate.

Item	Setting values
	The fingerprint is a 20-byte hash value that is generated by the SHA-1 algorithm.

SSH host key

Table 2-59 SSH host key

Item	Setting values
SSH host key	Key length
	Fingerprint

Related topics

- [Setting the BMC of a server blade on page 2-72](#)
- [Strengthening security by using digital certificates on page 2-26](#)
- [Registering a user account for logging into the management module and server blades on page 3-50](#)

Setting the UEFI for a server blade

Use the Web console to change the UEFI settings for a server blade.



Note:

- Specify settings from the UEFI setup menu because some items cannot be set from a management module. For details about the settings for the UEFI, see the *Hitachi Compute Blade 2500 Series UEFI Setup Guide*.
- Change the UEFI settings while the server blade is powered off or after the OS booting is completed.
If you change the server blade settings after the server blade is powered on but before the OS is booted, the changes to the UEFI settings might not be applied.
- After the settings were specified, if N+M cold standby is switched before the server blade is restarted, the changed values are discarded.
- If you change the UEFI settings by using the UEFI setup menu, restart the OS to apply the new settings to the Web console.

To set UEFI from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select the target server blade.
2. In the **EFI** tab, click the **Edit** button to select the item to be edited.
3. Specify the necessary items, and perform the processing.
The specified items are applied after the server blade restarts.

Setting a switch module

When changing the switch module settings, use the CLI console to log in to the switch module console.

To configure a switch module from the CLI console:

1. Execute the `change console` command to access the CLI console of a switch module. To log in to the switch module console, you must enter the switch module account.

Related topics

- [change console on page 5-281](#)

Setting a Hitachi fibre channel adapter



Note: The tabs used for the Hitachi fibre channel adapter configurations differ depending on whether you are using in Basic mode or in LP mode. In LP mode, refer to the "Setting up the HBA boot driver" section in the *Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide*.

To change Hitachi fibre channel adapter settings, use the Web console.

To set a Hitachi fibre channel adapter from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select the target server blade.
2. From the **I/O card** tab, select a fibre channel adapter, click the **Show details** button, and then click the **Edit** button.
3. Specify the necessary items, and perform the processing.
The specified items are applied after the server blade restarts.



Note: After the settings were specified, if N+M cold standby is switched before the server blade is restarted, the changed values are discarded.

Related topics

- [Setting items for a Hitachi fibre channel adapter on page 2-90](#)

Setting items for a Hitachi fibre channel adapter

This section describes items that can be set for a Hitachi fibre channel adapter.

Table 2-60 Setting items for a Hitachi fibre channel adapter

Item	Setting values
HBA BIOS Enable/ Disable	Disables or enables the SAN booting functionality. To detect LUs, specify [Enable].

Item	Setting values
	<p>Normally, enable only the HBA port of the boot path and disable other HBA ports.</p> <p>The value that can be set is either <code>Enable</code> or <code>Disable</code>. The initial setting is <code>Enable</code>.</p>
Connection Type	<p>Sets the connection type.</p> <p>Specifies the connection type of the Fibre Channel interface.</p> <p>The value that can be set is <code>Auto</code>, <code>Point to Point</code>, or <code>Arbitrated Loop</code>. The initial setting is <code>Auto</code>.</p>
Data Rate (Gbps)	<p>Sets the data transfer rate.</p> <p>Specifies the data transfer speed of the Fibre Channel interface.</p> <p>The value that can be set varies depending on the installed card as shown in the following.</p> <p>For Hitachi 8 Gbps fibre channel adapter: <code>Auto</code> (initial setting), <code>2Gbps</code>, <code>4Gbps</code>, or <code>8Gbps</code></p> <p>For Hitachi 16 Gbps fibre channel adapter: <code>Auto</code> (initial setting), <code>4Gbps</code>, <code>8Gbps</code>, or <code>16Gbps</code></p>
Login Delay Time (sec)	<p>Sets the delay time before login.</p> <p>Sets the estimated time, before login to the target port, required for each piece of equipment to recognize that the Fibre Channel connection configuration has changed. You need to set a time that takes into account the configuration scale and the high load status.</p> <p>The valid value range is 0 to 60 seconds. The initial setting is 3 seconds.</p>
Persistent Binding	<p>Sets the persistent binding functionality of the OS driver.</p> <p>Set <code>Disable</code> to forcibly disable the persistent binding setting saved on the OS to boot the OS.</p> <p>This setting is valid only in Linux, and the boot driver is not used. In addition, the setting value must be the same for all adapters.</p> <p>The value that can be set is either <code>Enable</code> or <code>Disable</code>. The initial setting is <code>Enable</code>.</p>
Boot Priority	<p>Disables or enables the priority order of LU detection.</p> <p>Disables or enables the Boot Priority List.</p> <p>If enabled, the target LU is searched only from the LUs registered in the Boot Priority List. If disabled, the Boot Priority List is ignored, and the currently available LUs are searched.</p> <p>The value that can be set is either <code>Enable</code> or <code>Disable</code>. The initial setting is <code>Disable</code>.</p>
HBA ISOL cmd	<p>Sets the isolation status for HBA port booting. To boot in the isolated status, set <code>ON</code>.</p> <p>The value that can be set is either <code>ON</code> or <code>OFF</code>. The initial setting is <code>OFF</code>.</p> <p>This item appears only for the Hitachi 16 Gbps fibre channel adapter.</p>

Item	Setting values
Multiple PortID	<p>This parameter is used in combination with Connection Type. Set <code>Enable</code> to extend the connection form of the direct connection configuration.</p> <p>This parameter has restrictions and notes on the environment to be used. For details, see the manual <i>Hitachi Gigabit Fibre Channel Adapter User's Guide (BIOS/EFI Edition)</i>.</p> <p>The value that can be set is either <code>Enable</code> or <code>Disable</code>. The initial setting is <code>Disable</code>.</p> <p>This item appears only for the Hitachi 16 Gbps fibre channel adapter.</p>
LUID scan mode ²	<p>Sets <code>Enable</code> or <code>Disable</code> for the function that searches again for the LU using an LUID as a key if the search for the LU using a WWN and LUN fails.</p> <p>This must be enabled to use the N+M Cold Standby (LUID mode) function³.</p> <p>This item is displayed only for the Hitachi 16 Gbps fibre channel adapter.</p>
Boot Device List	<p>This is a list of target LUs for the boot priority setting. Specify LUs by using pairs of a WWN and an LUN.</p> <p>Registers the list of LUs to be searched, when <code>Enable</code> is set for the Boot Priority.</p> <p>Only the target LUs that are registered in the list are searched, and the currently available LUs are not searched even if registered LUs cannot be detected.</p> <p>For the Hitachi 16 Gbps fibre channel adapter, the following are displayed: a WWN, and an LUN, in addition, an LUID Type, and an LUID¹. The LUID Type is the data type of an LUID. The LUID is the identifier unique to the boot volume. If this information is not obtained, hyphens are displayed (-----).</p>
<p>Notes:</p> <ol style="list-style-type: none"> This item can be displayed if the management module firmware A0145 or later is used. If you are using a fibre channel adapter firmware that does not support the N+M Cold Standby (LUID mode) function, hyphens are displayed (-----). For details about firmware versions that support the N+M Cold Standby (LUID mode) function, see the manuals listed in "Related topics" below. This item can be displayed and set if the management module firmware A0145 or later is used. Disable this item if the firmware used for the server blade, the fibre channel adapter, etc., does not support the N+M Cold Standby (LUID mode) function. For details about firmware versions that support the N+M Cold Standby (LUID mode) function, see the manuals listed in "Related topics" below. For details about the N+M Cold Standby (LUID mode) function, see the manuals listed in "Related topics" below. 	

Related topics

- [Setting a Hitachi fibre channel adapter on page 2-90](#)

- Manual *Hitachi Compute Systems Manager N+M Cold Standby configuration Guide - Direct connection between storage and blades -*

Setting WWNs and MAC addresses

This section describes the WWNs and MAC addresses of the system unit.

WWNs and MAC addresses

A system unit can use the following three types of WWNs and MAC addresses:

- Default Physical WWNs and Default Physical MAC addresses
These are unique and unchangeable WWN and MAC address that fibre channel adapters and LAN mezzanine cards have.
- Optional Physical WWNs and Optional Physical MAC addresses
WWNs and MAC addresses that are additionally assigned to fibre channel adapters and LAN mezzanine cards.
These are rewritable and only used by Compute Blade. Even if a fibre channel adapter or LAN mezzanine card is replaced, Optional Physical WWNs and Optional Physical MAC addresses do not change as long as the Fibre Channel mezzanine card or LAN mezzanine card is installed in the same slot. Therefore, even if a mezzanine card is replaced, you do not need to change the settings of the LAN switch module and other associated equipment.
Optional Physical WWNs and Optional Physical MAC addresses are also used by the N+M cold standby functionality.
- WWNs and MAC addresses used in LPAR manager
WWNs and MAC addresses managed by LPAR manager. For details, see the *Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide*.



Note: Optional Physical MAC addresses cannot be used on the following adapters:

- 1 Gb 4-port LAN adapter
 - 10 G BASE-SR 2-port LAN adapter
 - 10 G BASE-T 2-port LAN adapter
-



Note: If you selected Custom for the Personality setting for the onboard CNA, you cannot use the functionality that assigns Optional Physical WWNs and that assigns Optional Physical MAC addresses. If you select Custom, you must select the Default Physical WWN and the Default Physical MAC address for operation.



Note: For a Hitachi fibre channel adapter, when using an Optional Physical WWN, the value of "world wide port name + 1" is used as the world wide node name, regardless of the value set by the management module console.

If you change an Additional WWN from the default value, set the value of "world wide port name + 1" for the world wide node name.

Related topics

- [Preparation for running the server blades in a redundant configuration \(N+M cold standby\) on page 3-6](#)
- [Selecting WWNs and MAC addresses to be used in the Basic mode on page 2-94](#)
- [Selecting WWNs and MAC addresses to be used in the LP mode on page 2-95](#)
- [Relation between N+M cold standby and WWN and MAC address on page 2-95](#)

Selecting WWNs and MAC addresses to be used in the Basic mode

In Basic mode, you can select Optional Physical or Default Physical as the WWN and MAC address types for each server blade.

If you change the WWN or MAC address type, the value of all fibre channel adapters and LAN mezzanine cards that are installed on the server blade change.



Tip:

- The Optional Physical type does not change the WWN or MAC address when a mezzanine card is replaced. Therefore, the influence on the OS and external devices can be minimized.
- In an SMP configuration, the settings for the primary server blade are applied to all server blades constituting the SMP configuration. You do not need to configure settings for non-primary server blades.

Set a WWN and MAC address of Basic mode from the Web console or the CLI console.

To set a WWN and MAC address for Basic mode from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select the target server blade.
2. In the **Settings** tab, click the **Edit Server Blade settings** button. The **Server Blade *n* settings** dialog box appears.
3. In **Smart Configure**, set **WWN type** and **MAC type**.

To set a WWN and MAC address for Basic mode from the CLI console:

1. See the following [Table 2-61 Commands used for setting WWNs and MAC addresses in Basic mode on page 2-95](#).

Table 2-61 Commands used for setting WWNs and MAC addresses in Basic mode

Operation item	Command
Displaying the WWN type	<code>show blade setting</code>
Setting the WWN type	<code>set blade preconf</code>
Displaying the MAC type	<code>show blade setting</code>
Setting the MAC type	<code>set blade preconf</code>

Related topics

- [WWNs and MAC addresses on page 2-93](#)
- [show blade setting on page 5-83](#)
- [set blade preconf on page 5-56](#)

Selecting WWNs and MAC addresses to be used in the LP mode

In LP mode, setting the WWN type is not required because the WWNs that are used in LPAR manager are always used.

If a PCI device is shared, the MAC address that is used in LPAR manager is used regardless of the MAC type setting. If a PCI device is used in dedicated mode, the MAC address specified as the MAC type is used.

Relation between N+M cold standby and WWN and MAC address

To run N+M cold standby in Basic mode, Optional Physical WWNs are always used. When an N+M failover occurs, SAN connections are inherited by setting the Optional Physical WWNs of the fibre channel adapter that is installed in the active server blade to the Fiber Channel adapter of the standby server blade.

In N+M cold standby, even if an N+M failover is performed, the WWNs recognized by the OS on the server blade do not change. Therefore, any software functionality (such as Persistent Binding) that depends on a WWN can be used without any changes.

For a MAC address, you can select the Default Physical MAC address or an Optional Physical MAC address, according to the MAC type setting. If you select an Optional Physical MAC address, the MAC address value is inherited when an N+M failover is performed. The MAC addresses recognized by the OS on the server blade are not changed even if an N+M failover is performed. Therefore, you can specify OS settings that depend on the MAC address.

When running the N+M cold standby in LP mode, the WWN and MAC address that are used in LPAR manager are inherited when an N+M failover is performed. As in Basic mode, the WWNs and MAC addresses recognized by the OS on the server blade are not changed even if an N+M failover is

performed. Therefore, any software functionality that depends on a WWN or MAC address can be used.

Related topics

- [Preparation for running the server blades in a redundant configuration \(N+M cold standby\) on page 3-6](#)

Initializing Optional Physical WWNs and Optional Physical MAC addresses

In the N+M cold standby, another server blade can inherit Optional Physical WWNs and MAC addresses. When changing back to the Optional Physical WWN and MAC address that were set before N+M was switched, initialize or change the Optional Physical WWN and MAC address from the Web console.



Tip: When server blades are in an SMP configuration, all server blades constituting the SMP configuration are the target of the initialization and change.

Related topics

- [Initializing or changing Optional Physical WWNs on page 2-96](#)
- [Initializing or changing Optional Physical MAC addresses on page 2-97](#)

Initializing or changing Optional Physical WWNs

This section explains how to initialize or change Optional Physical WWNs.

Information you need to check in advance

- Optional Physical WWNs before they are changed

To initialize or change Optional Physical WWNs from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **WWN Management**.
2. Select the target server blade, and then in the **Show details** menu, click **Optional Physical WWN**.

The Optional Physical WWN List dialog box appears.

3. Click the **Edit** button or the **Initialize** button, and then set an Optional Physical WWN.

If you click the **Initialize** button, the setting of the Optional Physical WWN returns to the initial settings (the settings at shipping time).

To change Optional Physical WWNs from the CLI console:

1. Execute the `set wwn additional` command.



Note: WWNs used for Additional WWNs are assigned so that the value of each WWN is unique in each chassis. If you change a WWN from the default value, change it within the assigned range. Additional WWNs can be exchanged between chassis, but when you initialize them, be sure to initialize both the exchanged WWNs.

Related topics

- [Initializing Optional Physical WWNs and Optional Physical MAC addresses on page 2-96](#)
- [set wwn additional on page 5-10](#)

Initializing or changing Optional Physical MAC addresses

This section explains how to initialize or change Optional Physical MAC addresses.

Information you need to check in advance

- Optional Physical MAC addresses before they are changed

To initialize or change Optional Physical MAC addresses from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **MAC Management**.
2. Select the target server blade, and then from the **Show details** menu, click **Optional Physical MAC**.
The Optional Physical MAC List dialog box appears.
3. Click the **Edit** button or the **Initialize** button, and then set an Optional Physical MAC address.
If you click the **Initialize** button, the setting of the Optional Physical MAC address returns to the initial settings (the settings at shipping time).

To change Optional Physical MAC addresses from the CLI console:

1. Execute the `set mac additional` command.



Note: MAC addresses used for Additional MACs are assigned so that the value of each MAC address is unique in each chassis. If you change a MAC address from the default value, change it within the assigned range. Additional MACs can be exchanged between chassis, but when you initialize them, be sure to initialize both of the exchanged MACs.

Related topics

- [Initializing Optional Physical WWNs and Optional Physical MAC addresses on page 2-96](#)
- [set mac additional on page 5-9](#)

WWNs and MAC addresses that can be checked in management module consoles

You can check information in the following table from the Web console or CLI console of a management module. By checking the information from the management module, you can check the values of WWNs and MAC addresses without needing to turn on the server blade and then checking the information on the OS window or UEFI window. In addition, by listing the WWNs and MAC addresses of the mezzanine cards installed on the server blade, you can check the currently used WWNs and MAC addresses at a glance.

Table 2-62 Information that can be checked on each console

Item	Web console	CLI console	LCD touch console
Default Physical WWN	Y	Y	N
Optional Physical WWN	Y	Y	N
Currently used WWN	Y	Y	N
Default Physical MAC address	Y	Y	N
Optional Physical MAC address	Y	Y	N
Currently used MAC address	Y	Y	N
WWNs used in LPAR manager ¹	Y	N	N
MAC addresses used in LPAR manager ¹	Y	N	N
Legend: Y : Supported N : Not supported Notes: 1. For details about how to check WWNs and MAC addresses that are used by LPAR manager, see the <i>Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide</i> .			



Note:

- The WWNs and MAC addresses that are changed from a management module will be applied to the actual fibre channel adapters and LAN mezzanine cards the next time the server blade is turned on. For this reason, if you do not turn on the server blade after changing WWNs or MAC addresses, the values of the current WWNs or current MAC addresses displayed on the management module consoles might be different from the value assigned to the actual fibre channel adapters or LAN mezzanine cards.

- For onboard CNA, WWNs displayed in the Web console or the CLI console are shown in [Table 2-63 WWNs displayed in the Web and CLI consoles on page 2-99](#).

Because the onboard CNA has only one controller, Current WWN and Default Physical WWN are displayed only for port 0 and port 1.

If Personality for onboard CNA is not set to FCoE, the current WWN and Default Physical WWN cannot be shown. In that case, the following message appears.

For the Web console:

Not card installed Not exist WWN Information

For the CLI console:

WWN information does not exist

- For the following adapters, Default Physical MAC address, Currently used MAC address and MAC addresses used in LPAR manager (when dedicated mode is used) do not appear.
 - 1 Gb 4-port LAN adapter
 - 10 G BASE-SR 2-port LAN adapter
 - 10 G BASE-T 2-port LAN adapter
- For a Hitachi fibre channel adapter, when using an Optional Physical WWN, the value of "world wide port name + 1" is used as the world wide node name, regardless of the value set by the management module console. For this reason, the world wide node name for the current WWN displayed in the management module console might differ from the actual assigned value.

Table 2-63 WWNs displayed in the Web and CLI consoles

Port	World wide port name	World wide node name
0	World wide port name for port 0 of controller 0	World wide node name for port 0 of controller 0
1	World wide port name for port 1 of controller 0	World wide node name for port 1 of controller 0
2	World wide port name for port 0 of controller 1	World wide node name for port 0 of controller 1
3	World wide port name for port 1 of controller 1	World wide node name for port 1 of controller 1

Related topics

- [Checking the Default Physical WWN on page 2-100](#)
- [Checking Optional Physical WWNs on page 2-100](#)
- [Checking the currently used WWN on page 2-100](#)
- [Checking the Default Physical MAC address on page 2-101](#)
- [Checking Optional Physical MAC addresses on page 2-101](#)
- [Checking the currently used MAC addresses on page 2-101](#)

- [What you can check in the change log for Optional Physical WWNs and MAC addresses on page 2-102](#)

Checking the Default Physical WWN

This section explains how to check the Default Physical WWN information from the Web console and the CLI console.

To check the Default Physical WWN from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **WWN Management**.
2. From the **Show details** menu, click **Default Physical WWN**.

To check the Default Physical WWN from the CLI console:

1. Execute the `show wwn original` command.

Related topics

- [show wwn original on page 5-27](#)

Checking Optional Physical WWNs

To check Optional Physical WWNs, use the Web console.

To check Optional Physical WWNs from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **WWN Management**.
2. From the **Show details** menu, click **Optional Physical WWN**.

To check Optional Physical WWNs from the CLI console:

1. Execute the `show wwn additional` command.

Related topics

- [show wwn additional on page 5-22](#)

Checking the currently used WWN

To check the currently used WWN, use either the Web console or the CLI console.

To check the currently used WWN from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **WWN Management**.
2. Click the **Show Current WWN** button.

To check the currently used WWN from the CLI console:

1. Execute the `show wwn current` command.

Related topics

- [show wwn current on page 5-25](#)

Checking the Default Physical MAC address

To check the Default Physical MAC address, use either the Web console or the CLI console.

To check the Default Physical MAC address from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **MAC Management**.
2. From the **Show details** menu, click **Default Physical MAC**.

To check the Default Physical MAC address from the CLI console:

1. Execute the `show mac original` command.

Related topics

- [show mac original on page 5-20](#)

Checking Optional Physical MAC addresses

To check Optional Physical MAC addresses, use the Web console.

To check Optional Physical MAC addresses from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **MAC Management**.
2. From the **Show details** menu, click **Optional Physical MAC**.

To check Optional Physical MAC addresses from the CLI console:

1. Execute the `show mac additional` command.

Related topics

- [show mac additional on page 5-16](#)

Checking the currently used MAC addresses

To check the currently used MAC addresses, use either the Web console or the CLI console.

To check the currently used MAC addresses from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **MAC Management**.
2. Click the **Show Current MAC** button.

To check the currently used MAC addresses from the CLI console:

1. Execute the `show mac current` command.

Related topics

- [show mac current on page 5-19](#)

What you can check in the change log for Optional Physical WWNs and MAC addresses

Management module logs changes caused by operations such as changing settings or initialization of Optional Physical WWNs or MAC addresses, inheriting information by using N+M cold standby. You can check the change log from the CLI console.

The change log records time, values before and after the change, the trigger for the change (either failover by the N+M cold standby or a change from a console). After a change, you can check the times when Optional Physical WWNs or MAC addresses were changed, how they were changed, and what triggered the change.

Related topics

- [Checking the Optional Physical WWN change log on page 4-3](#)
- [Checking the Optional Physical MAC address change log on page 4-4](#)

Controlling power consumption by using the power control functionality

This section describes the functionality that controls power usage of the system unit.

Power control functionality

The system unit provides accurate power control (APC) functionality and the Data Center Manageability Interface (DCMI). A management module automatically calculates the allowable setting range for APC functionality based on the power supply module configuration and accurate power control settings.

The following table indicates settings related to the power control functionality. You can change these settings, except the setting that enables or disables the DCMI mode, while the server blades are powered on. However, the management module automatically limits the allowable range to prioritize the continuous operation of server blades.

Table 2-64 Settings related to the power control functionality

Item		Description
Power supply module configuration	Redundancy	<p>Sets power supply module redundancy for the system unit:</p> <ul style="list-style-type: none"> 200 VAC - 240 VAC: N+N/N+1 (default) <p>The management module automatically calculates the power capacity usable by the system unit based on this setting.</p>
	Power capacity expansion feature	<p>Disables or enables the power capacity expansion feature.</p> <ul style="list-style-type: none"> Disable or Enable (default) <p>The management module automatically calculates the power capacity usable by the system unit based on this setting.</p>
Accurate power control (APC) settings	Setting the accurate power control upper limit	<p>Sets the upper limit for the power consumption while operating the equipment.</p> <p>You cannot set a value that exceeds the range from the maximum power supply of the system unit to the minimum power consumption of the system unit.</p> <p>In the initial settings (the settings at shipping time), this value is set to the maximum power supply of the system unit.</p> <p>The minimum power consumption of the system unit is the sum of the rated power of installed modules to which the maximum power consumption of when the maximum power capping is applied to the APC-enabled server blades is applied.</p>
	Enable/Disable APC for server blade	<p>You can select target server blades for power capping (power control).</p> <p>In the initial settings (the settings at shipping time), the setting is [Enable].</p> <p>Changing this value will change the minimum power consumption of the system unit. The accurate power control upper limit cannot be less than the minimum power consumption of the system unit.</p>
DCMI mode settings	Enabling and disabling the DCMI mode for the entire server chassis	<p>Enables or disables the DCMI mode for the entire server chassis.</p> <p>In the initial settings (the settings at shipping time), the setting is [Disable].</p> <p>You can enable or disable the DCMI mode only when all server blades that support DCMI in the server chassis have been</p>

Item		Description
		initialized and the main power is powered off. The DCMi mode and the APC functionality are mutually exclusive. Therefore, you cannot use both at the same time.



Tip: We recommend that you use the APC for power control functionality because DCMi cannot use the management module to control power for the entire chassis.

In addition, to use DCMi, server blades need to support DCMi. Select the power control functionality to be used depending on the intended use.

Accurate power control (APC) functionality

The accurate power control (APC) functionality restricts the power consumption during system unit operation to the power consumption upper limit or less, by using the power capping (power control) functionality of the server blade.

If excess power consumption is detected for a server blade, this functionality controls power consumption by reducing the clock rate of the server blade to the optimum level so that power consumption is at or below the upper limit. The management module automatically calculates and assigns the ratio of performance suppression for each server blade so that the ratio is uniform to the capping capability of each server blade.



Tip:

- For server blades that cannot tolerate momentary performance suppression, before setting the accurate power control upper limit, disable the APC setting.

If you cannot allow momentary performance degradation in all server blades, review the accurate power control upper limit, the APC setting for server blades, the power supply module configuration, and the power supply facility environment settings.

In a virtual environment, we recommend that the APC functionality is disabled on virtual servers because the performance of all virtual machines on the virtual servers is degraded.

The following table describes the consoles used when you set the APC functionality from a management module.

Table 2-65 Setting the APC functionality

Operation	Web console	CLI console	LCD touch console
Using the APC functionality to set the upper limit on power consumption during the system unit operation	Y	--	--

Related topics

- [Setting the upper limit on power consumption during system unit operation on page 2-105](#)

Setting the upper limit on power consumption during system unit operation

To use the APC functionality to set the upper limit on power consumption during the system unit operation, use the Web console.

To set the APC functionality from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **Power Management**.
2. From the **Action** pull-down menu, click **Edit accurate power control (APC)**.
Set the power consumption upper limit for the equipment.

Related topics

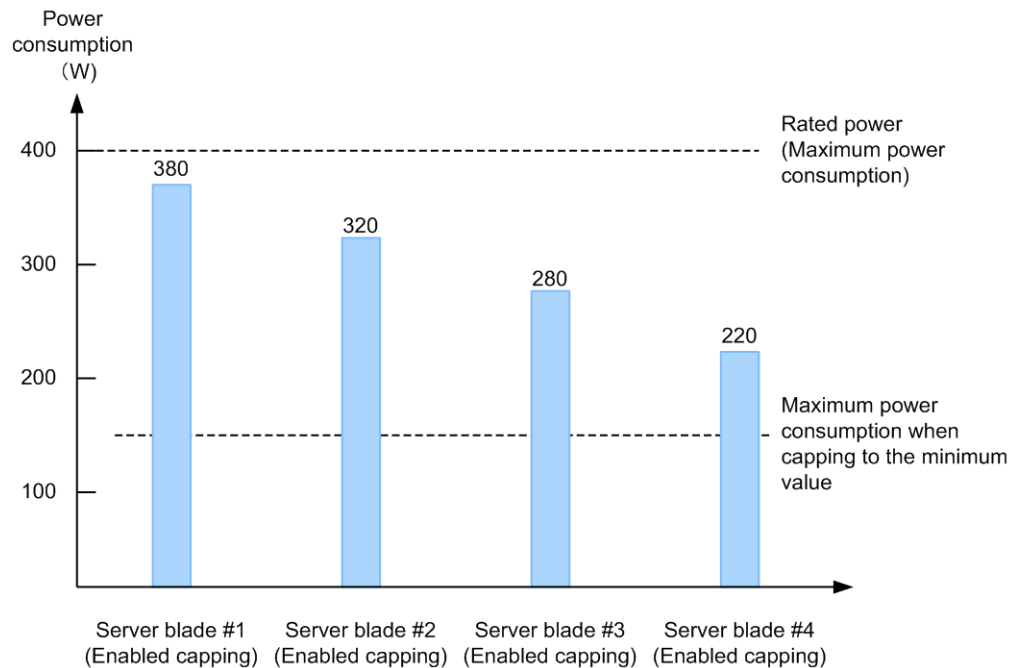
- [Server blade operation for when the upper limit on power consumption during system unit operation is set on page 2-105](#)

Server blade operation for when the upper limit on power consumption during system unit operation is set

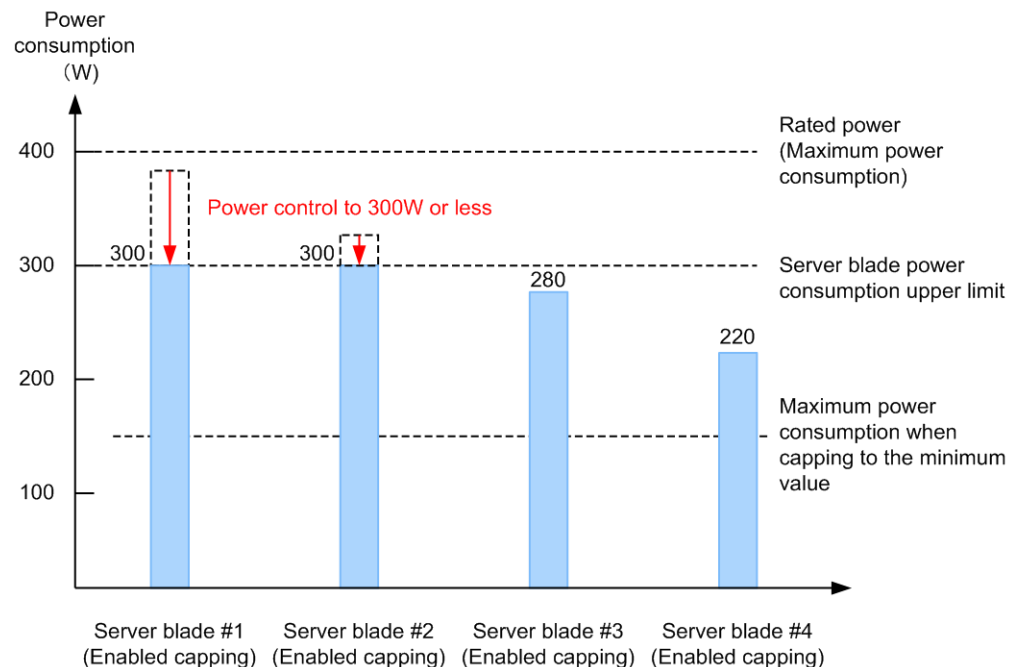
The following example shows an overview of the operation when the accurate power control upper limit of the system unit is set to 2,000 W.

The following conditions are assumed:

- Accurate power control upper limit of the system unit: 2,000 W
 - Power consumed by modules other than server blades: 800 W. > Power usable by server blades: 1,200 W.
 - Power consumption specification for server blades: Rated power (maximum power consumption): 400 W, Maximum power consumption when power capping is applied to the maximum: 150 W
 - Number of installed server blades: 4 with the same power consumption specifications
 - APC: Enabled > The power consumption per server blade is limited to 300 W or less.
1. When the accurate power control upper limit of the system unit is 2,400 W or more:



- When the accurate power control upper limit of the system unit is set to 2,000 W by using the APC functionality:



Related topics

- [Setting the upper limit on power consumption during system unit operation on page 2-105](#)

Disabling power control for server blades

For server blades that cannot tolerate performance suppression, by disabling power control, you can remove desired server blades from capping targets.

When server blades are in an SMP configuration, the settings for the primary server blade are applied to non-primary server blades.

The following table describes the consoles used when you disable power control for server blades from a management module.

Table 2-66 Disabling power control for server blades

Operation	Web console	CLI console	LCD touch console
Disabling power control for server blades	Y	Y	--

Related topics

- [Disabling power control for server blades on page 2-107](#)

Disabling power control for server blades

To disable power control for server blades, use either the Web console or the CLI console.



Tip: When server blades are in an SMP configuration, the settings for the primary server blade are applied to non-primary server blades.

To disable power control for server blades from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **Power Management**.
2. From the **Server blade** tab, select the target server blade and then **Edit power capping**.
Set the APC functionality for the selected server blade.

To disable power control for server blades from the CLI console:

1. To check settings of the APC, execute the `show power setting` command. To change the settings, execute the `set power capping` command.

Related topics

- [show power setting on page 5-157](#)
- [set power capping on page 5-152](#)
- [Behavior of the APC functionality for the system unit when the power control is disabled for server blades on page 2-108](#)

Behavior of the APC functionality for the system unit when the power control is disabled for server blades

The following example shows the operation overview when the accurate power control upper limit of the system unit is set to 2,000 W and power capping is disabled for two server blades.

The following conditions are assumed:

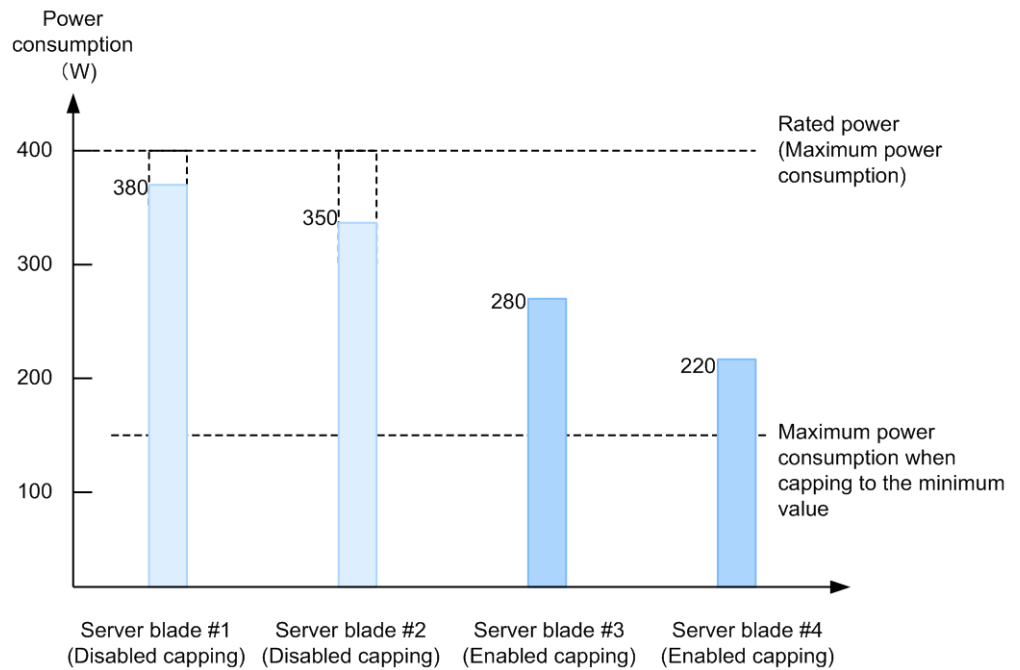
- Accurate power control upper limit of the system unit: 2,000 W
- Power consumed by modules other than server blades: 800 W. > Power usable by server blades: 1,200 W.
- Power consumption specification for server blades: Rated power (maximum power consumption): 400 W, Maximum power consumption when power capping is applied to the maximum: 150 W
- Number of installed server blades: 4
- APC is disabled for server blades 1 and 2. > The power consumption for each of server blades 3 and 4 is limited to 200 W. This is because server blades 3 and 4 share 400 W, which is the result of multiplying 400 W (the rated power of server blades 1 and 2) by 2 and then subtracting the result from 1,200 W (the power usable by server blades).



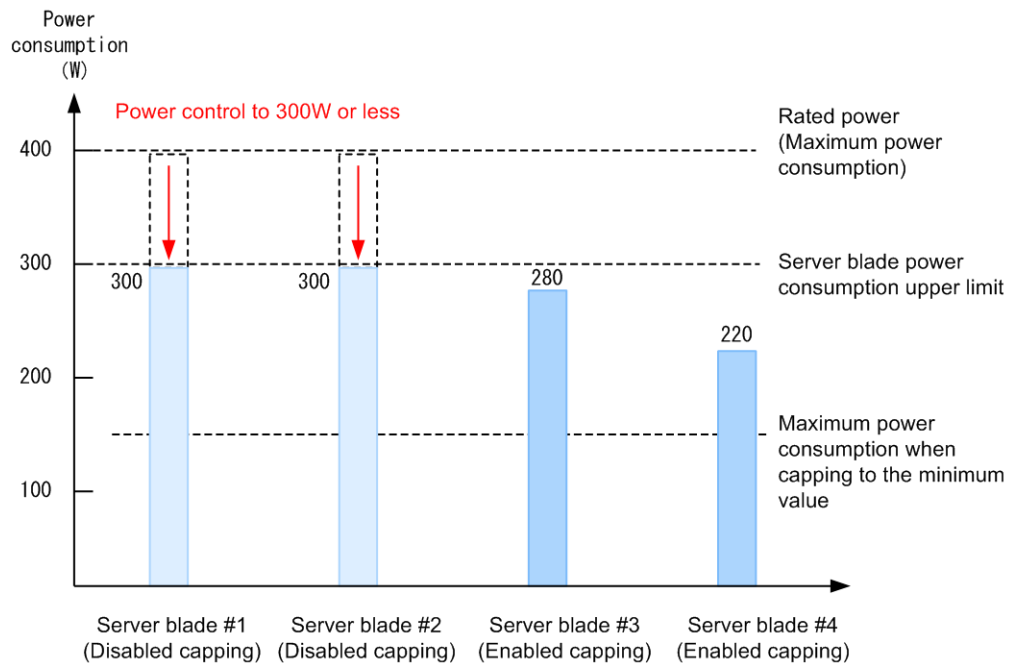
Note: As shown in the following example, when the rated power of server blades whose power capping is disabled is subtracted from the power that can be consumed by server blades and the remaining value is shared by other server blades, power control cannot be disabled if the remaining value is less than the maximum power consumption of when power capping is applied to the maximum.

- Accurate power control upper limit of the system unit: 2,000 W
- Power consumed by modules other than server blades: 700 W. > Power usable by server blades: 1,300 W.
- Power consumption specification for server blades: Rated power (maximum power consumption): 400 W, Maximum power consumption when power capping is applied to the maximum: 150 W
- Number of installed server blades: 4
- APC is disabled for server blades 1, 2, and 3. > This power control cannot be disabled. This is because the result of multiplying 400 W (the rated power of server blades 1, 2, and 3) by 3 and then subtracting from 1,300 W (power usable by server blades) is 100 W and is less than 150 W which is the maximum power consumption of when power capping is applied to the maximum.

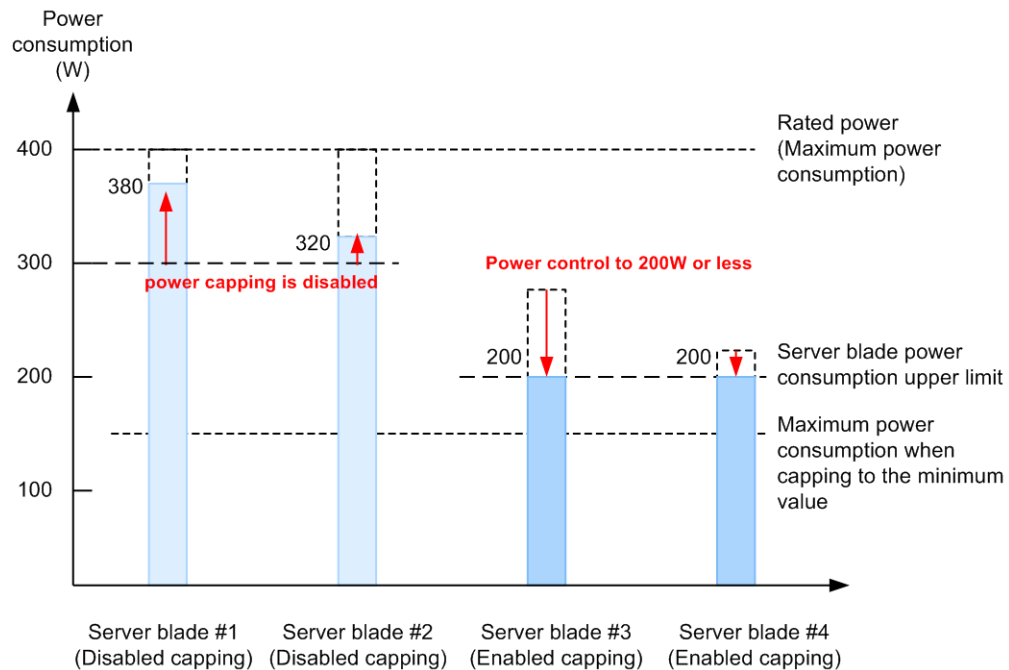
-
1. When the accurate power control upper limit of the system unit is 2,400 W or more:



2. When the accurate power control upper limit of the system unit is set to 2,000 W:



3. When the power control is disabled for server blades 1 and 2:



Related topics

- [Disabling power control for server blades on page 2-107](#)

DCMI

CB 2500 supports the Data Center Manageability Interface (DCMI) version 1.5. If you issue a DCMI command (IPMI command base) from the OS of a server blade or an external management PC that is connected by the LAN to BMC of a server blade that supports DCMI, you can manage the power supply and monitor various environmental values.

To use DCMI, you need to set the DCMI mode of the server chassis to [Enable] beforehand. Server blades that support DCMI can receive DCMI commands only when the DCMI mode is enabled. Server blades that do not support DCMI are unable to receive DCMI commands even if the DCMI mode is enabled.



Note:

- You cannot use both DCMI and APC functionality at the same time. If you enable DCMI mode, the APC functionality is automatically disabled and you cannot change the settings.
- You can enable or disable DCMI mode only when all server blades that support DCMI in the server chassis have been initialized and the main power is powered off.
- If you enable DCMI mode, the settings of the APC functionality are initialized. Similarly, if you disable DCMI mode, the DCMI settings are initialized.

- If power supply is insufficient due to a power failure, etc., while DCMI mode is enabled, forced power capping by the management module is preferentially performed so that the equipment can continue operating.
-

To use DCMI, server blades need to support DCMI. For details about server blades that support DCMI, see the specifications of each server blade described in an appendix of the *Hitachi Compute Blade 2500 Series Getting Started Guide*.

Related topics

- [Enabling and disabling the DCMI mode on page 2-111](#)
- Manual *Hitachi Compute Blade 2500 Series Getting Started Guide*

Enabling and disabling the DCMI mode

To enable or disable the DCMI mode, use the Web console or the CLI console. If you change the setting that switches the DCMI mode, the server blades that support DCMI are automatically reinitialized.

To set the DCMI mode from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **Power Management**.
2. From the **Action** pull-down menu, select **DCMI mode**.
Enable or disable the DCMI mode.

To set the DCMI mode from the CLI console:

1. Execute the `set power dcmi-mode` command.
If you change the DCMI mode and then server blades that support DCMI are reinitialized, check the system event log to make sure that the initialization of the target server blades is completed.
If you use the Web console for to check the system event log, in the **Resources** tab, select **Server blades** from the tree view under **Modules**, select the server blade to be checked, and then make sure that **Initialization Status** is **OK** in the **Condition** tab of the server blade.



Note: Do not change the setting that switches DCMI mode while updating server blade firmware on a server blade that supports DCMI.

To change the setting that switches DCMI mode, first check each server blade that supports DCMI to make sure that server blade firmware is not being updated. If you update the server blade firmware, check the system event log before the DCMI mode setting that switches DCMI mode and then make sure that the target server blade was initialized normally.

Related topics

- [DCMI on page 2-110](#)
- [set power dcmi-mode on page 5-153](#)

List of supported DCMI commands

The following table shows the commands supported by CB 2500 from among the commands defined in DCMI version 1.5.

Table 2-67

DCMI command	NetFn	CMD	Min Privilege Level	Support of CB 2500
Get DCMI Capabilities Info	DCGRP (2Ch, 2Dh)	01h	Session-less	Y
Set DCMI Configuration Parameters	DCGRP (2Ch, 2Dh)	12h	Admin	Y
Get DCMI Configuration Parameters	DCGRP (2Ch, 2Dh)	13h	User	Y
Get Management Controller Identifier String	DCGRP (2Ch, 2Dh)	09h	User	Y
Set Management Controller Identifier String	DCGRP (2Ch, 2Dh)	0Ah	Admin	Y
Get Asset Tag	DCGRP (2Ch, 2Dh)	06h	User	Y
Set Asset Tag	DCGRP (2Ch, 2Dh)	08h	Operator	Y
Get Device ID	App (06h, 07h)	01h	User	Y
Get System GUID	App (06h, 07h)	37h	User	Y
Get Chassis Capabilities	Chassis (00h, 01h)	00h	User	Y
Get Chassis Status	Chassis (00h, 01h)	01h	User	Y
Chassis Control	Chassis (00h, 01h)	02h	Operator	Y
Chassis Identify	Chassis (00h, 01h)	04h	Operator	Y
Get ACPI Power State	App (06h, 07h)	07h	User	Y
Set System Boot Options	Chassis (00h, 01h)	08h	Operator	N ¹
Get System Boot Options	Chassis (00h, 01h)	09h	Operator	Y
Get SEL Info	Storage (0Ah, 0Bh)	40h	User	Y
Reserve SEL	Storage (0Ah, 0Bh)	42h	User	Y

DCMI command	NetFn	CMD	Min Privilege Level	Support of CB 2500
Get SEL Entry	Storage (0Ah, 0Bh)	43h	User	Y
Clear SEL	Storage (0Ah, 0Bh)	47h	Operator	Y
Get DCMI Sensor Info	DCGRP (2Ch, 2Dh)	07h	Operator	Y
Get SDR Repository Info	Storage (0Ah, 0Bh)	20h	Operator	Y
Reserve SDR Repository	Storage (0Ah, 0Bh)	22h	Operator	Y
Get SDR	Storage (0Ah, 0Bh)	23h	User	Y
Get Sensor Threshold	S/E (04h, 05h)	27h	Operator	Y
Get Sensor Reading	S/E (04h, 05h)	2Dh	User	Y
Set Sensor Event Enable	S/E (04h, 05h)	28h	Operator	N
Get Sensor Event Enable	S/E (04h, 05h)	29h	User	N
Get Power Reading	DCGRP (2Ch, 2Dh)	02h	User	Y
Get Power Limit	DCGRP (2Ch, 2Dh)	03h	User	Y
Set Power Limit	DCGRP (2Ch, 2Dh)	04h	Operator	Y
Activate/Deactivate Power Limit	DCGRP (2Ch, 2Dh)	05h	Operator	Y
Set Thermal Limit	DCGRP (2Ch, 2Dh)	0Bh	Operator	Y
Get Thermal Limit	DCGRP (2Ch, 2Dh)	0Ch	User	Y
Get Temperature Readings	DCGRP (2Ch, 2Dh)	10h	User	Y
Reset Watchdog Timer	App (06h, 07h)	22h	Operator11	Y
Set Watchdog Timer	App (06h, 07h)	24h	Operator11	Y
Get Channel Authentication Capabilities	App (06h, 07h)	38h	None	Y
Set Session Privilege Level	App (06h, 07h)	3Bh	User	Y
Close Session	App (06h, 07h)	3Ch	User10	Y
Get Session Info	App (06h, 07h)	3Dh	User	Y

DCMI command	NetFn	CMD	Min Privilege Level	Support of CB 2500
Get Payload Activation Status	App (06h, 07h)	4Ah	User	Y
Get Payload Instance Info	App (06h, 07h)	4Bh	User	Y
Get Channel Payload Support	App (06h, 07h)	4Eh	User	Y
Activate Payload	App (06h, 07h)	48h	Configurable7	Y
Deactivate Payload	App (06h, 07h)	49h	Configurable7	Y
Get Channel Cipher Suites	App (06h, 07h)	54h	None	Y
SOL Activating	Transport (0Ch, 0Dh)	20h	None	Y
Set LAN Configuration Parameters	Transport (0Ch, 0Dh)	01h	Admin	Y
Get LAN Configuration Parameters	Transport (0Ch, 0Dh)	02h	Operator	Y
Set Channel Access	App (06h, 07h)	40h	Admin	Y
Get Channel Access	App (06h, 07h)	41h	User	Y
Get Channel Info	App (06h, 07h)	42h	User	Y
Set User Access	App (06h, 07h)	43h	Admin	Y
Get User Access	App (06h, 07h)	44h	Operator	Y
Set User Name	App (06h, 07h)	45h	Admin	Y
Get User Name	App (06h, 07h)	46h	Operator	Y
Set User Password	App (06h, 07h)	47h	Admin	Y
Set User Payload Access	App (06h, 07h)	4Ch	Admin	Y
Get User Payload Access	App (06h, 07h)	4Dh	Operator	Y
Set SOL Configuration Parameters	Transport (0Ch, 0Dh)	21h	Admin	Y
Get SOL Configuration Parameters	Transport (0Ch, 0Dh)	22h	User	Y
Set BMC Global Enables	App (06h, 07h)	2Eh	system interface	Y
Get BMC Global Enables	App (06h, 07h)	2Fh	system interface, User	Y
Clear Message Flags	App (06h, 07h)	30h	system interface	Y
Get Message Flags	App (06h, 07h)	31h	system interface	Y
Get Message	App (06h, 07h)	33h	System Interface	Y

DCMI command	NetFn	CMD	Min Privilege Level	Support of CB 2500
Send Message	App (06h, 07h)	34h	User	Y
Legend: Y: Supported by CB 2500 N: Not supported by CB 2500 Notes: 1. The command is finished normally, but the setting is not reflected.				

Related topics

- [DCMI on page 2-110](#)

Power capacity expansion feature

In a power supply redundant configuration, the power capacity expansion feature expands the available power by using surplus power of standby power systems when both active and standby systems are in normal operation. This functionality eases the restriction for installing server blades and restriction of performance caused by applying power capping to server blades.

When redundant power supply fails, this functionality prevents the power overload that exceeds the allowable power of power supply modules in the system unit by applying high-speed power capping to the server blades to return the available power within the rated value. To achieve the power capacity expansion feature, the power supply module whose power receiving performance has improved is adopted.

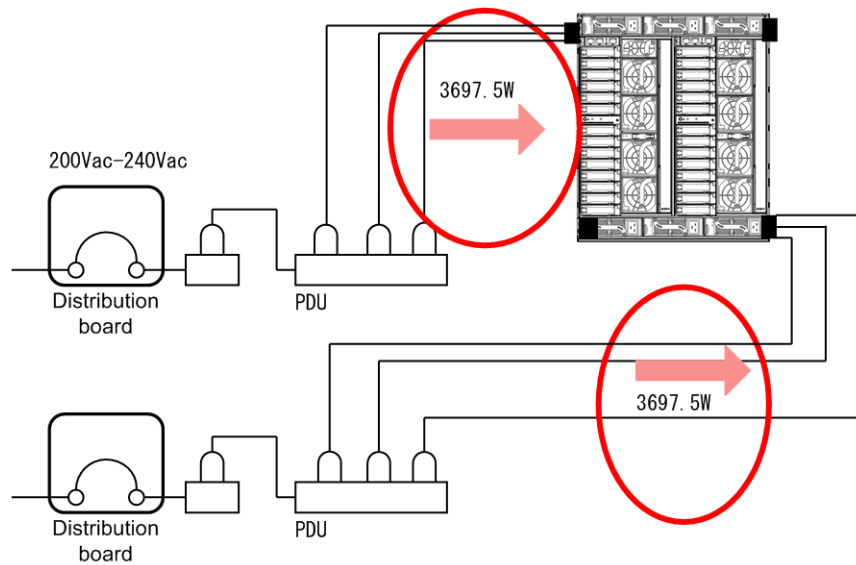
The following show the summaries of operations in which the power capacity expansion feature is enabled and disabled.

The following shows an example when six power supply modules are mounted in an N+N redundant configuration.

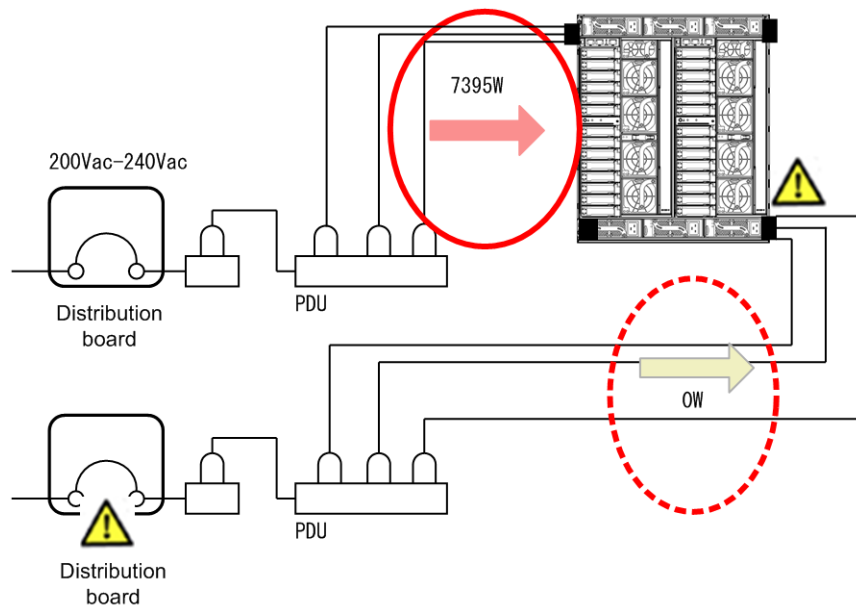
Summary of operation when the power capacity expansion feature is disabled

Normal operation of redundant power supply: Maximum supplied power is 7,395 W

Two power supply systems supply 3,697.5 W each.



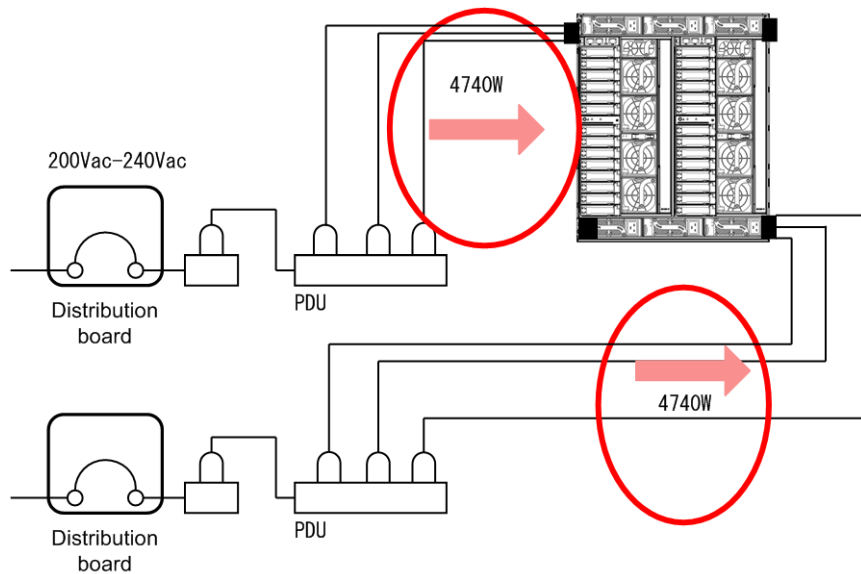
Failure of redundant power supply: Maximum supplied power is 7,395 W
 If one power supply system fails, the other power supply system supplies 7,395 W.



Summary of operation when the power capacity expansion feature is enabled (default)

Normal operation of redundant power supply: Maximum supplied power is 9,480 W

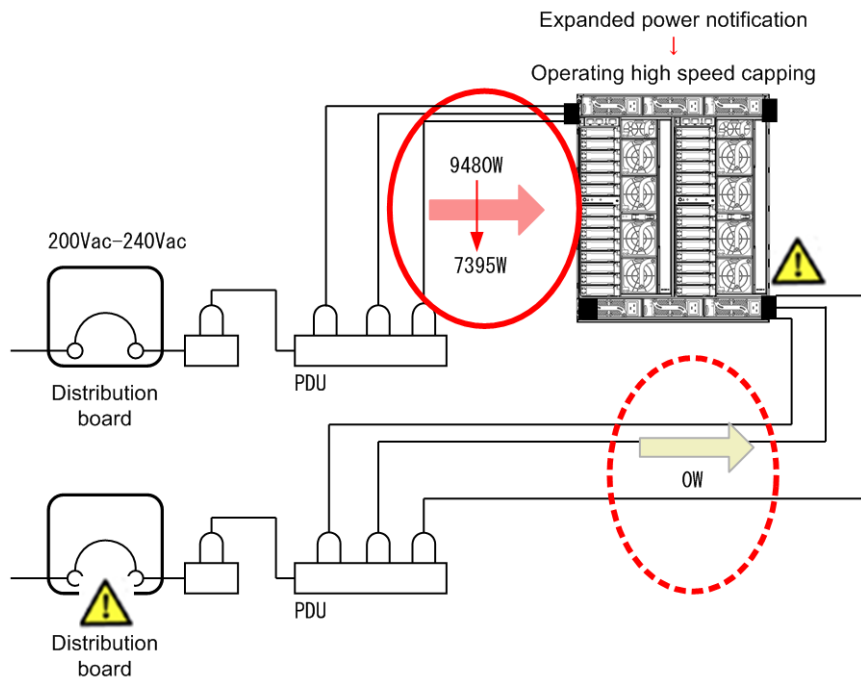
Two power supply systems supply 4,740 W each.



Failure of redundant power supply: Maximum supplied power is 9,480 W > 7,395 W (high-speed capping for expanded power)

If one power supply system fails, the other power supply system supplies 9,480 W.

The rated power supply capacity of the power supply module is exceeded, therefore high-speed capping is applied to the expanded amount of power supply.

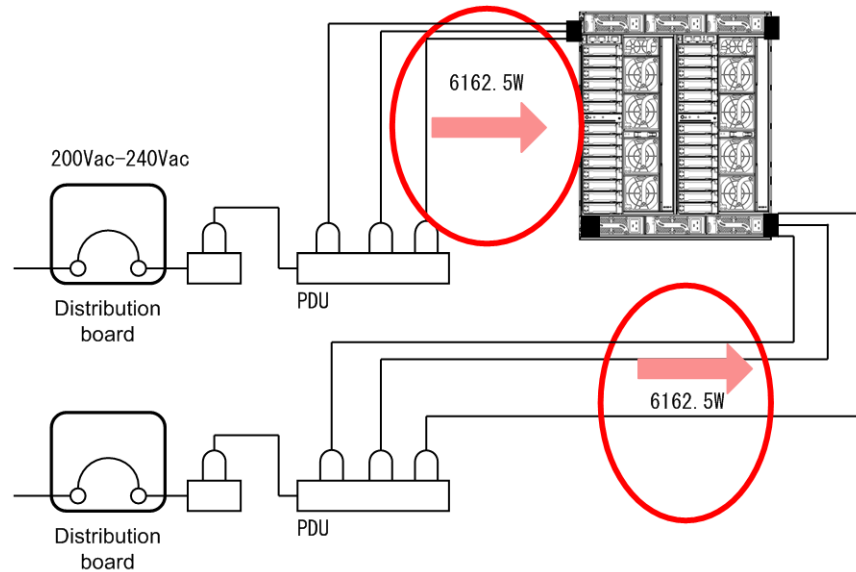


The following shows an example when six power supply modules are mounted in an N+1 redundant configuration.

Summary of operation when the power capacity expansion feature is disabled

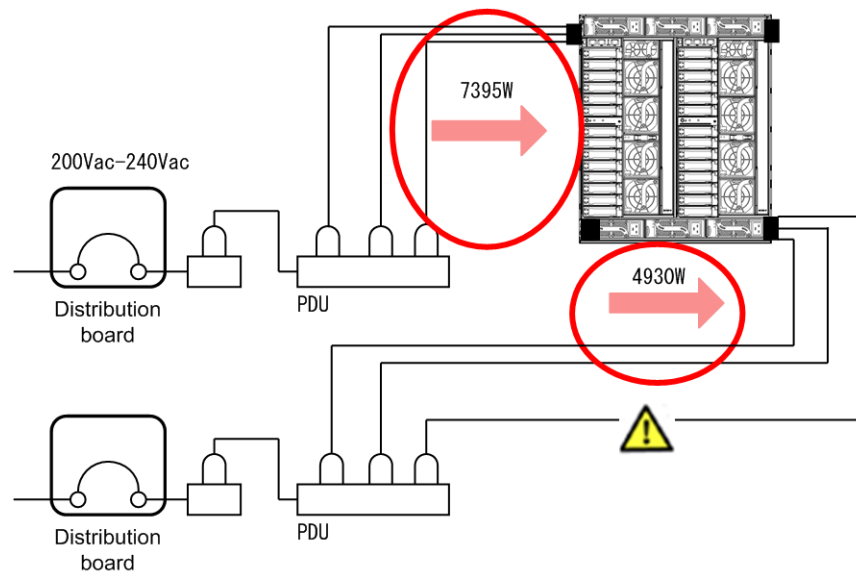
Normal operation of redundant power supply: Maximum supplied power is 12,325 W

Two power supply systems supply 6,162.5 W each.



Failure of redundant power supply: Maximum supplied power is 12,325 W

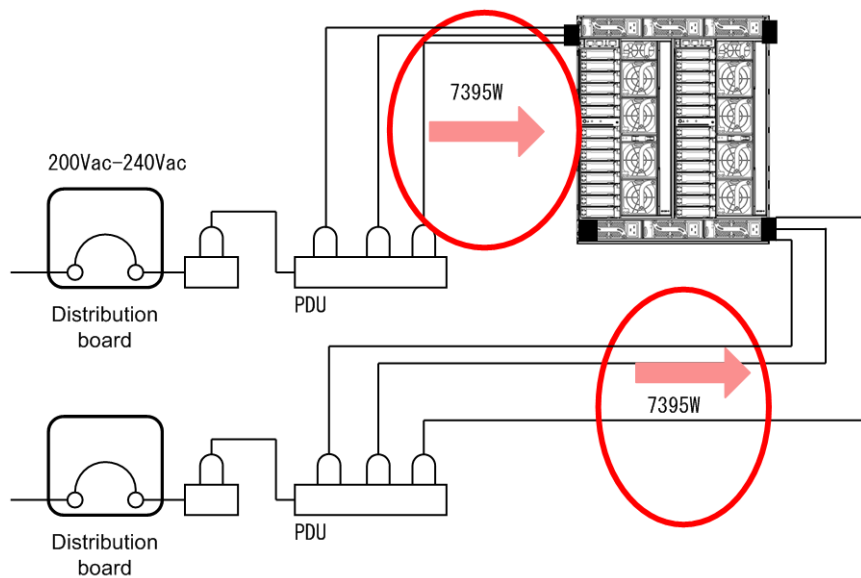
If a failure occurs on one power supply module, the other power supply modules supply a total of 12,325 W of power.



Summary of operation when the power capacity expansion feature is enabled (default)

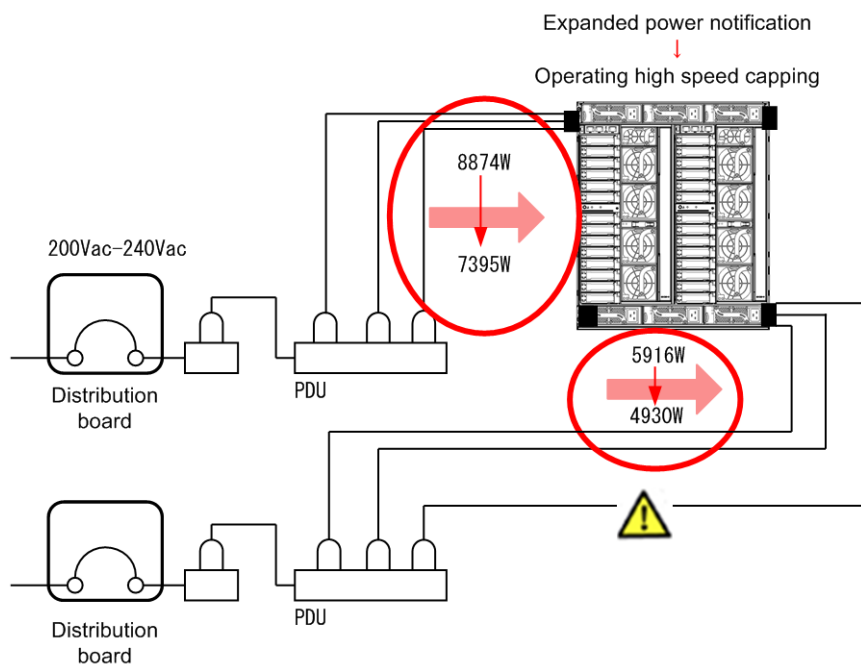
Normal operation of redundant power supply: Maximum supplied power is 14,790 W

Two power supply systems supply 7,395W each.



Failure of redundant power supply: Maximum supplied power is 14,790 W > 12,325 W (high-speed capping for expanded power)

If a failure occurs on one power supply module, the other power supply modules supply a total of 14,790 W of power.



The following table describes the consoles used when you set the power capacity expansion feature from a management module.

Table 2-68 Power capacity expansion feature settings

Operation	Web console	CLI console	LCD touch console
Using the power capacity expansion feature to expand the usable power.	Y	Y	--

Related topics

- [Power supply according to the number of installed power supply modules on page 2-120](#)
- [Using surplus power to expand the usable power on page 2-122](#)

Power supply according to the number of installed power supply modules

The following table shows the number of installed power supply modules and the amount of the power that can be supplied.

Table 2-69 Power supply in an N+N redundant configuration

Power supply status	Power capacity expansion feature	Power supply for each configuration of power supply modules (N+N)		
		2 (1+1)	4 (2+2)	6 (3+3)
Normal operation of redundant power supply	Disabled	Maximum 2,465 W	Maximum 4,930 W	Maximum 7,395 W
	Enabled	Maximum 3,160 W	Maximum 6,320 W	Maximum 9,480 W
Abnormal operation of redundant power supply (when a failure occurs on one power supply module)	Disabled	Maximum 2,465 W	Maximum 4,930 W	Maximum 7,395 W
	Enabled	Maximum 2,465 W	Maximum 6,320 W	Maximum 9,480 W
Abnormal operation of redundant power supply (when a failure occurs on two power supply modules)	Disabled	The system unit is shut down.	Maximum 4,930 W	Maximum 7,395 W
	Enabled	The system unit is shut down.	Maximum 4,930 W	Maximum 9,480 W
Abnormal operation of redundant power supply (when a failure occurs on three power supply modules)	Enabled/Disabled	--	Maximum 2,465 W	Maximum 7,395 W
Abnormal operation of redundant power supply (when a failure occurs on four power supply modules)	Enabled/Disabled	--	The system unit is shut down.	Maximum 4,930 W

Power supply status	Power capacity expansion feature	Power supply for each configuration of power supply modules (N+N)		
		2 (1+1)	4 (2+2)	6 (3+3)
Abnormal operation of redundant power supply (when a failure occurs on five power supply modules)	Enabled/Disabled	--	--	Maximum 2,465 W
Abnormal operation of AC power supply (when a failure occurs on one AC power supply)	Enabled/Disabled	Maximum 2,465 W	Maximum 4,930 W	Maximum 7,395 W
Abnormal operation of AC power supply (when a failure occurs on two AC power supplies)	Enabled/Disabled	The system unit is shut down.	The system unit is shut down.	The system unit is shut down.

Legend:

--: Not supported.

Table 2-70 Power supply in an N+1 redundant configuration

Power supply status	Power capacity expansion feature	Power supply for each configuration of power supply modules (N+1)				
		2 (1+1)	3 (2+1)	4 (3+1)	5 (4+1)	6 (5+1)
Normal operation of redundant power supply	Disabled	Maximum 2,465 W	Maximum 4,930 W	Maximum 7,395 W	Maximum 9,860 W	Maximum 12,325 W
	Enabled	Maximum 3,160 W	Maximum 6,320 W	Maximum 9,480 W	Maximum 12,325 W	Maximum 14,790 W
Abnormal operation of redundant power supply (when a failure occurs on one power supply module)	Enabled/Disabled	Maximum 2,465 W	Maximum 4,930 W	Maximum 7,395 W	Maximum 9,860 W	Maximum 12,325 W
Abnormal operation of redundant power supply (when a failure occurs on two power supply modules)	Enabled/Disabled	The system unit is shut down.	Maximum 2,465 W	Maximum 4,930 W	Maximum 7,395 W	Maximum 9,860 W
Abnormal operation of redundant power supply (when a failure occurs on three power supply modules)	Enabled/Disabled	--	The system unit is shut down.	Maximum 2,465 W	Maximum 4,930 W	Maximum 7,395 W
Abnormal operation of redundant power supply (when a failure occurs on four power supply modules)	Enabled/Disabled	--	--	The system unit is shut down.	Maximum 2,465 W	Maximum 4,930 W

Power supply status	Power capacity expansion feature	Power supply for each configuration of power supply modules (N+1)				
		2 (1+1)	3 (2+1)	4 (3+1)	5 (4+1)	6 (5+1)
Abnormal operation of redundant power supply (when a failure occurs on five power supply modules)	Enabled/Disabled	--	--	--	The system unit is shut down.	Maximum 2,465 W
Abnormal operation of AC power supply	Enabled/Disabled	The system unit is shut down.	The system unit is shut down.	The system unit is shut down.	The system unit is shut down.	The system unit is shut down.

Legend:

--: Not supported.

Related topics

- [Power capacity expansion feature on page 2-115](#)

Using surplus power to expand the usable power

To expand usable power by using the power capacity expansion feature, use the Web console or the CLI console.

To set the power capacity expansion feature from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **Power Management**.
2. From the **Action** pull-down menu, select **Power capacity expansion feature**.

Disable or enable the power capacity expansion feature.

To set the power capacity expansion feature from the CLI console:

1. Execute the `set power power-expansion` command.

Related topics

- [set power power-expansion on page 5-154](#)

Displaying monitored electric power values

On management module consoles, you can check information about electric power values of the entire system unit and server blades.

Two types of power consumption data are displayed: the current power consumption and the history of power consumption. In the history of power

consumption, you can check a maximum of 48 hours of data from the previous day to the current day.

In an SMP configuration, the total power consumption of all server blades constituting the SMP configuration is displayed as the power consumption data for the primary server blade.

The CPU frequency is displayed per server blade. Multiple CPUs in a server blade have the same frequency.

The following table describes the consoles used when you monitor electric power values from a management module.

Table 2-71 Displaying monitored electric power values

Operation	Web console	CLI console	LCD touch console
Checking currently used electric energy	Y	--	--
Checking power usage history	Y	Y	--

Related topics

- [Checking electric power usage on page 2-123](#)

Checking electric power usage

To check the electric power usage, use either the Web console or the CLI console.

To check the power usage from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **Power Management**.
Displays the current input power and power consumption.
2. To check the history of power usage, from the **Action** pull-down menu, select **Download chassis power history**.
The server chassis power history is downloaded. You can obtain a history of the 24 hours from the previous day, the most recent 24 hours, or a maximum of 48 hours from 0:00 of the previous day to the present time.



Note: When using the web console from the web browser, press the **save** button within two minutes after the dialog for selecting a location for a downloaded file to be saved opens on the browser.

If Internet Explorer is used and you press the button after two or more minutes pass, the file is not saved as the correct size. Instead, the message "Internet Explorer cannot download [IP address] - [File name]. Server returned invalid or unrecognized response." is returned or the file is incorrectly saved as a smaller size.

In such a case, download the file again.

To check the power usage from the CLI console:

1. To check the power usage history, execute the `show log power` command.

Related topics

- [show log power on page 5-266](#)

Forcibly powering off server blades when there is insufficient power

If the currently consumed amount of electric power can no longer be supplied because of a power supply module failure or other reason, the management module forcibly powers off some server blades to restrict the number of running server blades to the number for which power can be supplied. Set the order in which server blades are to be powered off by the management module.

You can disable the **Edit server blade force power OFF** setting so that the server blades will not be forcibly powered off even if the power that can be supplied to the system unit is insufficient. However, if multiple power supply modules fail, a load that exceeds the range in the product specifications will be applied to the normal power supply modules.

In the initial settings (the settings at shipping time) of the system unit, server blades are set to be powered off in the following order: 15, 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1.

When server blades are in an SMP configuration, set the primary server blade number.

The following table shows the consoles that can be used to set the management module will forcibly power off server blades when there is insufficient power.

Table 2-72 Configuring settings related to forcibly powering off server blades when there is insufficient power

Operation	Web console	CLI console	LCD touch console
Specifying whether to forcibly power off server blades when the power that can be supplied to the system unit is insufficient ¹	Y	--	--
Specifying the sequence in which server blades are to be forcibly powered off when the power that can be supplied to the system unit is insufficient	Y	Y	--
Notes: 1. This setting is available when the version of the management module firmware is A0180 or later. For versions earlier than A0180, the setting is set to enable and cannot be changed.			

Related topics

- [Specifying whether to forcibly power off server blades when there is insufficient power on page 2-125](#)

Specifying whether to forcibly power off server blades when there is insufficient power

Use the Web console to specify whether to forcibly power off server blades when the power that can be supplied to the system unit is insufficient. This setting is available when the version of the management module firmware is A0180 or later. For versions earlier than A0180, the setting is set to **enable** and cannot be changed.

To specify whether to forcibly power off server blades from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **Power Management**.
2. From the **Action** pull-down menu, click **Edit server blade force power OFF**.

Enable or disable the **Edit server blade force power OFF** setting used when there is insufficient power.

Use the Web console or the CLI console to specify the sequence in which server blades are to be forcibly powered off when the power that can be supplied to the system unit is insufficient.

To set the forced-power-off sequence for server blades from the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **Power Management**.
2. From the **Action** pull-down menu, click **Edit server blade power OFF sequence**.

Specify the sequence in which server blades are to be forcibly powered off when the power that can be supplied to the system unit is insufficient.

To set the forced-power-off sequence for server blades from the CLI console:

1. Execute the `set power blade poweroff order` command.

Related topics

- [set power blade poweroff order on page 5-151](#)

Specifying all settings for a server chassis by using an import file

This section describes the import functionality of management modules.

Importing a settings file

The import functionality specifies all settings for a server chassis during initial setup. A settings file created by this functionality is called an import file.

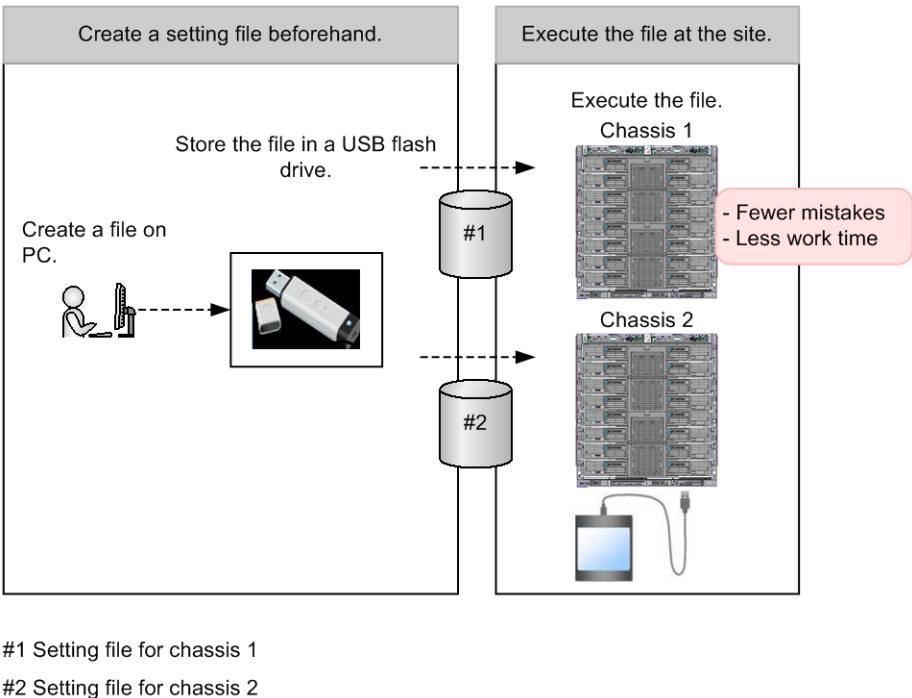


Figure 2-7 Example of importing a settings file by using an LCD touch console

The following shows the settings that you can specify by importing a settings file.

- Time settings
Specify the timezone and daylight saving time settings.
- Protocol settings
Specify the connection permission settings for Telnet, SSH, FTP, HTTP, and HTTPS.
- Network settings
Specify IP address settings for management modules, server blades, and switch modules.

The following table describes the consoles used when you import a settings file from a management module.

Table 2-73 Import of a settings file

Operation	Web console	CLI console	LCD touch console
Importing a settings file	Y	--	Y

Related topics

- [Time settings on page 2-3](#)
- [IP address restriction settings for management module services on page 2-19](#)
- [Editing the Telnet connection settings on page 2-20](#)
- [Editing the FTP connection settings on page 2-21](#)
- [Editing the SSH/SFTP connection settings on page 2-21](#)
- [Editing the HTTP connection settings on page 2-22](#)
- [Editing the HTTPS connection settings on page 2-22](#)
- [IP address settings on page 2-42](#)
- [IP address setting items on page 2-43](#)
- [Setting the IP addresses of management modules, server blades, and switch modules on page 2-44](#)
- [Checking the template used to set the import file format on page 2-127](#)
- [Importing a settings file on page 2-130](#)
- [Notes on changing the settings for import files on page 2-131](#)
- [Example of changing the settings for an import file on page 2-132](#)
- [Causes and actions to take if importing of an import file fails on page 2-134](#)

Checking the template used to set the import file format

The following shows the template for import files.

```
#!/begin target=timezone
set time timezone -z "+9:00"
set time dst -v disable
#!/end

#!/begin target=protocol
set remote-access protocol telnet -a allow -n 0.0.0.0 -s 0.0.0.0 -a6
allow -n6 :: -p6 0
set remote-access protocol ssh -a allow -n 0.0.0.0 -s 0.0.0.0 -a6
allow -n6 :: -p6 0
set remote-access protocol ftp -a allow -n 0.0.0.0 -s 0.0.0.0 -a6
allow -n6 :: -p6 0
set remote-access protocol http -a allow -p 80 -n 0.0.0.0 -s 0.0.0.0
-a6 allow -n6 :: -p6 0
set remote-access protocol https -a allow -p 443 -n 0.0.0.0 -s
0.0.0.0 -a6 allow -n6 :: -p6 0
#!/end

#!/begin target=network
set mgmt-module mgmt-lan -i 192.168.0.1 -s 255.255.255.0 -g 0.0.0.0 -
d0 0.0.0.0 -d1 0.0.0.0 -d2 0.0.0.0
set blade mgmt-lan 1 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set blade mgmt-lan 2 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set blade mgmt-lan 3 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set blade mgmt-lan 4 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set blade mgmt-lan 5 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
```

```

set blade mgmt-lan 6 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set blade mgmt-lan 7 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set blade mgmt-lan 8 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set blade mgmt-lan 9 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set blade mgmt-lan 10 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set blade mgmt-lan 11 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set blade mgmt-lan 12 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set blade mgmt-lan 13 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set blade mgmt-lan 14 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set blade mgmt-lan 15 -i 0.0.0.0 -s 0.0.0.0 -g 0.0.0.0
set sw-module mgmt-lan 1 -i 192.168.0.31 -s 255.255.255.0 -g 0.0.0.0
set sw-module mgmt-lan 2 -i 192.168.0.32 -s 255.255.255.0 -g 0.0.0.0
#!end

#!begin target=networkv6
set mgmt-module mgmt-v6 address -st enable -i 2001:0DB8::1 -p 64 -gs
enable -g 2001:0DB8::1000
set mgmt-module dns -p ipv4 -v6 2001:0DB8::100
set blade mgmt-v6 address 1 -st enable -i 2001:0DB8::11 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 2 -st enable -i 2001:0DB8::12 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 3 -st enable -i 2001:0DB8::13 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 4 -st enable -i 2001:0DB8::14 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 5 -st enable -i 2001:0DB8::15 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 6 -st enable -i 2001:0DB8::16 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 7 -st enable -i 2001:0DB8::17 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 8 -st enable -i 2001:0DB8::18 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 9 -st enable -i 2001:0DB8::19 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 10 -st enable -i 2001:0DB8::20 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 11 -st enable -i 2001:0DB8::21 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 12 -st enable -i 2001:0DB8::22 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 13 -st enable -i 2001:0DB8::23 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 14 -st enable -i 2001:0DB8::24 -p 64 -gs
enable -g 2001:0DB8::1000
set blade mgmt-v6 address 15 -st enable -i 2001:0DB8::25 -p 64 -gs
enable -g 2001:0DB8::1000
set sw-module mgmt-v6 address 1 -st enable -i 2001:0DB8::31 -p 64 -
gs enable -g 2001:0DB8::1000
set sw-module mgmt-v6 address 2 -st enable -i 2001:0DB8::32 -p 64 -
gs enable -g 2001:0DB8::1000
#!end

```

When changing the template settings, use Notepad or another text editor to directly modify the file, and then save the file to a USB flash drive.



Tip: To import individual settings for multiple server chassis, prepare individual files for each server chassis. Specify the file names that indicate

individual server chassis so that you can easily distinguish the files when performing the import operation.

The following shows the import file format.

Time settings

- Time zone: +9:00
- Daylight saving time: disabled

Protocol settings

Connection permission settings for Telnet, SSH, FTP, HTTP, and HTTPS.

- All connections are allowed for all protocols.
- Port number for HTTP: 80
- Port number for HTTPS: 443

Network settings for IPv4 connections

Management module IP address setting

- IP address: 192.168.0.1
- Subnet mask: 255.255.255.0
- Default gateway: 0.0.0.0
- DNS server address: 0.0.0.0

Server blade IP address setting (for all server blades)

- IP address: 0.0.0.0
- Subnet mask: 0.0.0.0
- Default gateway: 0.0.0.0

IP address settings for switch modules

The following shows a setting example of switch module 1:

- IP address: 192.168.0.31
- Subnet mask: 255.255.255.0
- Default gateway: 0.0.0.0

Network settings for IPv6 connections

Management module IP address setting

- IP address: 2001:0DB8::1
- Prefix length: 64
- Default gateway: 2001:0DB8::1000

DNS server address setting

- IPv4 settings are preferentially used.
- DNS server address when using IPv6 networks: 2001:0DB8::100

Server blade IP address setting

The following shows an example of a setting for server blade 1:

- IP address: 2001:0DB8::11
- Prefix length: 64
- Default gateway: 2001:0DB8::1000

Switch module IP address setting

The following shows a an example of a setting for switch module 1:

- IP address: 2001:0DB8::31
- Prefix length: 64
- Default gateway: 2001:0DB8::1000



Note:

- If IPv6 connections are not used, delete the network settings for IPv6 connections (settings from `#!begin target=networkv6` to `#!end`) from the import file.
 - The values of network settings for IPv6 connections in the template are samples, and make sure that you change the values when you are using the import file format.
 - IPv6 stateless addresses cannot be set.
-

Importing a settings file

To import a settings file, use the Web console or the LCD touch console.

Operations that you need to perform in advance

- Saving of import files to the system console (for the Web console)
For both the name of the folder in which the files are to be saved and the import file names, use only half width alphanumeric characters to specify the names, and ensure that each full path is no more than 200 characters.
- Saving of import files to a USB flash drive (for the LCD touch console)
For both the name of the folder in which the files are to be saved and the import file names, use only half width alphanumeric characters to specify the names, and ensure that each full path is no more than 255 characters.
- Connecting of the USB flash drive to which the import files are already saved to the server chassis (for the LCD touch console)

To import a settings file from the Web console:

1. In the **Resources** tab, from the tree view under **Modules**, select **Chassis**.
2. From the **Action** pull-down menu, click **Import System Settings**.
The Import System Settings dialog box appears.
3. Click the **Browse** button to select the created import file, and then click **Confirm**.
4. Check the message, and then click the **OK** button.
The file is imported.



Note: If you import a settings file to change the IP address of a management module, the management module is disconnected. Log in to the Web console of the management module, and then execute steps 1-2 again.

-
5. Select **Download last import log**, and then click the **Confirm** button.



Note: When using the web console from the web browser, press the **save** button within two minutes after the dialog for selecting a location for a downloaded file to be saved opens on the browser.

If Internet Explorer is used and you press the button after two or more minutes pass, the file is not saved as the correct size. Instead, the message "Internet Explorer cannot download [IP address] - [File name]. Server returned invalid or unrecognized response." is returned or the file is incorrectly saved as a smaller size.

In such a case, download the file again.

To import a settings file from the LCD touch console:

1. From the System settings menu, touch the **Import** button.
2. In the Import (Select file) window, touch a settings file to be imported, and then select **Open/OK**.
The file is imported.



Note:

- If you touch a file, the background changes to blue.
- The current directory is displayed at the top of the window. If the directory is longer than the window width, the directory is right-aligned (and disappears from the left side).

-
3. Check the import result, and then touch the **OK** button.

Notes on changing the settings for import files

If you change the settings for an imported file, note the following:

- Strictly follow the template when changing the settings.
If you add a CLI command that is not included in the template to a settings file or move a command description to another location within a settings file, the settings file might not be imported correctly.

- From a settings file, delete the description of commands that you do not need to execute.
- CLI commands are used to specify each setting for an import file. For details about CLI commands, see [Chapter 5, Commands That Can Be Executed From the CLI Console](#).

Example of changing the settings for an import file

This section describes examples of changing the protocol and network settings.

Changing the protocol settings

The following examples show how to change protocol settings written in an import file:

- To disable the connection permission for HTTP:
`set remote-access protocol http -a deny -a6 deny`
- To set the port number for HTTP to 80:
`set remote-access protocol http -p 80`
- To apply IPv4 connection restrictions to HTTP:
Set the network address to 192.168.0.0 and the subnet mask to 255.255.255.0.
`set remote-access protocol http -n 192.168.0.0 -s 255.255.255.0`
- To apply IPv6 connection restrictions to HTTP:
Set the network address to 2001:0DB8::/64.
`set remote-access protocol http -n6 2001:0DB8:: -p6 64`



Note: To set a protocol other than HTTP, change HTTP to Telnet, SSH, FTP, or HTTPS. For Telnet, SSH, and FTP, you do not need to set a port number.

Changing network settings for IPv4 connections

The following examples show how to change the network settings for IPv4 connections written in an import file:

- Management modules
 - Set the IP address to 192.168.0.1.
 - Set the subnet mask to 255.255.255.0.
 - Set the default gateway to 192.168.0.100.
 - Set the DNS server address (1st) to 192.168.0.150.
 - Set the DNS server address (2nd) to 192.168.0.151.
 - Set the DNS server address (3rd) to 192.168.0.152.

```
set mgmt-module mgmt-lan -i 192.168.0.1 -s 255.255.255.0 -g
192.168.0.100 -d0
192.168.0.150 -d1 192.168.0.151 -d2 192.168.0.152
```
- Server blade 1

- Set the IP address to 192.168.0.10.
 - Set the subnet mask to 255.255.255.0.
 - Set the default gateway to 192.168.0.100.
- ```
set blade mgmt-lan 1 -i 192.168.0.10 -s 255.255.255.0 -g 192.168.0.100
```
- Switch module 1
    - Set the IP address to 192.168.0.31.
    - Set the subnet mask to 255.255.255.0.
    - Set the default gateway to 192.168.0.100.
- ```
set sw-module mgmt-lan 1 -i 192.168.0.31 -s 255.255.255.0 -g 192.168.0.100
```

Network settings for IPv6 connections

The following examples show how to change the network settings for IPv6 connections written in an import file:

- Management modules
 - Disable IPv6 connections.

```
set mgmt-module mgmt-v6 address -st disable
```

 - Set the IP address to 2001::202:1.
 - Set the prefix length to 32.
 - Set the default gateway to 2001::1:1:1.

```
set mgmt-module mgmt-v6 address -st enable -i 2001::202:1 -p 32 -gs enable -g 2001::1:1:1
```
- DNS server address setting
 - Setting so that DNS server IPv6 addresses are preferentially used
 - Set the DNS server IPv4 address (1st) to 192.168.0.150.
 - Set the DNS server IPv6 address (1st) to 2001::1:1:1.
 - Set the DNS server IPv6 address (2nd) to 2001::2:2:2.

```
set mgmt-module dns -p ipv6 -v4 192.168.0.150 -v6 2001::1:1:1,2001::2:2:2
```
- Server blade 1
 - Disable IPv6 connections.

```
set blade mgmt-v6 address 1 -st disable
```

 - Set the IP address to 2001::202:11.
 - Set the prefix length to 32.
 - Set the default gateway to 2001::1:1:1.

```
set blade mgmt-v6 address 1 -st enable -i 2001::202:11 -p 32 -gs enable -g 2001::1:1:1
```
- Switch module 1
 - Disable IPv6 connections.

```
set sw-module mgmt-v6 address 1 -st disable
```

- Set the IP address to 2001::202:30.
 - Set the prefix length to 32.
 - Set the default gateway to 2001::1:1:1.
- ```
set sw-module mgmt-v6 address 1 -st enable -i 2001::202:30 -p 32
-gs enable -g 2001::1:1:1
```

## Causes and actions to take if importing of an import file fails

If the importing of an import file fails, check the cause displayed in the Import (Result) window. The following explains how to take action according to the displayed message.

### A syntax error occurred.

The import file has a command syntax error. Do the following:

1. Check the content of the import result file (importresult-yyyymmddhhmmss.txt) stored in the USB flash drive that contains the import file.

The following shows an example of the result file.

```
E9972 : Syntax error. : (4,20(1)) : (2)set time timezone -s +9:00
E9973 : File is invalid.
```

(1) indicates that an error occurred at the 20th character in the fourth line of the import file. (2) indicates the fourth line. Therefore, correct the 20th character of the line.

2. Correct the error indicated by the import result file, re-create the import file, and then import the file again.

### Importation was failed.

The failure was caused by an incorrect command setting in the import file or other cause.

1. Check the content of the import result file (importresult-yyyymmddhhmmss.txt) stored in the USB flash drive that contains the import file.

The following shows an example of the result file.

```
$ #!begin target=network
$ set mgmt-module mgmt-lan -i 192.168.0.100 -s 255.255.255.0 -g
192.168.0.200 -d0
192.168.0.101 -d1 192.168.0.102 -d2 192.168.0.103
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$ set blade mgmt-lan 0 -i 192.168.0.301 -s 255.255.255.0 -g
0.0.0.0- (1)
E0001 : Command was canceled. Parameter was invalid.- (2)
S0005 : Command was invalid.- (3)
S0000 : Command was finished.
```

Check the content of the command statement indicated by (1) for which the lines (2) and (3) are displayed. In the line (2), the cause of the error is indicated after [Command was canceled.].

2. Correct the error indicated by the import result file, re-create the import file, and then import the file again.

### **Failed writing to result file.**

An attempt to write the import result file (importresult-yyyymmddhhmmss.txt) in the USB flash drive that contains the import file failed.

If this error occurs, make sure that the USB flash drive is inserted into the server chassis. In addition, check the free space in the USB flash drive. The import result file can be a maximum of 5 KB.

### **Specified file is not defined.**

Again, make sure that the USB flash drive that contains the import file specified when you performed the import operation is inserted into the server chassis, and then import the file.

### **Unexpected error occurred.**

An error occurred in the controller that executes import operations. Consult your reseller.



# Efficient Management of Servers Using the Management Module

This chapter describes how to efficiently manage each system unit using the functionality provided by the management module.

- ☐ [Linkage with the server management software \(HCSM\)](#)
- ☐ [Preparation for running the server blades in a redundant configuration \(N+M cold standby\)](#)
- ☐ [Configuring an environment for running server blades in a redundant configuration \(N+M cold standby\)](#)
- ☐ [Failure management through failover from the active to standby server blade \(HA monitor\)](#)
- ☐ [Viewing the host information of the server blade](#)
- ☐ [Managing user account information by using LDAP](#)
- ☐ [Managing user account information by using RADIUS](#)
- ☐ [Monitoring the operating status of the system unit by using an SNMP manager](#)
- ☐ [Notifying the status of the management module through email](#)
- ☐ [Syslog transfer](#)

## Linkage with the server management software (HCSM)

This section describes the linkage between the management module and the server management software (HCSM).

### Linkage with HCSM

HCSM is software designed to provide the functionality for operating the system units installed in a large system.

By using HCSM, the system administrator can manage the hardware resources used in the system, monitor the operating status of the resources, place the system in N+M cold standby, implement power management, and operate hardware devices.

Management modules communicate with HCSM through management interfaces. You can select either IPv4 or IPv6 communication.

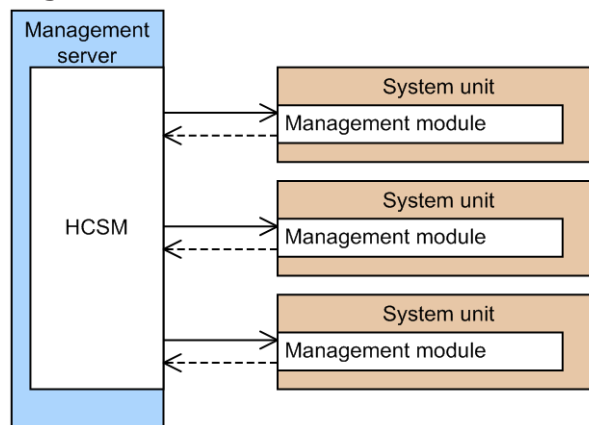


#### Note:

- If IPv6 communication is selected, specify static addresses for the IPv6 setting of the management interfaces of management modules. In addition, search for the static addresses of the management modules from HCSM.
- If IPv6 communication is selected, disable stateless addressing of server blades and management modules.

These management functionality is provided through communication between HCSM and the management module.

HCSM and the management module share two communication channels.



Legend:

—————> : Send Command

<----- : Send Alert

- Command communication channel  
HCSM uses this communication channel to send a processing request to the management module.

The command communication uses the HTTPS protocol to prevent wiretapping or tampering with data sent to the management module.

- Alert communication channel

The management module uses this communication channel to notify HCSM of the events that occur in the system unit.

The alert communication uses the SSL/TLS protocol to prevent wiretapping or tampering with data sent to HCSM.

The management module can link with a maximum of four HCSMs.



**Note:**

- To link a management module with HCSM, you have to enable HTTPS.
- If you set the security level to [High], or if you set the security level to [Default] while disabling any communications that do not use TLS 1.2, the management module cannot connect with HCSM that does not support TLS 1.2.  
For details about the procedures you need to follow when using HCSM, see the instruction manual or other manuals supplied with HCSM.
- If you edit the HCSM settings and change the port number used for HTTPS communication to a setting other than 443, set the same port number for the management module as well.

The following table describes the consoles that you can use to specify linkage between the management module and HCSM.

**Table 3-1 Setting up linkage with HCSM**

| Operation                                                       | Web console | CLI console | LCD touch console |
|-----------------------------------------------------------------|-------------|-------------|-------------------|
| Check the HCSM information registered in the management module. | Y           | Y           | --                |
| Disable the HCSM linkage functionality.                         | Y           | Y           | --                |

### Related topics

- [Specifying the HCSM linkage options on page 3-3](#)
- [Specifying information for HCSM that manages the management module on page 3-5](#)

## Specifying the HCSM linkage options

You can link management modules to HCSM by Discovering and adding resources from the HCSM user interface after specifying network settings for the management modules. Other settings for the management modules are not required.

The following HCSM linkage options are available:

- Suppress the management functionality performed by HCSM.  
You can disable the HCSM linkage functionality.  
If you enable this option, HCSM will not be able to manage the system unit. If you perform a resource search from HCSM with the HCSM linkage functionality disabled, the system unit will not become the management target.
- Restrict connections based on the IP addresses.  
If you enable connection restriction, you can link the management module with only the HCSM server registered in the management module.  
If you perform a resource search from an unregistered HCSM with a connection restriction enabled, the system unit will not become the management target.  
This option is useful when you want to prevent the system unit from becoming the management target of an HCSM that was set up by mistake after the system was configured.



**Note:** If you want to manage the system unit from a new HCSM when a connection restriction is enabled, you have to register the IP address of the new HCSM in the management module before performing a resource search from that HCSM.

---

- Set the account and password used for authentication.  
When linking with HCSM, the management module performs authentication using the account and password.  
The management module and HCSM share the same default account and password. This authentication can also be performed using the account and password specified by the system administrator instead of using the default account and password.  
If you specify the account and password used for authentication, specify the same account and password for the management module and HCSM. If the management module and HCSM do not specify the same account and password, authentication will fail and you will be unable to link the management module to HCSM.



**Note:** The settings for the alerts to be sent to HCSM can be changed from management module firmware whose revision is earlier than A0135. However, do not change these settings by using the Web console or CLI console.

Even if you change the setting values, the changed values will be updated to the values held by HCSM when you execute "Discovering and adding resources from HCSM". The items to be set for the alerts to be sent to and the default values held by HCSM are as follows:

- Port number to which alerts are to be sent: 22611
  - Alert level: failure notifications, warning notifications, and information notifications
  - Alert retry interval: 2 minutes
  - Alert retry duration: 10 minutes
-



## Related topics

- [Linkage with HCSM on page 3-2](#)
- Manual *Hitachi Command Suite Compute Systems Manager User Guide*

## Specifying information for HCSM that manages the management module

HCSM is equipped with functionality (resource search) to search for the system units that exist within the management target network.

When the system administrator performs a resource search from the HCSM user interface, all the system units that exist in the network become the management targets of HCSM. After including the system units as the management targets, HCSM registers its own information in the management module that manages each system unit.

You can check or specify the following information from the Web console or CLI console: connection restrictions based on the IP addresses of the HCSMs registered in the management module through a resource search.



**Note:** Suppose that there are four HCSMs registered in the management module. In this case, if you perform a resource search from an unregistered HCSM, the system unit in which the management module is registered will not become a management target of the new HCSM.

### To specify information regarding HCSM from the Web console:

1. From the tree view in the **Administration** tab, select **HCSM**.
2. On the **HCSM Server** or **HCSM Service** tab, check the information regarding the HCSM linked with the management module.

### To specify information regarding HCSM from the CLI console:

1. Depending on the operation you are going to perform, execute one of the commands listed in the following table.

**Table 3-2 Commands used for HCSM linkage**

| Operation                                                                                     | Command                          |
|-----------------------------------------------------------------------------------------------|----------------------------------|
| Display option settings for HCSM linkage                                                      | <code>show hcsm setting</code>   |
| Set the IP address for HCSM                                                                   | <code>set hcsm manager</code>    |
| Delete the registered information for HCSM                                                    | <code>delete hcsm manager</code> |
| Change the HCSM management suppression setting, or change the connection restriction setting. | <code>set hcsm agent</code>      |

## Related topics

- [Linkage with HCSM on page 3-2](#)

- [show hcsd setting on page 5-238](#)
- [set hcsd manager on page 5-226](#)
- [delete hcsd manager on page 5-219](#)
- [set hcsd agent on page 5-225](#)

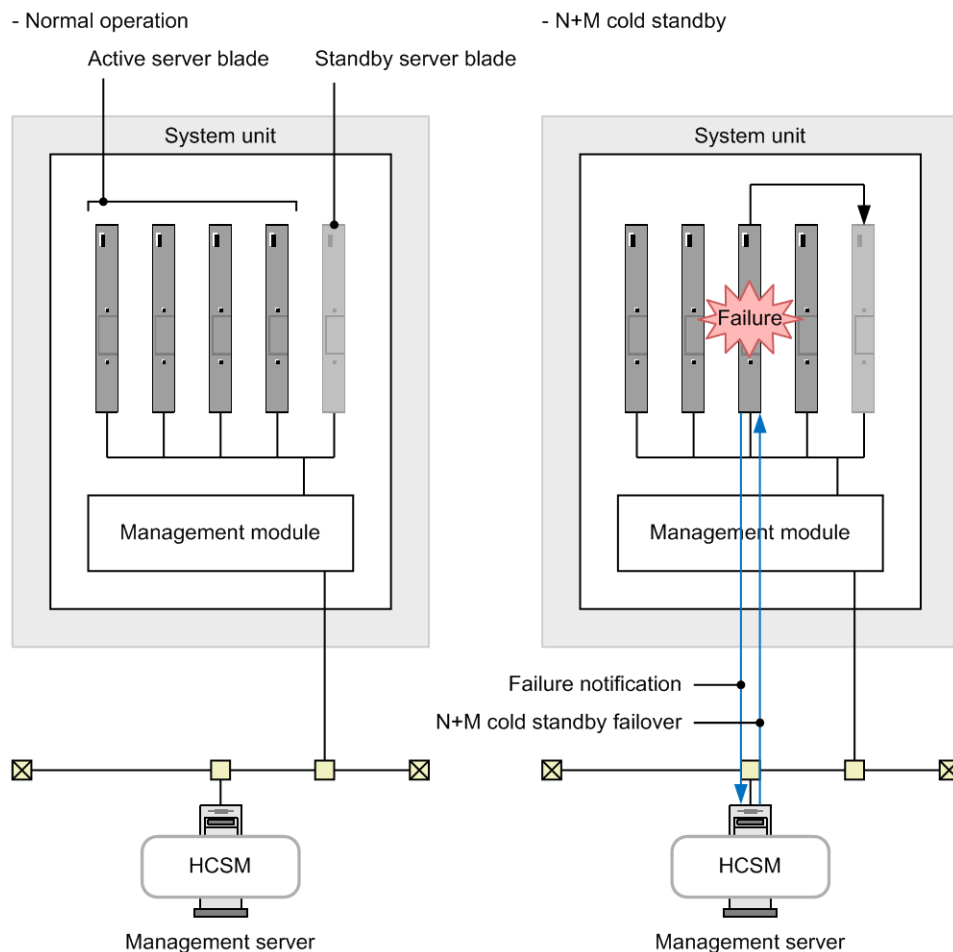
## Preparation for running the server blades in a redundant configuration (N+M cold standby)

This section describes the functionality you can use to run the server blades in a redundant configuration.

### N+M cold standby

N+M cold standby is functionality through which HCSM receives a notification of hardware failure in the active server blade (operating server blade), analyzes the failure, and then enables failover to the standby server blade. You can prepare a standby server blade for several active server blades so that when one of the active server blades fails, the standby server blade can take over and resume the operation. Although a hardware failure causes the operation to stop temporarily, N+M cold standby offers a labor-saving solution to managing a hardware failure and resuming operation using limited hardware resources.

N+M cold standby also supports LPAR manager. Thus, when a hardware failure occurs in the active server blade on which multiple LPARs are running, the LPARs are restarted on the standby server blade that takes over for the active server blade. It is also possible to share a standby server blade between the active server blade running in basic mode and another active server blade running in LP mode. For details about LP mode, see *Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide*.



**Figure 3-1 Example of the N+M cold standby configuration**



**Tip:**

- You can specify N+M cold standby for multiple system units.
- The active server blade and the standby server blade do not need to exist within the same system unit.
- If you want to switch to the standby server blade when a watchdog timer timeout occurs, you must configure necessary settings for the management modules.
- For the onboard CNA, the support level for N+M cold standby differs depending on the firmware version. For details, see [Required unit configuration for N+M cold standby on page 3-17](#).
- To connect to HCSM version 8.1.1 or later, you can use the IPv6 network. However, when configuring N+M cold standby for multiple server chassis, you need to only use either the IPv4 network or the IPv6 network to connect to HCSM.

**Related topics**

- [Linkage with HCSM on page 3-2](#)

- [Enabling the N+M cold standby support functionality on page 3-23](#)

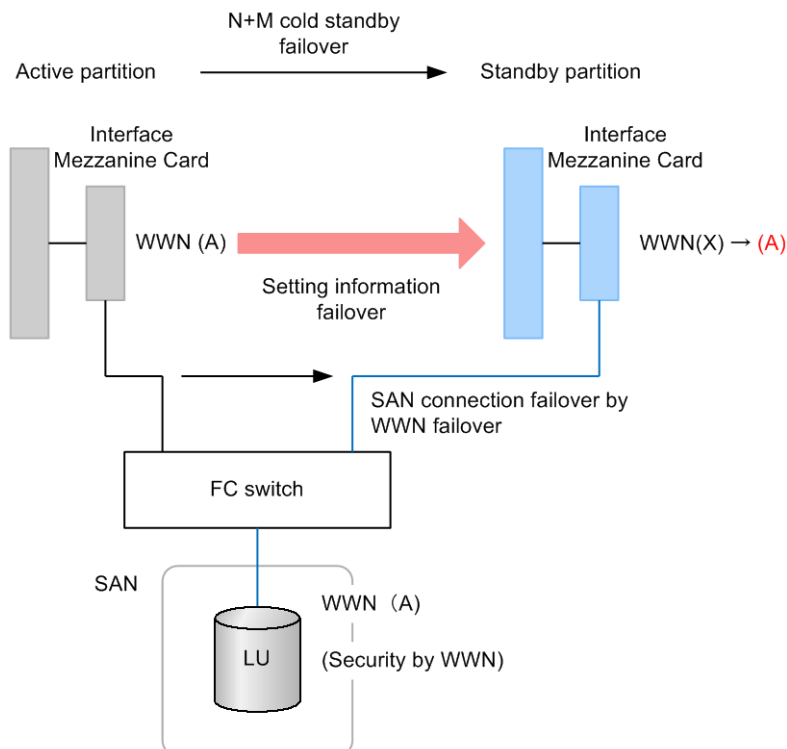
## Mechanism of N+M cold standby

N+M cold standby failover takes place when a hardware failure occurs in a server blade. BMC detects the server blade failure and notifies the management module of the failure. The management module analyzes the failure, and if the failure is subject to N+M cold standby, a failover request is sent to HCSM. HCSM selects an available standby server blade and passes the settings of the active server blade in which the failure occurred to the standby server blade by performing the following operations.

This manual refers to the settings inherited as a result of N+M cold standby as the "server blade settings" or just the "settings". Failover from an active to standby server blade, on the other hand, is referred to as "N+M failover", whereas failover from a standby to active server blade is referred to as "N+M recovery".

### For server blades in Basic mode

With N+M cold standby, when the basic-mode server blade undergoes N+M failover, the standby server blade inherits the various settings from the active server blade. This allows the standby server blade to start up from the same disk (LU) and restart the same OS environment as the active server blade when the standby server blade takes over for the active server blade.



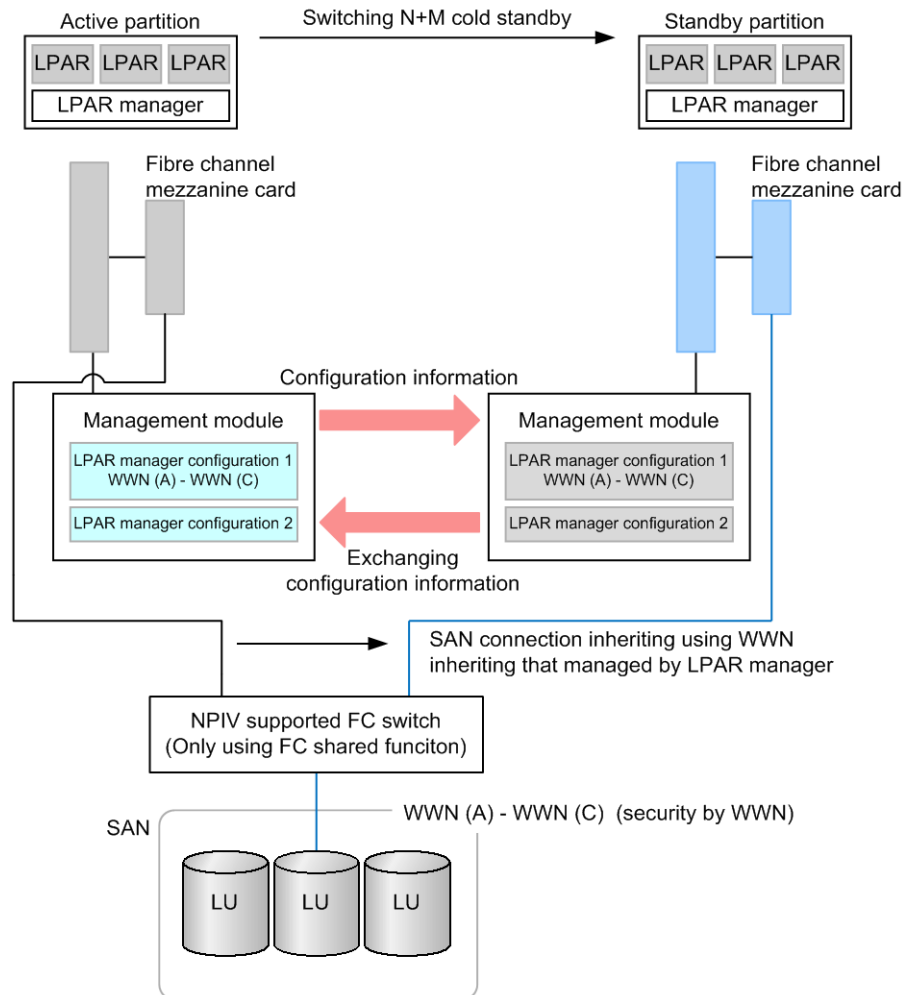
**Figure 3-2 N+M failover of the basic-mode server blades**



**Note:** The active server blade and the standby server blade must have the same hardware configuration and have the same version of the firmware installed.

### For server blades in LPAR manager mode

In N+M cold standby, when N+M switching occurs with the server blade in LPAR manager mode, information about the LPAR manager configuration (for example, the LPAR settings, LPAR status, and WWN information managed by the LPAR manager) of the active server blade is replicated and passed to the standby server blade, and then the standby server blade is started in LPAR manager mode. As a result, the standby server blade and the active server blade have the same LPAR configuration even if the server blades are switched. In addition, each LPAR will be started from the same disk (LU) that is used for the active server blade, and the OS environment can be restarted. In this document, the inherited configuration information is henceforth referred to as "LPAR manager configuration information" or "configuration information".



**Figure 3-3 N+M failover of the LPAR manager-mode server blades**



**Note:** Check the restrictions described in [Required unit configuration for N+M cold standby on page 3-17](#).

---



**Tip:**

- Switching to the standby server blade occurs when a hardware failure occurs in the active server blade.
- 

**Related topics**

- [N+M cold standby on page 3-6](#)
- [Notes on N+M cold standby on page 3-10](#)

## Notes on N+M cold standby

### Notes on configuration

This subsection describes the precautions to be taken before configuring the N+M cold standby environment.

- The active server blade and the standby server blade must have the same hardware configuration. N+M cold standby works only between the server blades of the same model.
- The level of the LPAR manager license to be set for standby server blades must be equal to or higher than the level set for all the active server blades.
- If a server blade is added or the LPAR manager license for a server blade is upgraded, the LPAR manager license for standby server blades and other active server blades in the same group might need to be upgraded.
- The latest version available for the LPAR manager firmware to be set for standby server blades must be the same as or later than the version set for all the active server blades.
- For N+M cold standby in a multiple server chassis configuration, LPAR manager firmware whose version is the same as or later than the version used for the active server blade must be installed on the standby server chassis.

For N+M cold standby in a multiple server chassis configuration, the selected LPAR manager firmware version is the same as or later than the version used for the active server and that is within the range of available versions.

For N+M cold standby in a server chassis, the LPAR manager firmware information is inherited, and the same LPAR manager firmware is always selected.

- If shared NIC, virtual NIC, VF NIC, or dedicated NIC mode is set for LPAR manager, and an Additional MAC address is set for the MAC type, the MAC address of the LAN adapter will be inherited in an N+M failover. Therefore, an N+1 teaming kit is not necessary.

If an Original MAC address is set for the MAC type in dedicated NIC mode, the MAC address of the LAN adapter will not be inherited in an N+M failover. Therefore an N+1 teaming kit is necessary.

- The following table describes whether the Original WWN or Additional WWN, and also the Original MAC or Additional MAC, can be used for LPAR manager.

**Table 3-3 WWN settings**

| Item                                | Original WWN | Additional WWN |
|-------------------------------------|--------------|----------------|
| Dedicated FC                        | Y            | -              |
| Shared FC                           | Y            | -              |
| Legend:<br>Y: usable<br>-: unusable |              |                |

**Table 3-4 MAC address settings**

| Item                                                                                                      | Original MAC   | Additional MAC |
|-----------------------------------------------------------------------------------------------------------|----------------|----------------|
| Dedicated NIC                                                                                             | Y <sup>1</sup> | Y              |
| Shared NIC                                                                                                | Y              | -              |
| Virtual NIC                                                                                               |                |                |
| VF NIC                                                                                                    |                |                |
| Legend:<br>Y: usable<br>-: unusable<br>Notes:<br>1. The MAC address is not taken over when switching N+M. |                |                |

- Note the following points for LPAR manager when setting a server blade as a standby server blade for N+M cold standby and when canceling the standby server blade settings.

Make sure that you use the following operational procedure. If you do not, WWNs or MAC addresses might be duplicated, and a serious failure might occur. Perform the following steps even when basic mode is used.

[Registering a standby server blade]

- Set the Operating mode to LP mode for a server blade, and register the server blade in the standby pool. Then power on the server blade.
- Confirm that "Initializing LP" is disappeared on the LPAR manager screen or the web console.
- Shut down the LPAR manager to power off the server blade.
- Register the server blade as the standby server blade, and configure the N+M cold standby.

[Unregistering a standby server blade]

- a. Unregister a standby server blade from the standby pool.
  - b. Set the unregistered standby server blade to LP mode, specify the LP IP address and the VNIC System No., and then start the blade.
  - c. If you are using the LPAR manager screen, confirm that Initializing LPAR manager is no longer displayed. If you are using the Web console, confirm that the LPAR manager status in the "LPAR manager" tab is normal.
  - d. If you have backup configuration information, shut down LPAR manager, restore the configuration information, and then restart LPAR manager.
- When using the Emulex network product (LAN or converged network) with the standby server blade, use a configuration in which the firmware is updated to its latest version.  
For details about the latest version of the firmware, see the firmware page on the "Support and Download" section of the Hitachi Compute Blade web site. The firmware page also shows you how to check the version of the firmware you are currently using.
  - When configuring N+M cold standby for multiple server chassis, the switch modules must also have the same hardware configuration.
  - In order for N+M recovery to work, the operation mode (LP mode or basic mode) of the standby server blade must be the same as that of the active server blade (operation mode of the active server blade when it was registered in the N+M group). If you change the operation mode of the standby server blade after N+M failover, you must reset the operation mode before performing N+M recovery. If you change the operation mode of the standby server blade after N+M failover and perform N+M recovery without resetting the operation mode, the N+M recovery might fail.

## Notes on operation

The following notes apply after the start of N+M cold standby operation:

- If the active server blade is removed for maintenance while N+M failover is being performed, N+M failover will fail. When performing N+M failover for a server blade on which a failure occurred, wait for the N+M failover to finish before performing maintenance.
- If a BMC failure occurs, an N+M failover is not automatically performed because the system on the server blade runs normally. However, failures on the server blade cannot be detected, and some operations such as powering the server blade on or off cannot be performed. In case of a BMC failure, contact with your customer engineer or sales personnel. If a BMC failure occurs, the alert "Server blade: SVP-BMC communication error" is logged in the system event log.



**Note:** If a BMC failure occurs, you can shut down the operating system, but you might not be able to restart it. Furthermore, if you shut down the operating system, you will not be able to start it again.

- If a system error occurs on the server blade during a BMC failure, perform an N+M failover by using one of the following methods. If the operating



system is running, shut down the operating system before performing an N+M failover.

- Perform a forced power-off for the active server blade, and then perform an N+M failover from HCSM. For details about how to perform a forced power-off, see the "Hitachi Compute Blade 2500 Series Getting Started Guide".
- Perform an N+M failover by issuing the failover test alert using management module console. For details about how to issue a failover test alert, see [Confirming that the standby server blade can take over for the active server blade on page 3-27](#).



**Note:** During a BMC failure, if N+M failover is performed from HCSM while the active server blade is running, you might not be able to power off the active server blade and N+M failover might fail.

### Related topics

- [N+M cold standby on page 3-6](#)
- [Mechanism of N+M cold standby on page 3-8](#)
- [Confirming that the standby server blade can take over for the active server blade on page 3-27](#)

## Settings inherited through N+M cold standby

This subsection describes the server blade settings that are inherited through N+M cold standby.

### For server blades in Basic mode

With N+M cold standby, when N+M failover occurs in basic mode, the standby server blade inherits the settings listed in the following table from the active server blade.

**Table 3-5 Inheriting items**

| Category                                                     | Item                                                                |
|--------------------------------------------------------------|---------------------------------------------------------------------|
| WWN <sup>1</sup>                                             | World Wide Node Name                                                |
|                                                              | World Wide Port Name                                                |
| MAC                                                          | MAC address <sup>2</sup>                                            |
|                                                              | MAC type <sup>3</sup>                                               |
| Server blade settings (UEFI or BMC)                          | Time synchronization method and time zone setting for the BMC clock |
|                                                              | EFI settings <sup>4</sup>                                           |
|                                                              | Boot order                                                          |
| HBA BIOS settings for the fibre channel adapter <sup>5</sup> | HBA BIOS setting (enabled or disabled)                              |

| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Item                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Boot priority setting (enabled or disabled)                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Boot target WWN                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Boot target LUN                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Boot target LUID <sup>6</sup>                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Boot target LUID Type <sup>6</sup>                                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | LUID scan mode setting (enabled or disabled) <sup>6</sup>                     |
| CNA setting <sup>7</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | PXE boot settings <sup>8</sup>                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | VLAN information settings <sup>8</sup>                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Bandwidth settings if a port is divided                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | SR-IOV (when the Multi Channel Support settings are disabled)                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | iSCSI setting (if iSCSI is specified as the Personality setting)              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FCoE setting (if FCoE is specified as the Personality setting)                |
| Server blade settings (management module)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Power supply control linkage setting <sup>9</sup>                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | N+M cold standby support functionality setting                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | OS type (whether LPAR manager is used)                                        |
| HA monitor setting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HA monitor system name                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | HA monitor port number                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | HA monitor N+M cold standby support functionality setting                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Settings for the high-speed failover support functionality for the HA monitor |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | HA monitor cluster management functionality settings                          |
| Notes:<br>1. The Optional Physical WWN is inherited.<br>2. The Optional Physical MAC address is inherited.<br>3. The MAC address set as the MAC type is used.<br>4. Only the items specified in the UEFI settings in the Web console of the management module are inherited.<br>5. If the Emulex 8 Gb/16 Gb 2-port fibre channel adapter is used, all the items in the setup menu are inherited.<br>6. This item is inherited by the Hitachi 16 Gbps fibre channel adapter only.<br>This information is used when N+M cold standby is performed using the LUID inheritance method. For details on N+M cold standby using the LUID inheritance method and the details of each item, see <a href="#">Setting items for a Hitachi fibre channel adapter on page 2-90</a> . |                                                                               |

| Category | Item                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.       | For these settings to be inherited, NIC, iSCSI, FCoE, or RoCE must be specified as the Personality setting and the same MultiChannel Support setting must be specified for both the active and standby server blades. For the onboard CNA, N+M cold standby for which iSCSI is specified as the Personality setting is not supported. For details, see the manual <i>Hitachi Compute Blade Emulex Adapter User's Guide for Hardware</i> . |
| 8.       | For the onboard CNA, this item is not inherited.                                                                                                                                                                                                                                                                                                                                                                                          |
| 9.       | For details, see <a href="#">Power supply operation for a server blade on page 2-63</a> .                                                                                                                                                                                                                                                                                                                                                 |



#### Tip:

- When N+M recovery takes place, the settings inherited by the standby server blade are returned to the active server blade, which means that the active server blade reverts back to the state from before the N+M failover. The standby server blade, on the other hand, retains the settings inherited from the active server blade. In other words, even after N+M recovery, it does not revert back to the state from before the N+M failover. (The WWN and MAC address settings in the standby server blade, however, revert back to the settings from before the failover.)
- If the Emulex 10 Gb CNA is used with the Personality setting set to iSCSI, the following exception applies: the IP address and subnet mask of the iSCSI Initiator are cleared to 0 in the active server blade after N+M failover and in the standby server blade after N+M recovery.

### For server blades in LPAR manager mode

The table below describes the configuration information specific to LPAR manager that is inherited from the active server blade by the standby server blade when N+M cold standby starts. Other configuration information is the same as that of server blades running in Basic mode.

**Table 3-6 Inheriting items**

| Division                        | Item                                  | Remarks |
|---------------------------------|---------------------------------------|---------|
| LPAR information                | LPAR configuration information        | -       |
|                                 | Logical NVRAM information             | 1       |
|                                 | Logical schedule data information     | -       |
| LPAR manager system information | System configuration information      | -       |
|                                 | PCI device configuration information  | -       |
|                                 | Virtual NIC configuration information | -       |
|                                 | Common FC information                 | -       |

| Division                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Item                            | Remarks |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Virtual FC WWN seed information | -       |
| LPAR manager firmware information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | LPAR manager firmware bank      | -       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | LPAR manager firmware version   | 2       |
| Notes:<br>1. Logical UEFI boot path, order, boot timer, and driver path are in the logical NVRAM. For driver path, the item that added from UEFI shell cannot be inherited.<br>2. For N+M cold standby in a multiple server chassis configuration, the selected LPAR manager firmware version is the same as or later than the version used for the active server and is within the range of available versions. For N+M cold standby for a server chassis, the LPAR manager firmware information is inherited, and the same LPAR manager firmware is always selected. |                                 |         |

## Related topics

- [Power supply operation for a server blade on page 2-63](#)
- [Setting WWNs and MAC addresses on page 2-93](#)
- [Setting server blades, switch modules, and Hitachi fibre channel adapter on page 2-71](#)
- [Failure management through failover from the active to standby server blade \(HA monitor\) on page 3-29](#)
- [Time required for the standby server blade to take over for the active server blade on page 3-16](#)

## Time required for the standby server blade to take over for the active server blade

When a failure occurs in the server blade, the following time is required for the N+M failover to complete.

### For server blades in Basic mode

Time required for the N+M failover to complete = [wait time for the failover to start] + [time required for the failover to take place] + [time required for the OS to start up]

### For server blades in LPAR manager mode

Time required for the N+M failover to complete = [wait time for the failover to start] + [time required for the failover to take place] + [time required for the LPAR manager to start up (5 to 10 minutes)] + [time required for the OS on LPAR manager to start up]



**Tip:** When a failover takes place in the N+M cold standby environment that uses HCSM, HCSM monitors the standby server blade to confirm the completion of OS startup.

If the OS on the standby server blade does not start up within the user-specified "maximum wait time for the OS startup processing to complete", the following message appears in the task result display window of HCSM: the message indicating that the N+M failover has failed (KASV00212-E). This message appears even when the OS eventually starts up on the standby server blade.

In other words, even when the N+M failover is successful and the OS starts up successfully on the standby server blade, the following message might appear in the task result display window of HCSM: the message indicating that the N+M failover has failed (KASV00212-E).

Depending on the configuration of the server blade, it might take longer for the OS startup processing to complete on the standby server blade. Bear this in mind and specify an appropriate "maximum wait time for the OS startup processing to complete".

### Related topics

- [Settings inherited through N+M cold standby on page 3-13](#)

## Required unit configuration for N+M cold standby

N+M cold standby requires the following unit configuration:

- SAN boot devices are used.
- Active and standby server blades have equivalent hardware configurations.
  - CPU type and the number of CPUs
  - Amount of installed memory
  - Mezzanine card and I/O adapter(type and the relative position of each slot when seen from the server blade)

Failovers can take place even if the CPU type, the number of CPUs, and the amount of installed memory are different between the active and standby server blades. However, perform a failover test in advance to confirm that standby server blades work properly.

- No expansion blades are connected to the active server blade or standby server blade.
- None of internal HDD or USB Enablement Kit or SD Card Enablement Kit are installed.
- The server blades must be of the same model in an N+M group.
- To configure N+M cold standby in LPAR manager mode, the LPAR manager must be supported by the server blade and the peripheral devices.
- The operating conditions for the OS and applications must be satisfied.
- If you configure N+M cold standby using the Emulex 8 Gb 2-port fibre channel adapter, all the items in the setup menu of the HBA BIOS

settings are inherited. For this reason, the SAN configuration between the active server blade and the LU must be the same as the SAN configuration between the standby server blade and the LU.

- o Number of cascade stages of the FC switch
  - o Port speed setting for the FC switch
  - o Port speed setting and the topology setting for the disk device
- Specify the settings described below for the CNA installed on the active server blade and the standby server blade. These settings are mandatory if you configure N+M cold standby by using the CNA.
  - o The same MultiChannel Support setting must be specified for the active server blade and the standby server blade.
  - o The same Personality setting must be specified for the active server blade and the standby server blade.
  - o Specify NIC, iSCSI, FCoE, or RoCE as the Personality setting.
  - o Disable DHCP in the iSCSI setting.
  - o Set a unique iSCSI Initiator IP address.
  - o The iSCSI Target must always be connected.
  - o The number of iSCSI Target sessions must not exceed four sessions per port.

For details about the MultiChannel Support setting and the Personality setting, see the manual *Hitachi Compute Blade Emulex Adapter User's Guide for Hardware*.
- For CB 520H B3 and CB 520X B2, use the following settings for the server blade firmware of the active and standby server blades.

**Table 3-7 Server blade firmware for CB 520H B3**

| Active server blade                                                                                                                                                                                                                                                                                                                                                                                                         | Standby server blade |                |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------|----------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                             | 08-36 or later       | 08-38 to 08-48 | 08-52 or later |
| 08-36 or later                                                                                                                                                                                                                                                                                                                                                                                                              | Y                    | -              | Y <sup>1</sup> |
| 08-38 to 08-48                                                                                                                                                                                                                                                                                                                                                                                                              | -                    | Y              | Y <sup>2</sup> |
| 08-52 or later                                                                                                                                                                                                                                                                                                                                                                                                              | Y <sup>3</sup>       | Y <sup>4</sup> | Y              |
| Legend:<br>Y: usable<br>-: unusable<br>Notes:<br>1. For the standby server blade, disable the Consistent Device Naming setting.<br>2. For the standby server blade, set Slot Group Ordering for the Consistent Device Naming setting.<br>3. For the active server blade, disable the Consistent Device Naming setting.<br>4. For the active server blade, set Slot Group Ordering for the Consistent Device Naming setting. |                      |                |                |

| Active server blade                                                                                                                         | Standby server blade |                |                |
|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------|----------------|
|                                                                                                                                             | 08-36 or later       | 08-38 to 08-48 | 08-52 or later |
| You can set the Consistent Device Naming setting from the UEFI settings in the Web console or from the UEFI setup menu of the server blade. |                      |                |                |

**Table 3-8 Server blade firmware for CB 520X B2**

| Active Server Blade                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Standby server blade |                |                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------|----------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 09-14 or earlier     | 09-17 to 09-27 | 09-35 or later |
| 09-14 or earlier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Y                    | -              | Y <sup>1</sup> |
| 09-17 to 09-27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Y                    | Y              | Y <sup>2</sup> |
| 09-35 or later                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Y <sup>3</sup>       | Y <sup>4</sup> | Y              |
| <p>Legend:</p> <p>Y: usable</p> <p>-: unusable</p> <p>Notes:</p> <ol style="list-style-type: none"> <li>For the standby server blade, disable the Consistent Device Naming setting.</li> <li>For the standby server blade, set Slot Group Ordering for the Consistent Device Naming setting.</li> <li>For the active server blade, disable the Consistent Device Naming setting.</li> <li>For the active server blade, set Slot Group Ordering for the Consistent Device Naming setting.</li> </ol> <p>You can set the Consistent Device Naming setting from the UEFI settings in the Web console or from the UEFI setup menu of the server blade.</p> |                      |                |                |



**Note:** If CB 520X B1 and CB 520H B3 are to inherit the onboard CNA information, use the following firmware:

- Management module firmware  
A0110 or later
- Server blade firmware  
CB 520H B3 server blades: 08-19 or later  
CB 520X B1 server blades: 07-28 or later

Note that, for the onboard CNA, N+M cold standby for which iSCSI is specified as the Personality setting is not supported.

When a server blade with firmware other than the above is used on a CB 520X B1 server blade, in N+M cold standby by the onboard CNA, only the Optional Physical MAC address can be inherited.

When a server blade with firmware other than the above is used on a CB 520X B1 server blade, in N+M cold standby by the onboard CNA, make sure that the onboard CNA settings are the same for the active and standby server blades.

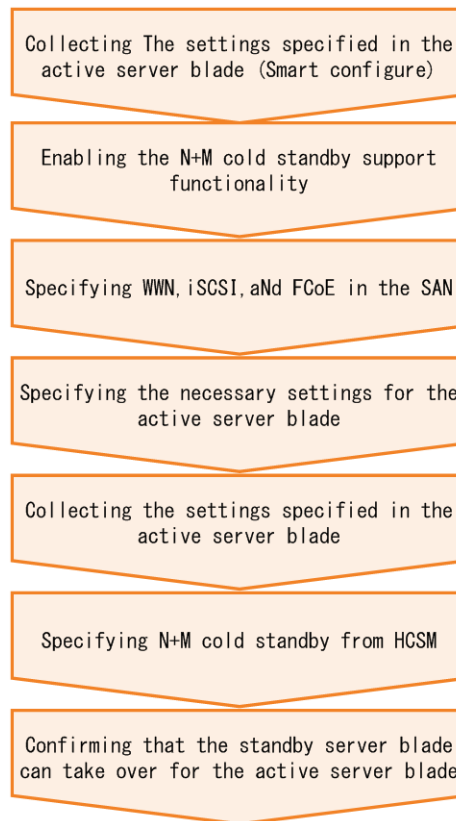
# Configuring an environment for running server blades in a redundant configuration (N+M cold standby)

This section describes how to configure an environment for running server blades in a redundant configuration.

## General procedure for configuring N+M cold standby

To set up N+M cold standby, you need to set the Compute Blade, the SAN, and HCSM, respectively. For details about how to set the SAN and HCSM, see the instruction manual or other manuals supplied with the SAN or HCSM.

The figure below shows the general procedure for configuring N+M cold standby. The specific procedures are described in the subsections that follow.



**Figure 3-4 Configuring N+M cold standby**

### Related topics

- [Collecting the settings for the active server blade \(Smart configure\) on page 3-20](#)

## Collecting the settings for the active server blade (Smart configure)

In N+M cold standby, the settings for the active server blade need to be collected and saved to the management module beforehand. When the N+M



failover occurs, the settings saved to the management module are applied to the standby server blade before the standby server blade starts up. The functionality to collect the server blade settings in advance is called Smart configure.

Smart configure requires that the settings in the active server blade be collected not when the N+M failover occurs but when N+M cold standby is configured. This is because Smart configure might not work in a faulty server blade.

Smart configure is either manually or automatically executed to collect and apply the server blade settings under the following circumstances:

- When Smart configure is executed from the console of the management module
- When the N+M recovery is executed (by HCSM)  
When the N+M recovery takes place, the standby server blade, on the other hand, is subject to Smart configure, which is required to make the standby server blade ready for a failover. This smart configure is automatically executed by an N+M recovery performed by using HCSM.
- When the system unit is turned on  
When, after N+M cold standby is configured, the system unit is turned off and then back on again, Smart configure is automatically executed to resume N+M cold standby.
- When the server blade configuration changes  
If the following changes are made to the server blade configuration, the management module automatically executes Smart configure to update the settings stored in itself.
  - A server blade is inserted into the server chassis.
  - After the I/O board module configuration is changed, The server blade is turned on.

The following table describes the consoles that you can use to perform specific operations from the management module.

**Table 3-9 Executing Smart configure**

| Operation                                                                     | Web console | CLI console | LCD touch console |
|-------------------------------------------------------------------------------|-------------|-------------|-------------------|
| Execute Smart configure to collect the settings from the active server blade. | Y           | Y           | --                |
| Enable the N+M cold standby support functionality.                            | Y           | Y           | --                |
| Confirm that a failover has taken place in the N+M cold standby environment.  | Y           | --          | --                |
| Enable the setting that automatically powers up the active server blade.      | Y           | --          | --                |

| Operation                                          | Web console | CLI console | LCD touch console |
|----------------------------------------------------|-------------|-------------|-------------------|
| Suppress the power-up of the standby server blade. | Y           | --          | --                |



**Tip:** The following triggers execute functionality equivalent to Smart configure, obtain server blade settings, and execute those settings.

- Powering on a server blade after settings are changed
- Powering on a server blade after an N+M failover or an N+M recovery

### Related topics

- [Settings for configuring N+M cold standby on page 3-22](#)
- [Points to be checked before executing Smart configure on page 3-23](#)
- [Executing Smart configure to collect the settings from the active server blade on page 3-23](#)
- [Enabling the N+M cold standby support functionality on page 3-23](#)
- [Specifying WWN, iSCSI, and FCoE settings in the SAN on page 3-24](#)
- [Specifying the necessary settings for the active server blade on page 3-25](#)
- [Setting N+M cold standby from HCSM on page 3-26](#)
- [Confirming that the standby server blade can take over for the active server blade on page 3-27](#)
- [Notes on changing the settings after starting the N+M cold standby operation on page 3-28](#)
- [Notes on replacing the CNA after starting the N+M cold standby operation on page 3-28](#)
- [Restoring N+M cold standby following recovery from a power failure on page 3-28](#)

## Settings for configuring N+M cold standby

When configuring N+M cold standby, you must disable the internal HDD installed on the server blades. If the internal HDD is installed on the server blade, use the UEFI setting to disable the HDD.



**Note:** In the UEFI setup menu, do not set the EFI Shell to be the first in the boot priority order. If the EFI Shell has the highest boot priority, the OS does not start up properly when N+M failover or N+M recovery takes place.

### Related topics

- [Setting the UEFI for a server blade on page 2-89](#)

## Points to be checked before executing Smart configure

This subsection describes how the server blade behaves when Smart configure is executed and how much time it takes to execute Smart configure.

How the server blade behaves when Smart configure is executed

While Smart configure is being executed, the identification LED on the front of the server blade blinks. While the identification LED is blinking, the server blade is temporarily powered up. For details about the identification LED status, see *Hitachi Compute Blade 2500 Series Getting Started Guide*.

How much time it takes to execute Smart configure

The time it takes to execute Smart configure varies depending on the type of the server blade, the number of installed CPUs, the memory, and the type and number of installed PCI cards. Roughly, it takes approximately 3 to 15 minutes to execute Smart configure.

## Executing Smart configure to collect the settings from the active server blade

To execute Smart configure, use the Web console or the CLI console.

### To execute Smart configure on the Web console:

1. Select the **Resources** tab, and then from the tree view in **Modules**, select the target server blade.
2. Select the **Condition** tab, and then from the **Server Blade Action** menu, click **Run Smart Configure**.

### To execute Smart configure on the CLI console:

1. Execute the `pre-configure blade` command.

### Related topics

- [Points to be checked before executing Smart configure on page 3-23](#)
- [pre-configure blade on page 5-40](#)

## Enabling the N+M cold standby support functionality

Enable the N+M cold standby support functionality in both the active and standby server blades. As soon as you enable the N+M cold standby support functionality, Smart configure is executed for the server blade. By executing Smart configure, an Optional Physical WWN is set in the fibre channel adapter.

### To enable the N+M cold standby support functionality from the Web console:

1. Select the **Resources** tab, and then from the tree view in **Modules**, select the target server blade.

2. In the **Settings** tab, click the **Edit Server Blade settings** button.
3. Enable N+M cold standby.

To perform an N+M failover when a watchdog timer timeout occurs, enable the WDT timeout N+M failover setting. The initial setting (the setting at shipping time) of the system unit is "Disable".

#### **To enable the WDT timeout N+M failover setting from the Web console:**

1. In the **Resources** tab, from the tree view under **Modules**, select Chassis.
2. From the **Action** pull-down menu, click **Setting of an N+M failover due to WDT timeout**.
3. Enable the setting of an N+M failover due to WDT timeout:

#### **To enable the N+M cold standby support functionality on the CLI console:**

1. Execute the `set blade preconf` command.



#### **Tip:**

- Even if you are configuring N+M cold standby in LPAR manager mode, perform the procedure described in [Settings for configuring N+M cold standby on page 3-22](#) before enabling the N+M cold standby support functionality.
  - If you want to use an Additional MAC address, set the MAC type in Optional Physical MAC. If you set the MAC type after the N+M cold standby support functionality is set to enabled, execute Smart Configure again.
  - Specify the following settings for the active server blade. It is not necessary to specify these settings for the standby server blades. Even if you specify these settings after N+M cold standby is configured, you do not have to execute Smart Configure again.
    - HA monitor setting
    - Power supply control linkage setting
- 

#### **Related topics**

- [N+M cold standby on page 3-6](#)
- [Collecting the settings for the active server blade \(Smart configure\) on page 3-20](#)
- [set blade preconf on page 5-56](#)

## **Specifying WWN, iSCSI, and FCoE settings in the SAN**

### **For server blades in Basic mode**

If you are using a Fiber Channel connection, specify a WWN and other related settings in the SAN. Use an Optional Physical WWN as the WWN.

If you are using the iSCSI connection, specify the iSCSI Target and other related settings in the SAN.

If you are using the FCoE connection, specify the WWN and other related settings in the SAN or the FCoE switch. Use an Optional Physical WWN as the WWN.

### **For server blades in LPAR manager mode**

Configure WWNs or other items in the SAN. For WWNs, use virtual FC WWNs. For details about virtual FC WWNs, see the *Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide*.

### **Related topics**

- [WWNs and MAC addresses that can be checked in management module consoles on page 2-98](#)

## **Specifying the necessary settings for the active server blade**

Specify the settings necessary to allow the active server blade to boot from the SAN.

### **For server blades in Basic mode**

- Setting the fibre channel adapter
  - Enable both the fibre channel adapter BIOS and the boot priority.
  - Select the boot target LU.

For details about how to configure these settings, see the manual supplied with the fibre channel adapter.
- Setting the CNA (iSCSI)

For details about how to configure this setting, see the manual *Hitachi Compute Blade Emulex Adapter User's Guide for Hardware*.
- Setting the CNA (FCoE)

For details about how to configure this setting, see the manual *Hitachi Compute Blade Emulex Adapter User's Guide for Hardware*.
- Setting the UEFI

Specify the boot priority order to allow the server blade to boot from the SAN.

For details about this setting, see *Hitachi Compute Blade 2500 Series UEFI Setup Guide*.

### **For server blades in LPAR manager mode**

Set the settings so that the LPAR that will be running on the LPAR manager on the active server blade will boot from the SAN.

- UEFI settings

- Confirm that the UEFI settings are required to start the LPAR manager.

For details, see the *Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide*.

- Pre-State Auto Activate settings
  - After N+M switching occurs, set Pre-State Auto Activation to Yes in the LPAR manager screen to automate the activation of the LPAR.

For details, see the *Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide*.
- LPAR configuration
  - Allocate the processors, memory, dedicate PCI devices, and shared devices (VNIC and/or shared FC) required for the LPAR.
  - Activate the LPAR.

For details, see the *Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide*.
- Device settings on the fibre channel adapter (dedicated or shared)
  - In the UEFI menu for the LPAR, select "EFI Shell". At the shell prompt, use the drvfcg command to call the device configuration shell (hfccfg).
  - Make sure that the boot function of the HBA FC port connected to the LU to be booted is set to "Enable".

For details about settings, see the documentation for the fibre channel adapter.
- Boot settings
  - In the UEFI menu for the LPAR, select the Boot option maintenance menu and set the boot path and the boot order to enable boots from the SAN.

For details, see the *Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide*.



**Note:** If the LPAR configuration (the processors, memory, and device allocation) has been changed, you must execute "[F9]:Save Configuration" in the LPAR manager Menu screen. For details, see the *Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide*.

---

## Collecting the settings specified in the active server blade

After setting up the active server blade, power on the server blade or execute Smart configure. If you change the boot settings in the OS, you must power on the server blade or execute Smart configure because the server blade cannot obtain the settings only by rebooting the OS.

## Setting N+M cold standby from HCSM

From HCSM, set the N+M cold standby (including the designation of the active and standby server blades). For details, see the HCSM manual.

Confirm that the following settings are specified before using HCSM to specify the N+M cold standby settings:

- The N+M cold standby support functionality is enabled.  
This functionality must be enabled in both the active and standby server blades.
- The active server blade can boot from the SAN.  
In LPAR manager mode, the LPAR configured on the LPAR manager on the active server blade must boot from the SAN.

After confirming that the above settings are specified, use HCSM to specify the N+M cold standby settings.



**Note:** If the LPAR configuration (the processors, memory, and device allocation) has been changed, you must execute "[F9]:Save Configuration" in the LPAR manager Menu screen. For details, see the *Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide*.

---

### Related topics

- [Enabling the N+M cold standby support functionality on page 3-23](#)

## Confirming that the standby server blade can take over for the active server blade

Before starting operation, perform an N+M failover test by using one of the following methods to confirm that the N+M failover works properly:

- From HCSM, execute the N+M cold standby test.
- Issue a failover test alert from the Web console of the management module.

You can perform a failover test from the Web console of the management module by following the procedure described below. To perform a test to confirm a failover from the active to standby server blade, you have to issue an alert from HCSM.

### To confirm a failover in the N+M cold standby environment from the Web console:

1. From the tree view in the **Administration** tab, select **HCSM**.
2. From the **Action** pull-down menu, select **Send alert**.  
Select an immediate failover or a delayed failover as the alert type.  
A failover alert is issued, and the active server blade is forcibly turned off.



### Tip:

- For details about how to configure N+M cold standby and how to execute the N+M failover, see the HCSM manual.
  - In an SMP configuration, issue a failover test alert for the primary server blade.
-

# Notes on changing the settings after starting the N+M cold standby operation

## For server blades in Basic mode

If you change the UEFI setting from the Web console of the management module after configuring N+M cold standby, the new setting is applied the next time the UEFI starts up. If the N+M failover occurs before the new UEFI setting is applied, the previous UEFI setting (the setting applied upon the previous startup of the UEFI) is inherited by the standby server blade.

## For server blades in LPAR manager mode

If the LPAR configuration (the processors, memory, and device allocation) is changed after N+M cold standby is configured, you must execute "[F9]:Save Configuration" in the LPAR manager Menu screen. If you do not execute "Save Configuration", N+M switching might fail due to discrepancies between the actual LPAR manager configuration information and the LPAR manager configuration information retained by the management module.

# Notes on replacing the CNA after starting the N+M cold standby operation

Suppose that, in a configuration where the CNA is used with the Personality set to iSCSI, the iSCSI setting must be recovered following the replacement of the CNA. In this case, one of the settings described in the following table must be specified depending on the N+M cold standby status:

| Status                                   | Setting                                                                                                                                                                |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Active server blade before N+M failover  | Restore the iSCSI setting of the active server blade from before the CNA was replaced.                                                                                 |
| Standby server blade before N+M failover | Restore the iSCSI setting of the standby server blade from before the CNA was replaced (setting of the standby server blade when the iSCSI connection was terminated). |
| Active server blade after N+M failover   | Restore the iSCSI setting of the standby server blade from before the CNA was replaced (setting of the standby server blade when the iSCSI connection was terminated). |
| Standby server blade after N+M failover  | Restore the iSCSI setting of the active server blade from before the CNA was replaced.                                                                                 |

## Restoring N+M cold standby following recovery from a power failure

If the server blade is connected to a UPS and you want to automatically start the active server blade after recovery from a power failure, specify the settings by following the procedure below. Be sure to set the standby server blade to suppress automatic power-up.





**Note:** If the server blade is connected to a UPS, but you do not want the server blade to automatically start after recovery from a power failure, you do not need to specify these settings. However, the standby server blade must be set to suppress automatic power-up.

---

First, you have to enable the setting that automatically powers up the active server blade following recovery from a power failure.

**To enable the power-up setting for the active server blade from the Web console:**

1. Select the **Resources** tab, and then from the tree view in **Modules**, select the target active server blade.
2. In the **Settings** tab, click the **Edit Server Blade settings** button.
3. Set the AC recovery of the server blade to **Power ON**.  
With the above setting enabled, the active server blade automatically turns on following recovery from a power failure.

Next, you have to suppress automatic power-up of the standby server blade.

**To enable the power-up suppression setting for the standby server blade from the Web console:**

1. Select the **Resources** tab, and then from the tree view in **Modules**, select the target standby server blade.
2. In the **Settings** tab, click the **Edit Server Blade settings** button.
3. Set the AC recovery of the server blade to **Power OFF**.  
With the above setting enabled, automatic power-up of the standby server blade is suppressed during recovery from a power failure.



**Tip:**

- From the UEFI setup menu, you can enable the setting that automatically turns on the server blade following recovery from a power failure. Even when this setting is enabled, however, the server blade might not start up automatically following recovery from power failure under the following condition: the N+M cold standby support functionality is enabled. In this case, you have to set the AC recovery of the server blade to **Power ON**.
  - In an SMP configuration, the settings for a primary server blade are applied to all server blades constituting the SMP. You do not need to configure settings for non-primary server blades.
- 

**Related topics**

- [Enabling the N+M cold standby support functionality on page 3-23](#)

## Failure management through failover from the active to standby server blade (HA monitor)

This section describes the failure management functionality provided by the HA monitor.

# HA monitor

The HA monitor enables a failover from one system (including the programs) to another to improve the reliability and capacity utilization of the system.

The HA monitor ensures that, immediately after a failure occurs in the system (active system) that is executing the business processing, the system (standby system) automatically takes over for the faulty server blade. This improves the reliability and capacity utilization of the system without the operators having to pay any particular attention to the system. A hot standby configuration that consists of the active system and the standby system is called the system failover configuration. For details about the HA monitor, see the manual supplied with the HA monitor.

The HA monitor that detected a failure might reset to stop the system. At this time, the HA monitor asks the management module to reset the system on the server blade. This route to perform the reset is called the reset path.

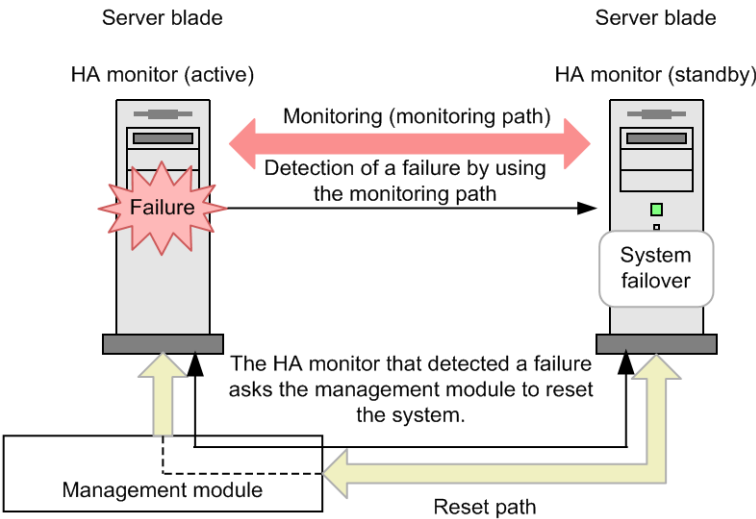


Figure 3-5 Example of the HA monitor configuration

To set the reset path for the management module, use the following console:

Table 3-10 Reset path settings

| Operation              | Web console | CLI console | LCD touch console |
|------------------------|-------------|-------------|-------------------|
| Setting the reset path | Y           | --          | --                |

## Related topics

- [Setting the reset path on page 3-30](#)

## Setting the reset path

Set the reset path to the management modules. For the server blade where the system runs the HA monitor system, set the following:

- System name<sup>\*1</sup>
- Port number<sup>\*2</sup>

<sup>\*1</sup>

Indicates the identifier of the server blade for the HA monitor. For the setting items of the reset path in the manual supplied with the HA monitor, this item indicates the item Partition name.

<sup>\*2</sup>

Indicates the port number to be used for the reset path communication where the system is a management module. The port number can be set for each server blade. For the setting items of the reset path in the manual supplied with the HA monitor, this item indicates the item SVP port number.

#### To set the reset path by using the Web console:

1. Select the **Resources** tab, and then from the tree view in **Systems**, select **HA monitor linkage**.
2. In the **Server blade** tab, select the target server blade, and then click the **Apply** button.
3. For **HA monitor linkage**, select **Enable**.
4. In **System name**, enter the partition name. In **Port number**, enter the SVP port number.
5. To use HA monitor with N+M cold standby, select **Enable** for **N+M cold standby** of the active server blade.

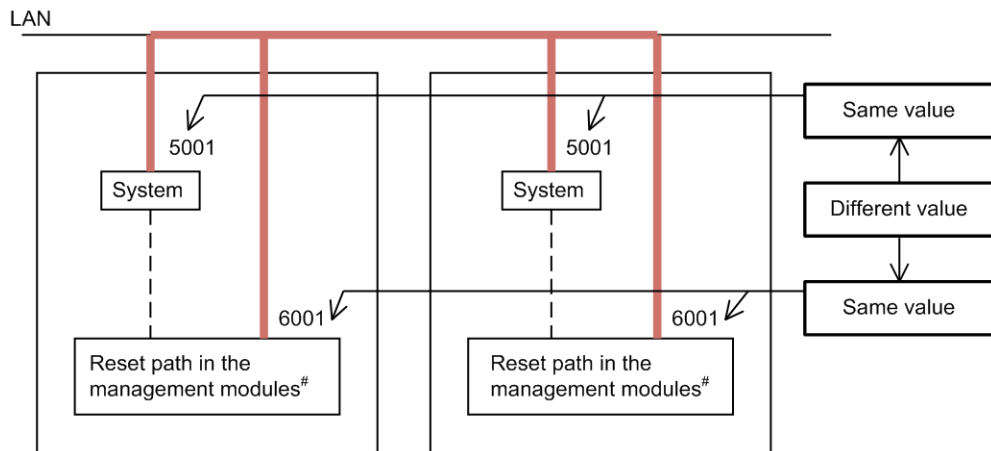


**Note:** To use HA monitor with N+M cold standby, set "auto" for the "The IP address of the switch and management module" setting by using the command for setting up the environment of HA monitor (`monsetup`).

---

#### Notes on deciding port numbers for the reset path

1. The HA monitor systems and management modules on the same LAN perform reset path communication between systems that have the same port number, and between the management modules that have the same port number. For the management modules, specify port numbers other than those used for the systems.



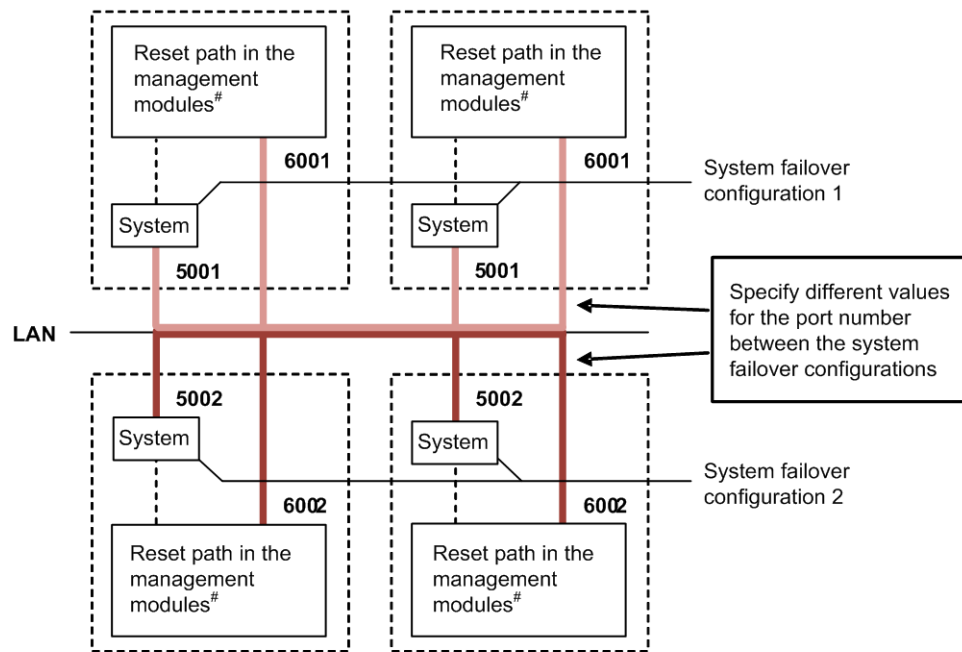
#: Can be set for each server blade

**Figure 3-6 Configuration of the reset path (Example 1)**

2. When configuring a failover configuration for multiple systems on the same LAN, configure one of the configurations below. In addition, see the notes about the reset path configuration described in the HA monitor manual.

Case 1

Specify a different port number for the system between the system failover configurations, and specify a different port number for the management modules. Figure 3-6 shows the definition example:

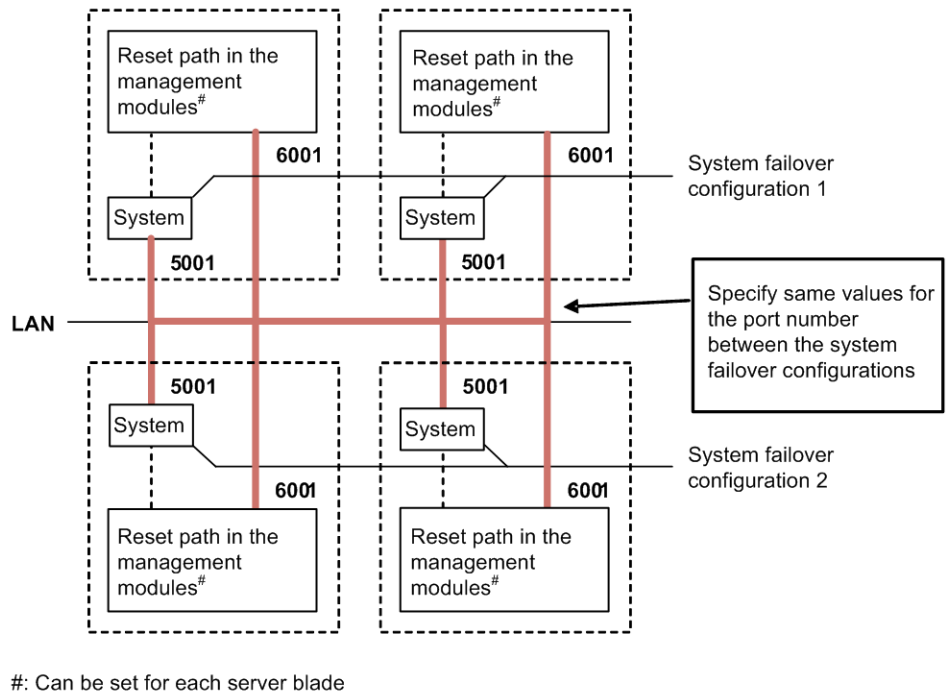


#: Can be set for each server blade

**Figure 3-7 Configuration of the reset path (Example 2)**

## Case 2

Specify the same port number for the system between the system failover configurations, and specify the same port number for the management modules. Figure 3-7 shows the definition example:



**Figure 3-8 Configuration of the reset path (Example 3)**

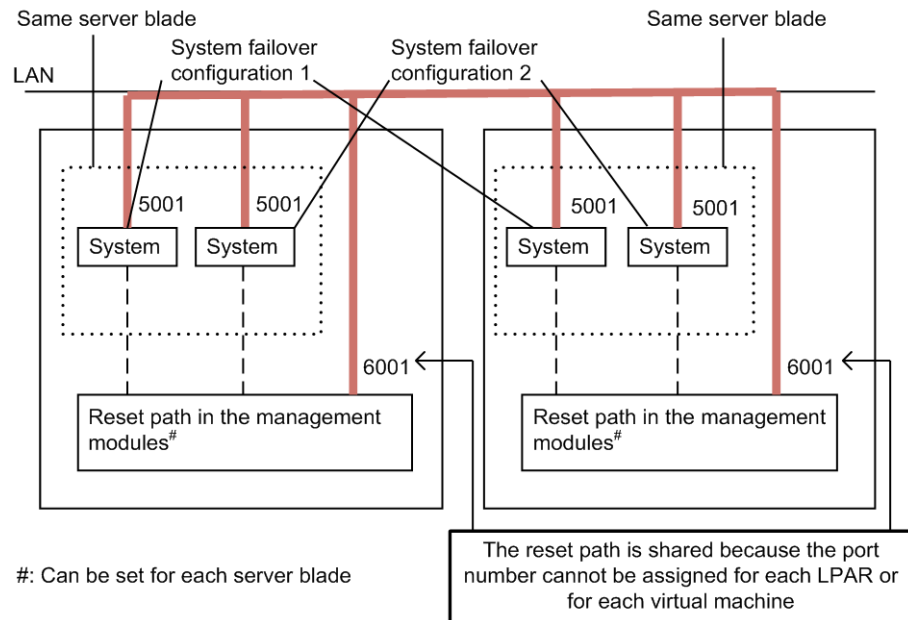
Because the example given in case 2 interferes with the reset path communication between the system failover configurations, case 1 is recommended.



**Note:** Do not set up the following system failover configuration. If you do so, failover might fail.

- Between the system failover configurations, different values are specified for port numbers for the system, and the same values are specified for port numbers of the management modules.
- Between the system failover configurations, the same values are specified for port numbers for the system, and different values are specified for the port number of the management modules.

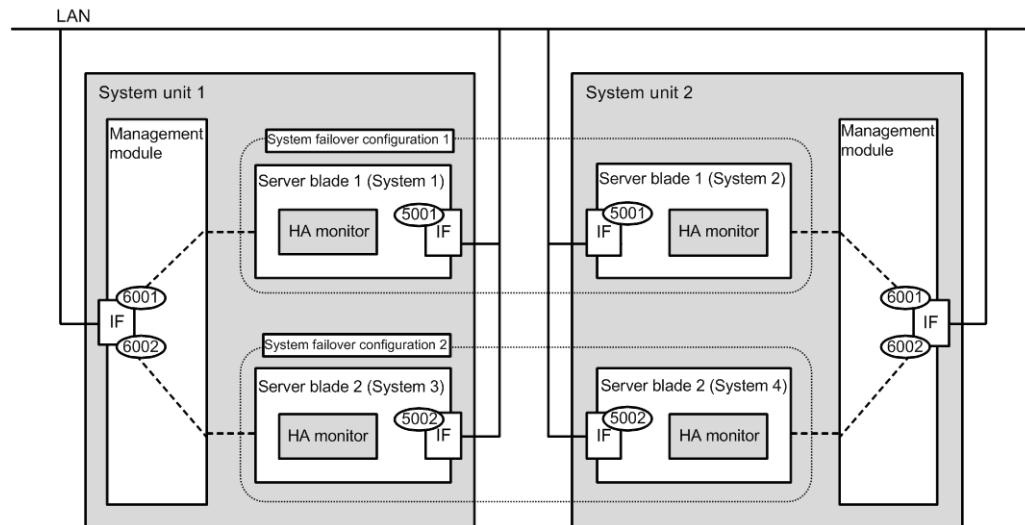
3. In a virtualization environment, if the configuration is a system failover configuration of LPAR or a virtual machine, the system on the same server blade will share the same reset path of the management modules. Specify the same value for the port number for the reset path on the system and for the management modules.



**Figure 3-9 Configuration of the reset path (Example 4)**

### Specific setting example of a port number for the reset path

The following is a specific setting example for building two system failover configurations on each pair of server blades in two system devices:



**Figure 3-10 Specific setting example of a port number for the reset path**

- For each system failover configuration, use the following port numbers for the reset path:

**Table 3-11 Port numbers used for the reset path in the system failover configurations**

| Port                                         | System failover configuration 1 | System failover configuration 2 |
|----------------------------------------------|---------------------------------|---------------------------------|
| Port number of the reset path for the system | 5001                            | 5002                            |
| Port number for the management modules       | 6001                            | 6002                            |

- For the management modules for system unit 1, specify as follows:  
Port number of the server blade 1 (system 1) for HA monitor linkage: 6001  
Port number of the server blade 2 (system 3) for HA monitor linkage: 6002
- For the management modules for system unit 2, specify as follows:  
Port number of the server blade 1 (system 2) for HA monitor linkage: 6001  
Port number of the server blade 2 (system 4) for HA monitor linkage: 6002
- For the HA monitor for system 1 and system 2, specify as follows:  
Port number of reset path: 5001  
Port number of SVP: 6001
- For the HA monitor for system 3 and system 4, specify as follows:  
Port number of reset path: 5002  
Port number of SVP: 6002

### Related topics

- [HA monitor on page 3-30](#)

## Highly-reliable HA monitor

By using the functionality provided by the highly-reliable HA monitor described below, you can further enhance the reliability and capacity utilization of the system. To use the functionality of the highly-reliable HA monitor, you need to acquire the Highly-reliable HA Monitor License.

- High-speed failover support functionality  
The high-speed failover support functionality is used to reset the faulty system within a second order, and to enable high-speed failovers to the standby system to shorten the system downtime.
- Cluster management functionality  
For the cluster management functionality, there is no need to specify the reset priority system for the HA monitor because the cluster manager manages all reset operations of both systems in a cluster to prevent the simultaneous reset of the active and standby systems. This enables the

interactive system failover configuration to immediately reset the faulty system even when a failure occurs in either of the systems.

In the management module, a group of systems that use the reset path whose port numbers are the same is called a cluster. For each cluster, the cluster name is automatically assigned. You can set the functionality of the highly-reliable HA monitor for each cluster.

To set the highly-reliable HA monitor for the management module, use the following console:

**Table 3-12 Setting the highly-reliable HA monitor**

| Operation                                             | Web console | CLI console | LCD touch console |
|-------------------------------------------------------|-------------|-------------|-------------------|
| Enable the high-speed failover support functionality. | Y           | --          | --                |
| Enable the cluster management functionality.          | Y           | --          | --                |

### Related topics

- [High-speed failover support functionality on page 3-36](#)
- [Cluster management functionality on page 3-37](#)
- [Notes on using the high-speed failover support functionality on page 3-37](#)
- [Notes on using the cluster management functionality on page 3-38](#)
- [Enabling the high-speed failover support functionality for the HA monitor and the cluster management functionality on page 3-38](#)
- [Troubleshooting for the cluster management functionality on page 3-39](#)

## High-speed failover support functionality

The highly-reliable HA monitor stops processing of the faulty system, and then performs a failover to the standby system. The high-speed failover support functionality is used to reset the faulty system within a second order, and to enable high-speed failovers to the standby system to shorten the system downtime.

This functionality resets a system in a software reset. If termination of the system cannot be confirmed after a software reset, this functionality forcibly resets the system (hardware reset).

The high-speed failover support functionality secures high-speed failover by performing a hardware reset before it is too late. The use of the high-speed failover support functionality might be restricted depending on the configuration. So, if you intend to use the high-speed failover support functionality, contact our sales personnel for assistance.



## Related topics

- [Notes on using the high-speed failover support functionality on page 3-37](#)
- [Enabling the high-speed failover support functionality for the HA monitor and the cluster management functionality on page 3-38](#)

## Cluster management functionality

Both the active and standby systems being reset simultaneously is called a simultaneous reset of the active and standby systems. If the simultaneous reset of the active and standby systems occurs, both systems become unavailable, in which case operation can no longer be continued. The HA monitor determines in advance which of the two systems is to be reset first (reset priority system) by using the interactive system failover configuration, and prevents the simultaneous reset of the active and standby systems by delaying the reset of the system without priority.

For the cluster management functionality, there is no need to specify the reset priority system for the HA monitor because the cluster manager manages all reset operations of both systems in a cluster to prevent the simultaneous reset of the active and standby systems. This enables the interactive system failover configuration to immediately reset the faulty system even when a failure occurs in either of the systems.

## Related topics

- [Notes on using the cluster management functionality on page 3-38](#)
- [Enabling the high-speed failover support functionality for the HA monitor and the cluster management functionality on page 3-38](#)
- [Troubleshooting for the cluster management functionality on page 3-39](#)

## Notes on using the high-speed failover support functionality

Observe the following precautions when enabling the high-speed failover support functionality:

- You can use the high-speed failover support functionality for CB 520X B1/B2/B3 server blades only. Do not enable the high-speed failover support functionality for CB 520H B3/B4 server blades. If a cluster for which you want to enable the high-speed failover support functionality contains both CB 520X B1/B2/B3 and CB 520H B3/B4 server blades, reset the server blades for separate clusters.
- The high-speed failover support functionality functions only for the server blades running in basic mode. For the server blades running in LP mode that belong to a cluster for which the high-speed failover support functionality is enabled, the high-speed failover support functionality does not function.

## Related topics

- [Enabling the high-speed failover support functionality for the HA monitor and the cluster management functionality on page 3-38](#)

## Notes on using the cluster management functionality

Observe the following precautions when enabling the cluster management functionality:

- Enable the cluster management functionality only for clusters that have the server blades running in basic mode.  
Do not enable the cluster management functionality for the server blades running in LP mode.
- Use the cluster management functionality in the interactive system failover configuration. Do not use the cluster management functionality in a 1-to-1 system failover configuration, 2-to-1 system failover configuration, multiple standby configuration, or cluster-type system failover configuration.
- When using the cluster management functionality, specify appropriate environment settings for all the HA monitors within the system failover configuration. For details about the environment settings for the HA monitor, see the manual supplied with the HA monitor.
- When using the cluster management functionality in a configuration involving multiple system units, enable the cluster management functionality for the cluster in all the system units.
- You must enable a cluster manager within a cluster. When using the cluster management functionality in a configuration involving multiple system units, do not enable multiple cluster managers within a cluster.
- When setting the cluster management functionality, power off all the server blades within the cluster to be set.

## Related topics

- [Enabling the high-speed failover support functionality for the HA monitor and the cluster management functionality on page 3-38](#)

## Enabling the high-speed failover support functionality for the HA monitor and the cluster management functionality

To enable the high-speed failover support functionality and the cluster management functionality, use the Web console.

**To enable the high-speed failover support functionality for the HA monitor and the cluster management functionality from the Web console:**

1. Select the **Resources** tab, and then from the tree view in **Systems**, select **HA monitor linkage**.
2. In the **Cluster** tab, click the **Add** button.

3. In [Port number], from among the port numbers specified in the **Server blade** tab, enter the port number for which the high-speed failover support functionality and the cluster management functionality are to be enabled.
4. Enable or disable the high-speed failover support functionality and the cluster management functionality.
5. If you enable the cluster management functionality in a cluster configuration, set the management setting for the system unit to be run as the cluster manager to "Enable", and set the management setting for the other system unit to "Disable".
6. Click the **Confirm** button.



**Tip:**

- If you have not purchased the Highly-reliable HA Monitor License, the **Cluster** tab is not displayed in the **HA monitor** window.
- To change the settings, click the **Cluster** tab, select the cluster, and then click the **Edit** button.

### Related topics

- [Notes on using the high-speed failover support functionality on page 3-37](#)
- [Notes on using the cluster management functionality on page 3-38](#)
- [Troubleshooting for the cluster management functionality on page 3-39](#)

## Troubleshooting for the cluster management functionality

The following table describes how to deal with the potential errors associated with the cluster management functionality.

**Table 3-13 Troubleshooting for the cluster management functionality**

| No. | Item              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Category          | HA monitor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|     | Error description | When the HA monitor started, an error was reported by the message KAMN478-E indicating CPUDOWN-SYSTEM.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|     | Description       | The cluster management functionality is enabled for the HA monitor but disabled for the management module.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|     | Action            | <p>(a) To use the cluster management functionality, the Highly-reliable HA Monitor License is required. If you do not have this license, change the cpudown parameter in the HA monitor environment settings to either online or standby.</p> <p>(b) If you are not using the cluster management functionality, change the cpudown parameter in the environment settings of the HA monitor that output the message to either online or standby.</p> <p>(c) If you are using the cluster management functionality, use the Web console to enable the cluster management functionality</p> |

| No. | Item              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2   |                   | for the cluster that defines the server blade on which the message source HA monitor is running.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|     | Note              | Before changing cluster settings from the Web console, power off all server blades in the cluster.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|     | Category          | HA monitor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|     | Error description | When the HA monitor started, an error was reported by the message KAMN686-W indicating CLUSTER-MANAGER.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|     | Description       | <p>Although the cluster management functionality is enabled for the HA monitor, one of the following problems exists in the way the cluster management functionality is used or specified in the management module:</p> <p>(a) In a configuration involving multiple system units, the cluster that defines the server blade on which the message source HA monitor is running contains a server blade of the management module for which the cluster management functionality is disabled.</p> <p>(b) In a configuration involving multiple system units, the cluster management functionality is set differently for the cluster that defines the server blade on which the message source HA monitor is running.</p> <p>(c) In a configuration involving multiple system units, more than one cluster manager is specified for the cluster that defines the server blade on which the message source HA monitor is running.</p> <p>(d) No cluster manager is specified for the cluster that defines the server blade on which the message source HA monitor is running.</p>                                                                                                                                                                                                                                                                                                            |
|     | Action            | <p>For each of the problems (a) through (d), take the following corrective action:</p> <p>(a) The system failover configuration of the HA monitor that output the message contains a management module that does not have the Highly-reliable HA Monitor License. Purchase the Highly-reliable HA Monitor License, or create a system failover configuration in which the cluster management functionality is disabled for both the HA monitor and the management module.</p> <p>(b) For all system units, use the Web console to enable the cluster management functionality for the cluster that defines the server blade on which the message source HA monitor is running.</p> <p>(d) Use the Web console to change the management settings for the cluster that defines the server blade on which the message source HA monitor is running, so that only one cluster manager from among all system units is set to "Enable". After you change the settings, in the <b>HA monitor</b> window of the Web console, click the <b>Cluster</b> tab, select the cluster, and then click the <b>Resume HA cluster manager</b> button.</p> <p>(d) Use the Web console to change the management settings for the cluster that defines the server blade on which the message source HA monitor is running, so that only one cluster manager from among all system units is set to "Enable".</p> |

| No. | Item              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | Note              | Problem (d) mentioned above is also detected under the following circumstance: in a configuration involving multiple system units, the HA monitor starts up in the server blade of the system unit for which the cluster manager is not specified before the system unit for which the cluster manager is specified is up and running. In this case, the error status is resolved when the system unit for which the cluster manager is specified is up and running.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 3   | Category          | HA monitor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|     | Error description | When the HA monitor started or when you changed the settings while the system is running, an error was reported by the message KAMN624-E indicating SVP-TIMEOUT or REQ-TIMEOUT.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|     | Description       | <p>The reset path is in the error state due to one of the following problems associated with the way in which the cluster management functionality is used or specified in the management module:</p> <p>(a) In a configuration involving multiple system units, the cluster that defines the server blade on which the message source HA monitor is running contains a server blade of the management module for which the cluster management functionality is disabled.</p> <p>(b) In a configuration involving multiple system units, the cluster management functionality is set differently for the cluster that defines the server blade on which the message source HA monitor is running.</p> <p>(c) In a configuration involving multiple system units, more than one cluster manager is specified for the cluster that defines the server blade on which the message source HA monitor is running.</p> <p>(d) No cluster manager is specified for the cluster that defines the server blade on which the message source HA monitor is running.</p>                                                                           |
|     | Action            | <p>For each of the problems (a) through (d), take the following corrective action:</p> <p>(a) The system failover configuration of the HA monitor that output the message contains a management module that does not have the Highly-reliable HA Monitor License. Purchase the Highly-reliable HA Monitor License, or create a system failover configuration in which the cluster management functionality is disabled for both the HA monitor and the management module.</p> <p>(b) For all system units, use the Web console to enable the cluster management functionality for the cluster that defines the server blade on which the message source HA monitor is running.</p> <p>(d) Use the Web console to change the management settings for the cluster that defines the server blade on which the message source HA monitor is running, so that only one cluster manager from among all system units is set to "Enable". After you change the settings, in the <b>HA monitor</b> window of the Web console, click the <b>Cluster</b> tab, select the cluster, and then click the <b>Resume HA cluster manager</b> button.</p> |

| No. | Item              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                   | (d) Use the Web console to change the management settings for the cluster that defines the server blade on which the message source HA monitor is running, so that only one cluster manager from among all system units is set to "Enable".                                                                                                                                                                                                                                                                                                                                                                    |
|     | Note              | Problem (d) mentioned above is also detected under the following circumstance: in a configuration involving multiple system units, the HA monitor starts up in the server blade of the system unit for which the cluster manager is not specified before the system unit for which the cluster manager is specified is up and running. In this case, the error status is resolved when the system unit for which the cluster manager is specified is up and running.                                                                                                                                           |
| 4   | Category          | Web console                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|     | Error description | On the <b>Cluster</b> tab, "Suspended" is displayed as the current management status.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|     | Description       | <p>One of the following problems has occurred:</p> <p>(a) The cluster management functionality settings specified in the management module have the following error:</p> <ul style="list-style-type: none"> <li>In a configuration involving multiple system units, more than one cluster manager is specified for the cluster whose status is "Suspended".</li> </ul> <p>(b) An application on other system uses the same value as the port number of SVP.</p>                                                                                                                                                |
|     | Action            | <p>For each of the problems (a) through (b), take the following corrective action:</p> <p>(a) Use the Web console to change the management settings for the cluster whose status is "Suspended", so that only one cluster manager from among all system units is set to "Enable". After you change the settings, in the [HA monitor] window of the Web console, click the <b>Cluster</b> tab, select the cluster, and then click the <b>Resume HA cluster manager</b> button.</p> <p>(b) Set the port number not used by other system to the port number of SVP or change the number used in other system.</p> |
|     | Note              | <p>When the cluster manager enters the "Suspended" state, the cluster manager does not restart until it is restarted. The error status mentioned above might already be resolved even when the cluster manager is suspended. In this case, simply restart the cluster manager.</p> <p>The reset path is in the error state. If a system failure occurs, a failover cannot be performed.</p> <p>If you have changed the SVP port number, also change the port number settings for the HA monitor reset path.</p>                                                                                                |
| 5   | Category          | Web console                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|     | Error description | On the <b>Cluster</b> tab, "Lost" is displayed as the current management status.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|     | Description       | The cluster manager has disappeared from the cluster whose status is "Lost". One of the following events occurred:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| No. | Item              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                   | <p>(a) The system unit containing the management module running the cluster manager for the cluster whose status is "Lost" was turned off.</p> <p>(b) Communication with the management module running the cluster manager for the cluster whose status is "Lost" was lost.</p> <p>(c) In the management module running the cluster manager for the cluster whose status is "Lost", the management setting for that cluster was disabled.</p>                                                                                                                                               |
|     | Action            | <p>For each of the problems (a) through (c), take the following corrective action:</p> <p>(a) Turn on the system unit containing the management module running the cluster manager for the cluster whose status is "Lost".</p> <p>(b) Check for abnormality in the communication path with the management module running the cluster manager for the cluster whose status is "Lost".</p> <p>Use the Web console to change the management settings for the cluster whose status is "Lost", so that only one cluster manager from among all system units is set to "Enable" .</p>             |
|     | Note              | The reset path is in the error state. If a system failure occurs, a failover cannot be performed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 6   | Category          | Web console                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|     | Error description | The <b>Cluster</b> tab displays "Waiting" as the current management status.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|     | Description       | <p>The cluster manager for the cluster whose status is "Waiting" does not exist. One of the following problems has occurred:</p> <p>(a) The system unit containing the management module running the cluster manager for the cluster whose status is "Waiting" is turned off.</p> <p>(b) Communication with the management module running the cluster manager for the cluster whose status is "Waiting" is lost.</p> <p>(c) This cluster management setting for the system unit whose cluster status was displayed as "Running" was disabled.</p>                                           |
|     | Action            | <p>For each of the problems (a) through (c), take the following corrective action:</p> <p>(a) Turn on the system unit containing the management module running the cluster manager for the cluster whose status is "Waiting".</p> <p>(b) Check for abnormality in the communication path with the management module running the cluster manager for the cluster whose status is "Waiting".</p> <p>(c) Use the Web console to change the management settings for the cluster whose status is "Waiting", so that only one cluster manager from among all system units is set to "Enable".</p> |
|     | Note              | The reset path is in the error state. If a system failure occurs, a failover cannot be performed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |



## Viewing the host information of the server blade

This section describes how to view the host information of the server blade.

### Installing the necessary tool (server installation and monitoring tool)

The server installation and monitoring tool is a tool kit supplied with the server, which enables automatic installation of the OS and drivers on the server as well as automatic upgrading of the utilities, drivers, and firmware. By installing the server installation and monitoring tool in the OS of the server blade, you can view the OS information (host information) from the console of the management module.

### Host information that can be viewed

The following table describes the host information you can view from the console of the management module.

**Table 3-14 Host information that can be viewed**

| Information | Description                                            | Windows                                                                                                         | Linux                                                                                                                           |
|-------------|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| OS#1        | Type of the OS installed on the server                 | Windows version and service pack version<br>Example: Microsoft Windows Server 2008 R2 Enterprise Service Pack 1 | The output of <code>/etc/redhat-release</code> is displayed.<br>Example: Red Hat Enterprise Linux Server release 6.5 (Santiago) |
| Host name#2 | Host name specified for the OS installed on the server | Computer name                                                                                                   | The output of the <code>hostname</code> command is displayed.                                                                   |

#1

Special characters included in the OS name are omitted from the OS name displayed on the console.

#2

Use single-byte alphanumeric characters and symbols to specify a host name. If you use characters other than single-byte alphanumeric characters and symbols, the host name is not displayed correctly on the console.

After the OS starts up and the server installation and monitoring tool is automatically activated, the host information is saved to the server blade. Even when you change the host name, it is not immediately applied to the host name displayed on the console. To apply the new host name, restart the OS. Even when you shut down the OS, the host information saved to the server blade is retained. If you perform the following operations, the host information displayed on the Web console might be different from the actual OS information:

- Uninstall the server installation and monitoring tool.



- Uninstall the OS from the server and then reinstall the OS supported by the server installation and monitoring tool on the server without installing the server installation and monitoring tool.
- Uninstall the OS from the server and then reinstall the OS not supported by the server installation and monitoring tool on the server.  
If this is the case, delete the host information saved to the server blade. You can delete the host information from the console of the management module.

The following table describes the consoles that you can use to check or delete the host information.

**Table 3-15 Consoles used to view or delete the host information**

| Operation                     | Web console | CLI console | LCD touch console |
|-------------------------------|-------------|-------------|-------------------|
| Display the host information. | Y           | Y           | --                |
| Delete the host information.  | Y           | Y           | --                |

When the server installation and monitoring tool is installed on the active server blade in the N+M cold standby configuration, the host information is saved to the standby server blade at the following timing: the N+M failover occurs and the server installation and monitoring tool starts up on the standby server blade. Even when the N+M recovery occurs and the active server blade takes over for the standby server blade, the host information saved to the standby server blade is retained. You can also delete the host information saved to the standby server blade by using the host information deletion functionality.

### Related topics

- [Notes on viewing the host information on page 3-45](#)
- [Displaying the host information on page 3-46](#)
- [Deleting the host information on page 3-46](#)

## Notes on viewing the host information

Keep the following information in mind when viewing the host information:

- You cannot view the host information unless the server installation and monitoring tool version X.3.3.6 or later (for ESXi version 4.3.3.3 or later) is installed in the OS.
- The host information can be displayed for Windows, Linux, and VMware.
- The server installation and monitoring tool does not support displaying of the host information regarding the guest OS in a virtual environment (such as Hyper-V, LPAR manager, and VMware).

## Displaying the host information

To display the host information, use the Web console or CLI console.

### To display the host information from the Web console:

1. Select the **Resources** tab, and then from the tree view in **Modules**, select the target server blade.
2. On the **Hosts** tab, check the host information.

### To display the host information from the CLI console:

1. Execute the `show blade os-info` command.

### Related topics

- [show blade os-info on page 5-82](#)

## Deleting the host information

To delete the host information, use the Web console or CLI console. You can delete the host information only when the server blade is turned off.

### To delete the host information from the Web console:

1. Select the **Resources** tab, and then from the tree view in **Modules**, select the target server blade.
2. On the **Hosts** tab, click the **Clear Host Information** button.  
The host information (such as the host name and the OS name) collected from the server blade is cleared.

### To delete the host information from the CLI console:

1. Execute the `delete blade os-info` command.

### Related topics

- [delete blade os-info on page 5-33](#)

## Managing user account information by using LDAP

This section describes how the management module and server blades link with LDAP server.

### LDAP linkage

The CB 2500 can authenticate users by searching an LDAP directory on an LDAP server through LDAP. This functionality allows you to do the following:

- Log in to the management module and the server blades as a user registered with the LDAP directory.

- Use group authentication to only allow user accounts belonging to a certain group in the LDAP directory to log in.

The following modules support LDAP:

- Server blade (SMASH-CLP and WS-Management for BMC)
- Management module

With LDAP linkage, during user authentication, the module determines whether a user can log in based on the user account information that is registered in each module or stored in the LDAP directory. You can add the user account information to the LDAP directory on an LDAP server. This allows the additional information to become available to all modules that use the server, eliminating the need for each module to have the account information.

Also, group authentication allows only user accounts belonging to a group to log in by looking up group information in the LDAP directory during user authentication.

If the modules are not linked with an LDAP server, users can only use their account registered in each module to log into the module.

If the modules are linked with an LDAP server, you can select either of the following two authentication methods:

- First, users are authenticated by using their accounts registered in each module. If the authentication fails, users are authenticated by using their accounts in the LDAP directory.
- Users are authenticated by using their accounts in the LDAP directory only.

Even if the modules are linked with an LDAP server, the former authentication method enables users to use their account registered in each module to log into the module. If the LDAP directory contains the account information that has the same name as each module, the former authentication method first uses the information registered in each module for authentication. If authentication that uses accounts registered in each module fails, accounts in the LDAP directory are used for authentication.

To set whether the server blades link with an LDAP server, use the Web console. In addition, to specify the setting to select the authentication method used when the server blades link with an LDAP server, use the Web console. To specify the settings from the Web console:

1. Select the **Resources** tab, and then from the tree view in **Modules**, select the target server blade.
2. From the **Edit** menu in the **BMC** tab, select the LDAP item.
3. Specify the following settings: whether the server blades link with an LDAP server, and the authentication method used when the server blades link with an LDAP server.

To set whether the management module links with an LDAP server, use the Web console or the CLI console. To specify the setting to select the

authentication method used when the management module links with an LDAP server, use the CLI console. To specify the following settings, use the CLI console to execute the `set user ldap server` command: whether the management module links with an LDAP server, and the authentication method used when the management module links with an LDAP server. To use the Web console to specify the settings for whether the management module links with an LDAP server:

1. From the tree view in the **Administration** tab, select **LDAP/RADIUS**.
2. From the **Edit** menu in the **LDAP** tab, select **Edit LDAP server settings**.
3. Disables or enables the LDAP linkage.

You can configure a maximum of three LDAP servers for a module. If a module has multiple servers configured, during user authentication, it attempts to connect to those servers, in the order that they were configured. It searches the LDAP directory on the first LDAP server that it has successfully connected to, and tries to authenticate the user. If the module fails to connect to all the configured LDAP servers, user authentication with the LDAP servers fails.

#### Supported LDAP servers

The CB 2500 can work with Active Directory included with the following versions of Windows Server:

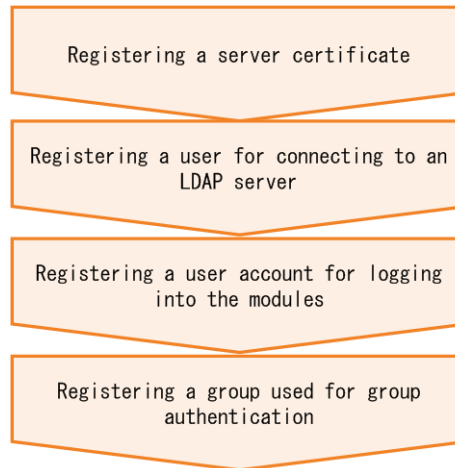
- o Microsoft® Windows Server® 2016 Standard
- o Microsoft® Windows Server® 2016 Datacenter
- o Microsoft® Windows Server® 2012 R2 Standard
- o Microsoft® Windows Server® 2012 R2 Datacenter
- o Microsoft® Windows Server® 2012 Standard
- o Microsoft® Windows Server® 2012 Datacenter
- o Microsoft® Windows Server® 2008 R2 Standard
- o Microsoft® Windows Server® 2008 R2 Enterprise
- o Microsoft® Windows Server® 2008 R2, Datacenter
- o Microsoft® Windows Server® 2008 Standard
- o Microsoft® Windows Server® 2008 Enterprise
- o Microsoft® Windows Server® 2008, Datacenter

#### Related topics

- [set user ldap server on page 5-187](#)
- [General procedure for configuring Active Directory on page 3-48](#)

## General procedure for configuring Active Directory

This subsection describes the settings necessary to use Active Directory as an LDAP server. The following figure illustrates the necessary settings.



**Figure 3-11 Configuring Active Directory**

### **Related topics**

- [Registering a server certificate on page 3-49](#)
- [Registering a user for connecting to an LDAP server on page 3-49](#)
- [Registering a user account for logging into the management module and server blades on page 3-50](#)
- [Registering a group that is used for group authentication on page 3-53](#)

## **Registering a server certificate**

A server certificate must be registered with an Active Directory that is used as an LDAP server because the system unit communicates everything with an LDAP server over TLS, excluding the connection start time.

For details about how to register the server certificate, see the documentation supplied with your Windows Server.

There are two types of server certificates: self-signed certificates and certificates trusted by an external certificate authority. The system unit can communicate with Active Directory properly by using either of them.

## **Registering a user for connecting to an LDAP server**

The module must connect to an LDAP server in order to search an LDAP directory during user authentication. Use either of the following methods to connect to an LDAP server:

- Connecting to the server by using an LDAP bind DN and password (recommended)
- Connecting to the server as an Anonymous user

## Registering a user account used as a bind DN

Register a user account that is used as an LDAP bind DN to your Windows Server. For details about how to register the user accounts, see the documentation supplied with your Windows Server.

Any user account used as an LDAP bind DN must have access to the LDAP directory used for user authentication.

## Registering an Anonymous user

To configure an Anonymous user:

1. Select **Start > Run**, type `mmc`, and then click the **OK** button.  
The Microsoft Management Console (MMC) window appears.
2. Select **Menu > File > Add/Remove Snap-in**, and then in the Add Standalone Snap-in dialog box, click the **Add** button.  
A list of snap-ins that can be added appears.
3. Select `ADSI Edit`, click the **Add** button, and then click the **Close** button.
4. After `ADSI Edit` is added in the Add/Remove Snap-in dialog box, click the **OK** button.  
**ADSI Edit** is added to **Console Root** of the MMC window.
5. In the MMC window, point to **ADSI Edit** and right-click it, and then select `Connect to ....`
6. Select **Domain** for the context of the Active Directory domain to be connected, and then click the **OK** button.
7. Right-click **ADSI Edit** again and select `Connect to ....`
8. Select `Configuration` as the context and click the **OK** button.
9. Point to **\ADSI Edit\configuration\CN=Configuration\DC=DomainBase\CN=Services\CN=Windows NT\CN=Directory Service** on the control and right-click it, and then select **Properties**.
10. In the Properties dialog box, click `dSHeuristics`, **Edit** button, and then set a value in the edit dialog box.  
If this attribute is not set (if `<Not Set>` is displayed), set it to `00000002`. If the attribute already has a set value, only change the seventh figure from the left to `2`, and do not change the other figures.
11. When you are finished, in the Properties dialog box, click the **OK** button to apply your change.

## Registering a user account for logging into the management module and server blades

You can register a user accounts to an LDAP directory by selecting **Administrative Tools > Active Directory Users and Computers**. For details about how to register the user accounts, see the documentation supplied with your Windows Server.

This subsection describes the restrictions on user names and passwords to be registered. It also explains how to provide role information that is used after a user logs into the management module.



**Note:** To use Active Directory for authentication for both management modules and LPAR manager, you will need to set a value for the uidNumber attribute for each user account used for login. However, in LPAR manager firmware version 02-45 or later, uidNumber does not need to be set.

## User name

The following table describes the available characters and length for the user name.

**Table 3-16 Available characters and length for the user name**

| Item                                                   | Available values                                      |
|--------------------------------------------------------|-------------------------------------------------------|
| Number of characters                                   | 1 - 31 characters                                     |
| Available characters (for the first letter)            | A-Z, a-z                                              |
| Available characters (for the second letter and later) | A-Z, a-z, 0-9, hyphen (-), underscore (_), period (.) |

## Password

The following table describes the available characters and length for the password. The complexity of passwords varies depending on the security policy of your Windows Server.

**Table 3-17 Available characters and length for the password**

| Item                 | Available values                       |
|----------------------|----------------------------------------|
| Number of characters | 1 - 31 characters                      |
| Available characters | Printable ASCII characters (0x20-0x7e) |

## Providing role information

You can define actions available to a logged-in user by providing role information to that user account registered in the LDAP directory. If no role information is provided, the logged-in user can only perform the minimum actions.

To provide the role information:

1. Select **Start > Run**, type `mmc`, and then click the **OK** button.  
The Microsoft Management Console (MMC) window appears.
2. Select **Menu > File > Add/Remove Snap-in**, and then in the Add Standalone Snap-in dialog box, click the **Add** button.

A list of snap-ins that can be added appears.

3. Select **ADSI Edit**, click the **Add** button, and then click the **Close** button.
4. After **ADSI Edit** is added in the Add/Remove Snap-in dialog box, click the **OK** button.

Confirm that **ADSI Edit** is added to **Console Root** of the MMC window.

5. On the MMC window, point to **ADSI Edit** and right-click it, and then select **Connect to ....**
6. Select **Domain** for the context of the Active Directory domain to be connected, and then click the **OK** button.
7. Expand the ADSI Edit tree, right-click a user account to which you want to provide with roles in the LDAP directory, and then open **Properties**.  
A list of attributes assigned to that user account is displayed.
8. In the list of attributes, select the attribute whose syntax is set to **Unicode String** and whose value is **<Not Set>**, and then click the **Edit** button.
9. Set the roles for the server blades.

Enter a role setting string for server blades in the following format:

`ServerBladeRole=XXXXXXXX` (where each X indicates 0 or 1)

Each X in the XXXXXXXX string, from the left to right, represents the following roles.

These roles are compatible with the LDAP server in CB2000.

- Login: The user for which this role is assigned will be able to log in to the server blade BMC.
- Administrator: The user for which this role is assigned will be able to use the functionality of the server blade BMC.
- Server Operation (#)
- User Account Management (#)
- Service Settings (#)
- Remote Console (\*)
- Remote Media (#)
- SMASH-CLP: The user for which this role is assigned will be able to use SMASH-CLP and WS-Management for the server blade BMC.

#: The roles are not available in this unit. Set this value to 0.

\*: This role is not supported by the following versions.

Server blade firmware

- For CB 520H B3, server blade firmware 08-58 or earlier.
- For CB 520H B4, server blade firmware 10-04 or earlier.
- For CB520X B1, All of the server blade firmware version.
- For CB520X B2, server blade firmware 09-36 or earlier.
- For CB520X B3, server blade firmware 11-01 or earlier.

10. Set the roles for your management modules.



Enter a role setting string for management modules in the following format:

```
ManagementModuleRole=role_name
```

The `role_name` variable represents the role name defined in the management module.



**Tip:** If you want to enter the role setting strings for both server blades and management modules in a single line, use a space character to separate the entries.

Example: `ServerBladeRole=11000001`

`ManagementModuleRole=Administrators`

---

11. After the role settings are entered, click the **OK** button.
  12. After the window returns to the Properties dialog box, click the **OK** button.
- 



**Note:** You can use alphanumeric characters and symbols to specify the DN of user accounts registered in the LDAP directory. Space cannot be used for the first and last character. If any characters other than alphanumeric characters or symbols, attempts to connect to the LDAP server will fail.

If the management module firmware version is earlier than A0190, the specified DN of user accounts registered in the LDAP directory must be no longer than 74 characters, and no space characters can be used at any position. If the version is A0190 or later, the specified DN must be no longer than 256 characters.

---

## Registering a group that is used for group authentication

Register a group that is used for group authentication. If you do not use group authentication, this setting is not required.

To register a group, open **Administrative Tools > Active Directory Users and Computers**, and create two groups in the LDAP directory. One group is allowed to log into server blades. Another group is allowed to log in to the management module. After you create the groups, register user accounts to each group that are allowed to log in.

The groups that are allowed to log into the server blades and management modules can be combined into one group.

For details about how to create a group and register the user accounts to a group, see the documentation supplied with your Windows Server.

## Overview of configuring management modules and server blades for LDAP linkage

This subsection describes the setting items for management module settings for LDAP linkage. For details about how to configure a server blade, see the BMC settings window for each server blade of the management module Web console.

- Setting whether to enable or disable use of LDAP.

This setting enables you to configure whether the module links with LDAP server. This functionality is disabled when the system unit is shipped. If this functionality is enabled, the module searches the LDAP directory on an LDAP server to attempt authentication.

- Setting the authentication method when LDAP linkage is enabled  
For details about the authentication methods with LDAP linkage, see [LDAP linkage on page 3-46](#).
- LDAP servers registration  
You can configure a maximum of three LDAP servers. They can be specified by using either their IP addresses or host names.  
The maximum length of an FQDN is 127 characters. For FQDN, this item consists of alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9), hyphens (-), periods (.), and colons (:).  
• LDAP server connection settings
  - Port number  
Range is from 1 to 65535.
  - Bind DN and bind password  
If you have registered a user account used as a bind DN in [Registering a user for connecting to an LDAP server on page 3-49](#), set the DN and password of the registered user account. If you use an Anonymous user for connection, you do not need to set a bind DN or bind password.  
The maximum length of a bind DN is 256 ASCII characters.<sup>1</sup> Space cannot be used for head and last. The maximum length of a password is 32 ASCII characters.  
Space cannot be used for head and last.
- LDAP directory search settings  
Configure the following settings necessary for searching the LDAP directory:
  - Base DN  
Set the location from which the LDAP directory search starts.  
The maximum length of the base DN is 256 ASCII characters.<sup>1</sup> Space cannot be used for head and last.
  - Attribute that represents a login ID  
Set the attribute that has the login ID of a user account.  
The maximum length of the attribute that represents a login ID is 64 alphanumeric characters. You can use alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9). Note, however, that the first character must be an alphabetic character.
  - Attribute that represents a role  
If a role is assigned to a user account, specify the attribute that is used to assign the role.  
The maximum length of the attribute that represents a role is 64 alphanumeric characters. You can use alphanumeric characters

(uppercase A to Z, lowercase a to z, and 0 to 9). Note, however, that the first character must be an alphabetic character.

You can set the following items related to the LDAP directory search:

- Number of inquiry times  
For the number of the inquiry times item, set the number of times in which LDAP servers are traced based on the referral information and inquired (such as searched) if an LDAP server refers to other LDAP servers in order to achieve the method that divides and manages the LDAP directory by using multiple LDAP servers. If you set this setting to 0, each module does not trace the referred LDAP server even if an LDAP server refers to another LDAP server.
- Group authentication settings  
To use group authentication, configure the settings below. If group authentication is not used, these settings are not required.
  - Group authentication method  
If group authentication is not used, an account registered in each module or in the LDAP directory is used for user authentication according to the authentication method setting used when LDAP linkage is enabled if the module is set to link with an LDAP server.  
If you use group authentication, you can select either of the following two group authentication methods:
    - Static group authentication method
    - Dynamic group authentication methodThe former authentication method performs authentication by checking whether the user account to be authenticated belongs to the DN of the group that is allowed to log in that is described later. The latter authentication method performs authentication by checking whether the user account to be authenticated is included among all user accounts that satisfy the conditions set for the search filter that are described later.
  - Static group authentication method (management module only)  
If you want to use the static group authentication method, configure the following settings. You do not need to configure these settings if you are using the dynamic group authentication method.
    - a. Group member attribute  
The maximum length of the group member attribute is 64 alphanumeric characters. You can use alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9). Note, however, that the first character must be an alphabetic character.  
If this setting item is not specified, the management module checks the attribute value of the tokenGroups attribute of the user account, and then checks the attribute value of the objectSid attribute of the DN of the group that is allowed to log in. Then, depending on whether the two attribute values match, the management module determines whether the user account belongs to the DN of the group that is allowed to log in. If the

management module could not acquire the attribute value of the tokenGroups attribute of the user account, the management module checks the attribute value of the gidNumber attribute, and then checks the attribute value of the gidNumber attribute of the DN of the group that is allowed to log in. Then, depending on whether the two attribute values match, the management module determines whether the user account belongs to the DN of the group that is allowed to log in. If none of the attribute values of the tokenGroups attribute or the gidNumber attribute can be acquired, authentication fails.

If this setting item is specified, depending on whether the DN of the user account is set for the attribute value of the attribute that is set for this setting item of the DN of the group that is allowed to log in, the management module determines whether the user account belongs to the DN of the group that is allowed to log in.

If you use the LDAP directory in which the tokenGroups attribute or the gidNumber attribute can be used to determine whether the user account belongs to the DN of the group that is allowed to log in, you do not need to specify this setting item.

- b. DN of the group that is allowed to log in  
Specify the DN of the group that is created when the group is configured.  
The maximum length of a DN of the group that is allowed to log in is 256 ASCII characters.<sup>1</sup> Space cannot be used for head and last.
- c. Role of the DN of the group that is allowed to log in  
If this setting item is not specified, use the attribute value of the attribute that represents the role of the user account to assign a role. If this setting item is specified, use the setting value to assign a role. If the role of the setting value does not exist in the role settings for the management module, the logged-in user can only perform minimum actions.
- o Dynamic group authentication method (management module only)  
If you want to use the dynamic group authentication method, configure the following settings. You do not need to configure these settings if you are using the static group authentication method.
  - a. Search DN for the dynamic group  
Set the location from which the LDAP directory search starts during dynamic group authentication.  
The maximum length of the search DN is 256 ASCII characters. Space cannot be used for head and last.
  - b. Search filter for the dynamic group  
Set the attribute and attribute value conditions used when the LDAP directory is searched during dynamic group authentication. You can use logical operators when specifying conditional expressions. The maximum length of a conditional expression is 256 ASCII characters. Space cannot be used for head and last.

**Table 3-18 Conditional expressions that can be specified for the dynamic group search filter (when searching for numeric attributes)**

| Conditional expression       | Meaning of the conditional expression                                                                                       | Example       |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------|
| attribute = numerical value  | The value of the attribute on the left side of the expression matches the numerical value on the right.                     | GroupID=1117  |
| attribute >= numerical value | The value of the attribute on the left side of the expression is greater than or equal to the numerical value on the right. | GroupID>=1117 |
| attribute <= numerical value | The value of the attribute on the left side of the expression is less than or equal to the numerical value on the right.    | GroupID<=1117 |

**Table 3-19 Conditional expressions that can be specified for the dynamic group search filter (when searching for alphabetic attributes)**

| Conditional expression         | Meaning of the conditional expression                                                                                        | Example     |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------------|
| attribute = character string   | The value of the attribute on the left side of the expression matches the character string on the right.                     | CN=ldapuser |
| attribute = character string*  | The value of the attribute on the left side of the expression begins with the character string on the right. (Forward match) | CN=ldap*    |
| attribute = *character string  | The value of the attribute on the left side of the expression ends with the character string on the right. (Backward match)  | CN=*user    |
| attribute = *character string* | The value of the attribute on the left side of the expression includes the character string on the right. (Partial match)    | CN=*user*   |

**Table 3-20 Logical conditional expressions that can be specified for the dynamic group search filter**

| Type | Logical conditional expression  | Meaning of the logical conditional expression | Example                 |
|------|---------------------------------|-----------------------------------------------|-------------------------|
| AND  | &(condition 1)<br>(condition 2) | Meets both condition 1 and condition 2        | &(ID=117)<br>(CN=*user) |

| Type                                                                                                                                                                                                                                                                | Logical conditional expression | Meaning of the logical conditional expression     | Example           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------------------|-------------------|
| OR                                                                                                                                                                                                                                                                  | (condition 1)<br>(condition 2) | Meets at least one of condition 1 and condition 2 | (ID=117) (ID=118) |
| NOT                                                                                                                                                                                                                                                                 | !(condition)                   | Does not meet the condition                       | ! (ID=117)        |
| Notes:<br>1. You can use a combination of three or more conditions. You can also use the NOT operator within a condition.<br>Example: & (! (ID=117)) (CN=ldap*)<br>Meaning: This allows users whose CN begins with "ldap" and whose ID number is not 117 to log in. |                                |                                                   |                   |

c. Role of the dynamic group

If this setting item is not specified, use the attribute value of the attribute that represents the role of the user account to assign the role. If this setting item is specified, use the setting value to assign the role. If the role of the setting value does not exist in the role settings for the management module, the user who has logged in to the management module can only perform minimum actions.

Notes:

1. For management module firmware versions earlier than A0190, set the DN length within 74 characters. Also, space characters cannot be used at all positions.

The following table describes the consoles that you can use to perform specific operations from the management module.

**Table 3-21 Consoles used for LDAP linkage settings**

| Operation                                                                                                    | Web console    | CLI console    | LCD touch console |
|--------------------------------------------------------------------------------------------------------------|----------------|----------------|-------------------|
| Configure the settings to connect to the LDAP server (LDAP server, port number, bind DN, and bind password). | Y <sup>1</sup> | Y <sup>2</sup> | --                |
| Configure the settings related to the LDAP directory search.                                                 | Y <sup>1</sup> | Y <sup>2</sup> | --                |
| Configure the settings to identify a group in the management module.                                         | Y <sup>1</sup> | Y <sup>2</sup> | --                |
| Notes:                                                                                                       |                |                |                   |

| Operation                                                                                                          | Web console | CLI console | LCD touch console |
|--------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------------|
| 1. You can specify the settings for server blades. You can specify some of the settings for the management module. |             |             |                   |
| 2. You can specify the settings for the management module only.                                                    |             |             |                   |

## Related topics

- [Setting the information to connect to an LDAP server on page 3-59](#)
- [Configuring the information related to the LDAP directory searches on page 3-60](#)
- [Setting the information to identify a group on page 3-61](#)

## Displaying the settings for linking with an LDAP server

To display the settings related to linkage with an LDAP server of the management module, use the Web console or the CLI console. To display the LDAP linkage settings in the Web console, from the tree view in the **Administration** tab, select **LDAP/RADIUS**, select **LDAP** tab. To use the CLI console to display the LDAP linkage settings, execute the show user ldap command.

For details about how to configure a server blade, see the BMC settings window for each server blade of the management module Web console.

## Related topics

- [show user ldap on page 5-193](#)

## Setting the information to connect to an LDAP server

To configure the information for connecting to an LDAP server on the management module, use the Web console or the CLI console.

1. From the tree view in the **Administration** tab, select **LDAP/RADIUS**.
2. From the **Edit** menu in the **LDAP** tab, select **Edit LDAP server settings**.
3. Configure the settings, such as enabling or disabling LDAP authentication, the host name of the LDAP server, the port number used to connect to the LDAP server, the bind DN, and the bind password.

To use the CLI console to configure the settings for connecting to an LDAP server, depending on the operation you are going to perform, execute one of the commands listed in the following table.

**Table 3-22 Commands used to configure the settings to connect to the LDAP server**

| Operation                                 | Command                           |
|-------------------------------------------|-----------------------------------|
| Setting to enable or disable use of LDAP. | <code>set user ldap server</code> |

| Operation                                                                                               | Command |
|---------------------------------------------------------------------------------------------------------|---------|
| Authentication method setting when LDAP linkage is enabled                                              |         |
| Register, change, or delete LDAP servers.                                                               |         |
| Configure the settings used for connecting to an LDAP server (port number, bind DN, and bind password). |         |

For details about how to configure a server blade, use the Web console. To specify the settings from the Web console:

1. Select the **Resources** tab, and then from the tree view in **Modules**, select the target server blade.
2. From the **Edit** menu in the **BMC** tab, select the LDAP item.
3. Configure the settings to connect to the LDAP server.

### Related topics

- [set user ldap server on page 5-187](#)

## Configuring the information related to the LDAP directory searches

To configure the information related to the LDAP directory searches on the management module, use the Web console or the CLI console.

### To configure the information necessary to search LDAP directories from the Web console:

1. From the tree view in the **Administration** tab, select **LDAP/RADIUS**.
2. From the **Edit** menu in the **LDAP** tab, select **Edit directory search settings**.
3. Enter the information, such as a base DN, login ID attribute, and role attribute.

To configure the information necessary to search LDAP directories from the CLI console, execute the `set user ldap search` command.

**Table 3-23 Commands used to configure the settings related to the LDAP directory search.**

| Operation                        | Command              |
|----------------------------------|----------------------|
| Set the base DN.                 | set user ldap search |
| Set the login ID attribute.      |                      |
| Set the role attribute.          |                      |
| Set the number of inquiry times. |                      |

For details about how to configure a server blade, use the Web console. To specify the settings from the Web console:



1. Select the **Resources** tab, and then from the tree view in **Modules**, select the target server blade.
2. From the **Edit** menu in the **BMC** tab, select the LDAP item.
3. Configure the settings to connect to the LDAP server.

### Related topics

- [set user ldap search on page 5-186](#)

## Setting the information to identify a group

To configure the settings to identify a group on the management module, use the Web console or CLI console.

### To configure the settings to identify a group by using the Web console:

1. From the tree view in the **Administration** tab, select **LDAP/RADIUS**.
2. From the **Edit** menu in the **LDAP** tab, select **Edit group authentication settings**.
3. Enter a member attribute, group DN, and other necessary information.

To configure the settings to identify a group by using the CLI console, execute the `set user ldap group` command.

**Table 3-24 Commands used to configure the settings to identify a group**

| Operation                                                                                                                  | Command             |
|----------------------------------------------------------------------------------------------------------------------------|---------------------|
| Specify the setting to enable or disable group authentication and the setting of the authentication method.                | set user ldap group |
| Set the group member attribute.                                                                                            |                     |
| Register, change, or delete the DN of the group that is allowed to log in.                                                 |                     |
| Register, change, or delete the role of the DN of the group that is allowed to log in.                                     |                     |
| Set the information related to the dynamic group authentication (search DN, search filter, and role of the dynamic group). |                     |

For details about how to configure a server blade, use the Web console. To specify the settings from the Web console:

1. Select the **Resources** tab, and then from the tree view in **Modules**, select the target server blade.
2. From the **Edit** menu in the **BMC** tab, select the LDAP item.
3. Configure the settings to connect to the LDAP server.

### Related topics

- [set user ldap group on page 5-183](#)

## Initializing the LDAP linkage settings

To initialize the LDAP linkage settings of the management module, use the CLI console. To use the CLI console to initialize the LDAP linkage settings, execute the `clear user ldap` command.

### Related topics

- [clear user ldap on page 5-176](#)

## Managing user account information by using RADIUS

This section describes RADIUS authentication in the management module.

### Overview

In this system unit, you can authenticate users by using Remote Authentication Dial In User Service (abbreviated hereafter to RADIUS).

If RADIUS authentication is used, during user authentication, the authentication result on the RADIUS server determine whether a user can log in. If you add information of a user account to the RADIUS server, the added user account can be used to log in to all modules that use RADIUS authentication. You do not have to register the user account information in each module.

The following two authentication methods can be used for RADIUS authentication:

- Authenticate users by using their accounts registered in each module. If the authentication fails, users are authenticated by using the RADIUS server.
- Authenticate users by the RADIUS server only.

You can register a maximum of three RADIUS servers. If you register multiple RADIUS servers, during user authentication, an attempt is made to connect to those servers in the order that they were registered. User authentication is attempted by using the first RADIUS server to which a connection can be made. If a connection cannot be made to any of the registered RADIUS servers, the user authentication fails.

### Supported RADIUS servers

This system unit supports RADIUS authentication that uses Network Policy Server or FreeRADIUS of the following versions of Windows Server:

- Microsoft® Windows Server® 2016, Standard
- Microsoft® Windows Server® 2016, Datacenter
- Microsoft® Windows Server® 2012 R2, Standard
- Microsoft® Windows Server® 2012 R2, Datacenter

- Microsoft® Windows Server® 2012, Standard
- Microsoft® Windows Server® 2012, Datacenter
- Microsoft® Windows Server® 2008 R2, Standard
- Microsoft® Windows Server® 2008 R2, Enterprise
- Microsoft® Windows Server® 2008 R2, Datacenter
- Microsoft® Windows Server® 2008, Standard
- Microsoft® Windows Server® 2008, Enterprise
- Microsoft® Windows Server® 2008, Datacenter

## Settings for the RADIUS server

Before using RADIUS authentication, you need to register the management module as a RADIUS client.

For details about how to register a RADIUS client, see the documentation for the RADIUS server.

## Settings for the management module

You need to configure the following settings for the management module when using RADIUS authentication.

- RADIUS authentication settings  
You can configure whether to perform RADIUS authentication.  
The setting is disabled when the system unit is shipped.  
If you enable this setting, RADIUS authentication is attempted during user authentication.



**Note:** You cannot use LDAP linkage and RADIUS authentication at the same time.

If you use RADIUS authentication, disable the LDAP linkage settings.

---

- Setting of the user authentication method when RADIUS authentication is enabled  
For details about the authentication methods used when RADIUS authentication is performed, see "[Overview on page 3-62](#)".
- Roles for the RADIUS-authenticated users  
You can specify the roles to be assigned to users who logged in through user authentication using the RADIUS server.
- RADIUS server registration  
You can register a maximum of three RADIUS servers. Specify the following items for each of the RADIUS servers to be registered.
  - Server name  
You can specify the IP address (IPv4/IPv6) or host name.  
Specify an FQDN by using a maximum of 127 characters. For FQDN, this item consists of alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9), hyphens (-), periods (.), and colons (:).

- **Shared Secret**

This is the password shared between the RADIUS server and the management module.

The maximum length of a shared secret is 64 ASCII characters.

You need to specify the same value as the one set in the RADIUS server.

We recommend that you use a complex password that is at least 32 characters in length, and contains alphanumeric characters and symbols.
- **Authentication method**

This is the authentication method used when you perform user authentication using the RADIUS server.

You can select PAP, CHAP, or MS-CHAPv2.
- **Port number**

Specify the port number used for communication with the RADIUS server. Range is from 1 to 65535. A communication attempt is made to the port specified here.
- **Timeout period**

You can specify a timeout period in the range of 1 to 60 seconds.

During communication with the RADIUS server, if there is no response from the RADIUS server within the time specified here, the communication is assumed to have failed. If a value is specified for retransmit retry, a retransmission attempt is made.
- **Retransmit retry**

If a timeout occurs during communication with the RADIUS server, retransmission attempts are made for the number of times specified here. Range is from 0 to 10. If the RADIUS server does not respond even when retransmission attempts are made, an attempt is made to connect to the second RADIUS server that is registered. If communication cannot be established with any of the registered RADIUS servers, the authentication fails.

## **RADIUS server connection confirmation**

You can check the connection to the RADIUS server.

An attempt is made to authenticate the users for the RADIUS servers that were configured during RADIUS server registration, and to display the results. You need to specify the user account and password when checking the connection.

## **Specifying the RADIUS server authentication settings**

To specify the RADIUS server authentication settings when performing RADIUS authentication, use the Web console.

**To specify the RADIUS server authentication settings from the Web console:**

1. From the tree view in the **Administration** tab, select **LDAP/RADIUS**.
2. From the **Edit** menu in the **RADIUS** tab, select **Edit RADIUS authentication settings**.  
Edit the RADIUS authentication settings.

## Registering the RADIUS server

To register the RADIUS server, use the Web console.

**To register the RADIUS server from the Web console:**

1. From the tree view in the **Administration** tab, select **LDAP/RADIUS**.
2. From the **Edit** menu in the **RADIUS** tab, select **Edit RADIUS server settings**.  
Edit the RADIUS server settings.

## Checking the connection to the RADIUS server

To check the connection to the RADIUS server, use the Web console:

**To check the connection to the RADIUS server from the Web console:**

1. From the tree view in the **Administration** tab, select **LDAP/RADIUS**.
2. From the **Edit** menu in the **RADIUS** tab, select **RADIUS server connection confirmation**.  
Select the RADIUS server for which you want to check the connection, and then enter the user account and password to check.

## Monitoring the operating status of the system unit by using an SNMP manager

This section describes the SNMP functionality that the management module provides.

### SNMP functionality

The SNMP functionality of the CB 2500 polls the system unit and monitors it for failures.

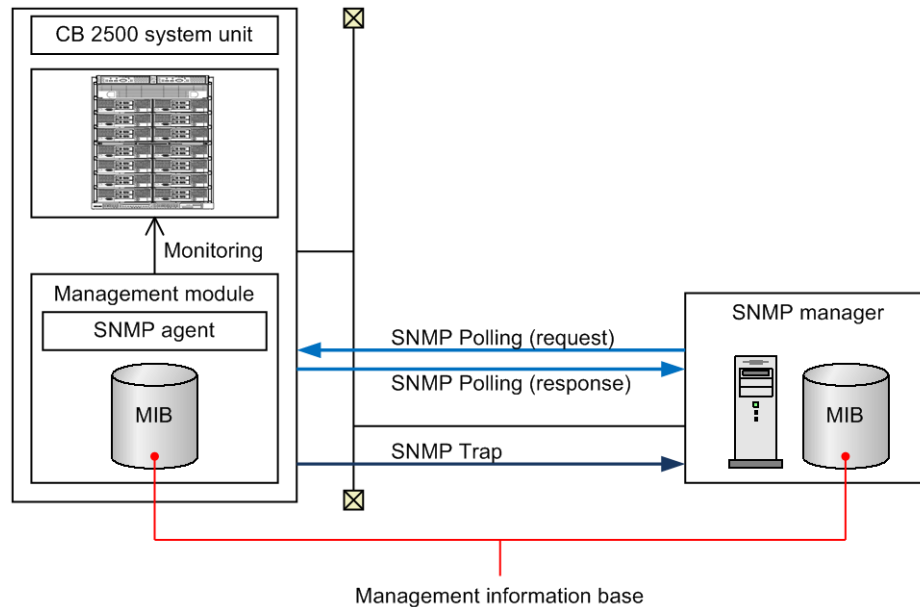
#### Polling

Monitors the system unit from the SNMP manager. The system unit can have its own Management Information Base (MIB) defined. When the SNMP manager issues a request for sending the value of a MIB variable to the system unit, the system unit returns a response that corresponds to the information defined in the MIB.

The polling functionality only responds to a request with an IP address of SNMP managers that is registered in the management module.

## Traps

The management system sends unprompted messages to an SNMP manager based on the MIB that is uniquely defined to the system unit. This allows the SNMP manager to monitor the system unit for failures. The SNMP standard traps are not supported.



**Figure 3-12 Overview of the SNMP functionality**

## Related topics

- [Specifications for SNMP functionality on page 3-66](#)

## Specifications for SNMP functionality

The following tables list the specifications for each SNMP functionality.

**Table 3-25 Specifications for SNMP polling**

| Item                                                          | Description                                                                                                                                           |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supported commands                                            | SNMPv1, SNMPv2c, and SNMPv3 (Get, GetNext, and GetBulk)                                                                                               |
| Maximum number of SNMP managers to be notified simultaneously | 9                                                                                                                                                     |
| Type of supported modules                                     | <ul style="list-style-type: none"> <li>• Server blade</li> <li>• Management module</li> <li>• Switch module</li> <li>• Power supply module</li> </ul> |

| Item | Description                                                  |
|------|--------------------------------------------------------------|
|      | <ul style="list-style-type: none"> <li>Fan module</li> </ul> |

**Table 3-26 Specifications for SNMP traps**

| Item                                                          |                             | Description                                                       |
|---------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------|
| Notification method                                           |                             | SNMP (SNMPv2 trap/SNMPv3 trap)                                    |
| Maximum number of SNMP managers to be notified simultaneously |                             | 9                                                                 |
| Notification trigger                                          |                             | Triggered by a failure SEL that occurred in the management module |
| Values to be notified                                         | First variable binding      | Time when the alert occurred                                      |
|                                                               | Second variable binding     | ID of the chassis where the alert occurred                        |
|                                                               | Third variable binding      | Level of the alert                                                |
|                                                               | Fourth variable binding     | ID of the alert                                                   |
|                                                               | Fifth variable binding      | Alert message                                                     |
|                                                               | Seventh variable binding    | Type of the module where the alert occurred                       |
|                                                               | Eighth variable binding     | Position of the module where the alert occurred                   |
|                                                               | Ninth variable binding      | Name of the module where the alert occurred                       |
|                                                               | Tenth variable binding      | Serial number of the module where the alert occurred              |
|                                                               | Eleventh variable binding   | Event code of the alert                                           |
|                                                               | Twelfth variable binding    | Expansion event code of the alert                                 |
|                                                               | Thirteenth variable binding | Model name of the equipment where the alert occurred              |
|                                                               | Fourteenth variable binding | Serial number of the equipment where the alert occurred           |
|                                                               | Fifteenth variable binding  | Notification trigger of the alert                                 |

**Table 3-27 Specifications for SNMPv3 functionality**

| Item                                      | Description |
|-------------------------------------------|-------------|
| Authentication method (hashing algorithm) | MD5/SHA-1   |
| Encryption method                         | DES/AES128  |

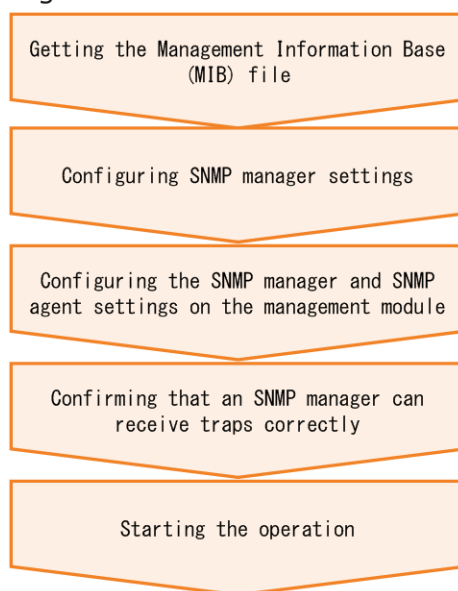
## Requirements for the SNMP functionality

The requirements for using the SNMP functionality are as follows:

- SNMP managers that receive SNMP traps must support SNMPv1, SNMPv2c, and SNMPv3.
- The management module can communicate with management servers running the SNMP manager through a network.

## General procedure for configuring the SNMP functionality

The following figure illustrates how to configure the settings to use the SNMP functionality in the management module:



The following table describes the consoles available for configuring the settings in the management module.

**Table 3-28 Configuring the SNMP functionality**

| Operation                                       | Web console | CLI console | LCD touch console |
|-------------------------------------------------|-------------|-------------|-------------------|
| Obtaining a MIB file for managing a system unit | Y           | Y           | --                |
| Configuring an SNMP agent                       | Y           | Y           | --                |



| Operation                                                    | Web console | CLI console | LCD touch console |
|--------------------------------------------------------------|-------------|-------------|-------------------|
| Configuring an SNMP manager                                  | Y           | Y           | --                |
| Confirming that the SNMP manager can receive traps correctly | Y           | Y           | --                |

## Related topics

- [Getting the Management Information Base \(MIB\) file for managing a system unit on page 3-69](#)
- [Configuring SNMP manager settings on page 3-70](#)
- [Setting items necessary for SNMP agents and managers on management module on page 3-70](#)
- [Configuring SNMP agent settings on the management module on page 3-73](#)
- [Configuring SNMP manager settings on the management module on page 3-74](#)
- [Confirming that the SNMP manager can receive traps correctly on page 3-74](#)

## Getting the Management Information Base (MIB) file for managing a system unit

You can export a MIB file for managing a system unit in the console of the management module.

If the firmware of the management module is updated to a newer version and a new OID is added, export the MIB file again after the firmware of your management module is updated. You can also check the version of the MIB that can be exported from the management module by using the console of the management module.

### To export the MIB file from the Web console:

1. From the tree view in the **Administration** tab, select **SNMP**.  
The version of the MIB file is displayed.
2. From the **MIB** tab, click the **Download MIB file** button.  
The MIB file is downloaded.



**Note:** When using the web console from the web browser, press the **save** button within two minutes after the dialog for selecting a location for a downloaded file to be saved opens on the browser.

If Internet Explorer is used and you press the button after two or more minutes pass, the file is not saved as the correct size. Instead, the message "Internet Explorer cannot download [IP address] - [File name]. Server returned invalid or unrecognized response." is returned or the file is incorrectly saved as a smaller size.

In such a case, download the file again.

### To export the MIB file from the CLI console:

1. You can download the MIB file by executing the `export snmp mib` command. The `show snmp mib` command allows you to check the version of the MIB file.

### Related topics

- [export snmp mib on page 5-250](#)
- [show snmp mib on page 5-256](#)

## Configuring SNMP manager settings

You must perform the operations below for your SNMP manager. For details about how to perform each procedure, see the manual supplied with the SNMP manager.

- Registering the MIB file
- Registering trap events
- Selecting MIB variables to be polled and configuring the necessary settings for polling

For details about detailed trap event information and the MIB variables to be polled, see *Hitachi Compute Blade 2500 Series MIB User Guide*.



**Note:** If you manage both Hitachi Compute Blade 500 and Hitachi Compute Blade 2500, use the MIB file for Hitachi Compute Blade 2500. The MIB file for Hitachi Compute Blade 2500 includes the MIB definition for Hitachi Compute Blade 500.

## Setting items necessary for SNMP agents and managers on management module

This subsection provides information about SNMP agent and manager settings that you configure from the management module console.

The following table describes the setting items for SNMP agent.

**Table 3-29 Setting items for SNMP agent**

| Item                 | Description                                                                                                                        |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| SNMP agent           | Select whether to enable or disable the SNMP agent functionality.<br>This setting specifies whether to use the SNMP functionality. |
| System administrator | Specify the contact information of the system administrator.                                                                       |

| Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | You can use up to 60 alphanumeric characters and symbols. However, \, ", and spaces cannot be used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| System location                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Specify where the system is located.<br>You can use up to 60 alphanumeric characters and symbols. However, \, ", and spaces cannot be used.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Port number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Specify a port number for the SNMP protocol.<br>You can use a numeric value from 1 to 65535. The default value is 161.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Trap level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | You can select one of the following levels for trap notifications:<br>All: Trap notifications at all levels of Failure, Alert, and Information are sent.<br>Alert: Trap notifications at levels of Failure or Alert is sent.<br>Information: Trap notifications at the level of Information is sent.<br>Disable: No trap notification is sent.                                                                                                                                                                                                                                    |
| SNMP version <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Specify the SNMP versions available for the agent.<br>You can specify either v1/v2c or v1/v2c/v3 value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Character string for creating engine ID <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | (This setting item is enabled only if the SNMP version is set to v1/v2c/v3.)<br>A character string for the generation of an engine ID to be used by the agent is displayed.<br>You can use up to 27 alphanumeric characters and symbols.<br>To use SNMPv3 for communication between a management module and the SNMP manager, you must specify a character string for creating engine IDs.<br>The Engine ID is set based on the value specified for the Engine ID string as follows.<br>Octets 1-5: 0x8000007404 (Fixed)<br>Octets 6-32: Value specified for the Engine ID string |
| Notes: <ol style="list-style-type: none"> <li>If you set the security level of the management module to [High], specify the SNMP version to v1/v2c/v3. If the SNMP version is not specified, the module does not respond to SNMP managers and does not issue any SNMP trap.</li> <li>In SNMPv3, engine IDs are used to uniquely identify SNMP entities. Specify a character string for creating engine IDs to ensure that no two engine IDs are the same.<br/><br/>If two SNMP entities share the same engine ID, the SNMP manager and SNMP agent will not be able to communicate properly.<br/><br/>For management module firmware versions A0190 and later, if you specify v1/v2c/v3 as the SNMP version, the serial number of the chassis will be set as the initial value. If you change the character string for creating engine IDs, you might need to reconfigure the SNMP manager. To check whether this is necessary, send an SNMP trap as a test.</li> </ol> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

The following table describes the setting items for SNMP manager.

**Table 3-30 Setting items for SNMP manager**

| Item                             | Description                                                                                                                                                                                                                                                                                                         |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host name                        | Specify an IP address or host name of the SNMP manager.<br>Specify an FQDN by using a maximum of 255 characters. However, you cannot use space characters.                                                                                                                                                          |
| Port number                      | Specify a port number on which the SNMP manager receives traps.<br>You can use a numeric value from 1 to 65535. The default value is 162.                                                                                                                                                                           |
| SNMP version <sup>1</sup>        | Select the version of SNMP that the SNMP manager uses.<br>You can select v1/v2c or v3.                                                                                                                                                                                                                              |
| Community name                   | (This setting item is enabled only if the SNMP version is set to v1/v2c.)<br>Specify a community name. You can use up to 60 alphanumeric characters and symbols. However, \, ", and spaces cannot be used.                                                                                                          |
| User name                        | (This setting item is enabled only if the SNMP version is set to v3.)<br>Specifies a user name. You can use up to 32 alphanumeric characters and symbols. However, \, ", and spaces cannot be used.                                                                                                                 |
| Access type <sup>2</sup>         | (This setting item is enabled only if the SNMP version is set to v3.)<br>Select an access type of the SNMP manager. You can select noAuthnoPriv, AuthnoPriv, or AuthPriv.                                                                                                                                           |
| Authentication type <sup>3</sup> | (This setting item is enabled only if the SNMP version is set to v3 and if the access type is set to AuthnoPriv or AuthPriv.)<br>Select an authentication mode in which the SNMP manager is authenticated. You can select MD5 or SHA.                                                                               |
| Authentication password          | (This setting item is enabled only if the SNMP version is set to v3 and if the access type is set to AuthnoPriv or AuthPriv.)<br>Specify a password used for authentication of the SNMP manager. You can use at least 8 and up to 64 alphanumeric characters and symbols. However, \, ", and spaces cannot be used. |
| Encryption type <sup>4</sup>     | (This setting item is enabled only if the SNMP version is set to v3 and if the access type is set to AuthPriv.)<br>Specify an encryption method to encrypt communications with the SNMP manager. You can select DES or AES.                                                                                         |
| Encryption password              | (This setting item is enabled only if the SNMP version is set to v3 and if the access type is set to AuthPriv.)                                                                                                                                                                                                     |

| Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Description                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Enter a password to encrypt communications with the SNMP manager. You can use at least 8 and up to 64 alphanumeric characters and symbols. However, \, ", and spaces cannot be used. |
| <p>Notes:</p> <ol style="list-style-type: none"> <li>1. If you set the security level of the management module to [High], set the SNMP version to v3. If the SNMP version is not specified, the module does not respond to SNMP managers and does not issue any SNMP trap.</li> <li>2. If you set the security level of the management module to [High], set the access type to AuthPriv. If the SNMP version is not specified, the module does not respond to SNMP managers and does not issue any SNMP trap.</li> <li>3. If you set the security level of the management module to [High], set the authentication type to SHA. If the SNMP version is not specified, the module does not respond to SNMP managers and does not issue any SNMP trap.</li> <li>4. If you set the security level of the management module to [High], set the encryption type to AES. If the SNMP version is not specified, the module does not respond to SNMP managers and does not issue any SNMP trap.</li> </ol> |                                                                                                                                                                                      |



**Note:**

- When registering the SNMP manager with an IPv6 address that uses SNMPv1 or SNMPv2c, specify the IPv6 address for [Host name] of the SNMP manager. If you specify the host name, the relevant management module will not be detected as a node on the SNMP manager.  
If you register the SNMP manager with an IPv4 address that uses SNMPv1 or SNMPv2c, you can specify the IPv4 address or the host name.  
If you register the SNMP manager that uses SNMPv3, regardless of whether the SNMP manager uses an IPv4 or IPv6 address, you can specify the IP address or the host name for [Host name].

### Related topics

- [Configuring SNMP manager settings on page 3-70](#)
- [Configuring SNMP agent settings on the management module on page 3-73](#)
- [Configuring SNMP manager settings on the management module on page 3-74](#)
- [Confirming that the SNMP manager can receive traps correctly on page 3-74](#)

## Configuring SNMP agent settings on the management module

To configure SNMP agent settings on the management module, use the Web console or the CLI console.

### To configure the SNMP agent settings from the Web console:

1. From the tree view in the **Administration** tab, select **SNMP**.
2. From the **SNMP agent** tab, click the **Edit** button.

Edit SNMP agent settings.

**To configure the SNMP agent settings from the CLI console:**

1. To see the current SNMP agent settings, execute the `show snmp agent` command. To edit the settings, execute the `set snmp agent` command.

**Related topics**

- [show snmp agent on page 5-253](#)
- [set snmp agent on page 5-250](#)

## Configuring SNMP manager settings on the management module

To configure SNMP manager settings on the management module, use the Web console or the CLI console.

**To configure the SNMP manager settings from the Web console:**

1. From the tree view in the **Administration** tab, select **SNMP**.
2. From the **SNMP manager** tab, select the target SNMP manager and click the **Edit** button.  
Edit SNMP manager settings.

**To configure the SNMP manager from the CLI console:**

1. To see the current SNMP manager settings, execute the `show snmp manager` command. To edit the settings, execute the `set snmp manager` command.

**Related topics**

- [show snmp manager on page 5-255](#)
- [set snmp manager on page 5-252](#)

## Confirming that the SNMP manager can receive traps correctly

You can use one of the consoles of the management module and test SNMP trap notifications to confirm that the SNMP manager can receive traps correctly. If the manager cannot receive the traps, review your network environment and the settings for the SNMP manager and management module.

To confirm that the SNMP manager can receive the traps correctly, use the Web console or the CLI console.

**To confirm that the SNMP manager can receive the traps correctly from the Web console:**

1. From the tree view in the **Administration** tab, select **SNMP**.
2. From the **Action** pull-down menu, select **Send SNMP trap**.  
An SNMP trap is sent.

**To confirm that the SNMP manager can receive the traps correctly from the CLI console:**

1. Execute the `test snmp trap` command so that an SNMP trap is to be sent.

**Related topics**

- [test snmp trap on page 5-257](#)

## **Notifying the status of the management module through email**

This section describes the email notification functionality provided by the management module.

### **Information that can be notified by email**

The following email notifications are sent by the email notification functionality:

- Notification of failure  
If a failure occurs in the system unit, the necessary log information is collected to analyze the failure, and an email message is sent with the log information attached. The history for notification of failure is stored in the management module. A maximum of 32 notifications can be stored, the oldest history record is removed if the maximum limit is exceeded.
- Notification of log dump  
When a server blade outputs a log entry, an email message is sent with the log information attached. This email message provides supplementary information about a notification of failure.  
The notification of log dump can be triggered by a manual log output on the server blade. In this case, a notification-of-log-dump email message is not preceded or followed by any notification-of-failure email message.
- Notification of current status (manually triggered)  
The information about the current state of the system unit is collected and an email message is sent with the information attached.
- Notification of history log (manually triggered)  
You can resend any history record that you select from the history of the notifications of failure.  
For example, if the system unit fails when your mail server is not running, and a notification of failure cannot be sent, you can resend the notification after the server recovery.

The following table describes which console you can use to configure the email notification functionality from management modules.

**Table 3-31 Configuring the email notification functionality**

| Operation                                                           | Web console | CLI console | LCD touch console |
|---------------------------------------------------------------------|-------------|-------------|-------------------|
| Configure email settings, such as a sender and destination address. | Y           | Y           | --                |
| Confirm that an email message can be sent properly.                 | Y           | Y           | --                |

**Related topics**

- [Requirements for receiving email notification messages on page 3-76](#)
- [Specifications for the email notification functionality on page 3-76](#)
- [Setting items for the email notification functionality on page 3-78](#)
- [Configuring email notification settings on page 3-79](#)
- [Confirming that an email message can be sent properly on page 3-80](#)

**Requirements for receiving email notification messages**

The requirements for using the email notification functionality are as follows:

- In the email notification functionality, the management module as an email client sends email messages to a mail server (SMTP server). Therefore, the SMTP server is required.
- The management module must be able to communicate with the mail server.

**Specifications for the email notification functionality**

The following table describes the specifications for the email notification functionality.

**Table 3-32 Specifications for the email notification functionality**

| Item                                    | Description                                                                                                                                                                                    |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notification method                     | Email (SMTP-compliant)                                                                                                                                                                         |
| Maximum number of destination addresses | 4                                                                                                                                                                                              |
| Maximum number of SMTP servers          | 1                                                                                                                                                                                              |
| Notification trigger                    | <ul style="list-style-type: none"> <li>• Failure</li> <li>• Log output from server blades</li> <li>• Manual operation (for notifications of the current status and failure history)</li> </ul> |



| Item                                                                                                                                                                                                                  |                                                     |                         | Description                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notification retry                                                                                                                                                                                                    |                                                     |                         | The notifications are re-sent if a notification of failure or notification of log dump fails.                                                                      |
| Notification details                                                                                                                                                                                                  | Notification of failure                             | Subject                 | [AUTO] Failure report.                                                                                                                                             |
|                                                                                                                                                                                                                       |                                                     | Body                    | Message description: A failure occurred in the following device:<br>Chassis information of the server<br>Failure information (summary)                             |
|                                                                                                                                                                                                                       |                                                     | Attachment <sup>1</sup> | svpsts-YYYYMMDD-hhmmss.gz<br>trc-YYYYMMDD-hhmmss.tar.gz <sup>2</sup><br>marlog.gz                                                                                  |
|                                                                                                                                                                                                                       | Notification of log dump                            | Subject                 | [AUTO] Log dump report.                                                                                                                                            |
|                                                                                                                                                                                                                       |                                                     | Body                    | Message description: A log was output in the server blade of the following device:                                                                                 |
|                                                                                                                                                                                                                       |                                                     | Attachment <sup>1</sup> | One of the following files:<br>hvmdumpN-YYYYMMDD-hhmmss.gz<br>raslogN-YYYYMMDD-hhmmss.tar.gz                                                                       |
|                                                                                                                                                                                                                       | Notification of current status (manually triggered) | Subject                 | [MANUAL] Current status report.                                                                                                                                    |
|                                                                                                                                                                                                                       |                                                     | Body                    | Message description: This email message was sent manually. It contains log entries that show the current state of the device.<br>Chassis information of the server |
|                                                                                                                                                                                                                       |                                                     | Attachment <sup>1</sup> | svpsts-YYYYMMDD-hhmmss.gz<br>trc-YYYYMMDD-hhmmss.tar.gz <sup>2</sup>                                                                                               |
|                                                                                                                                                                                                                       | Notification of history log (manually triggered)    | Subject                 | [MANUAL] History report.                                                                                                                                           |
|                                                                                                                                                                                                                       |                                                     | Body                    | Same as the notification of failure                                                                                                                                |
|                                                                                                                                                                                                                       |                                                     | Attachment <sup>1</sup> | Same as the notification of failure                                                                                                                                |
| SMTP authentication method                                                                                                                                                                                            |                                                     |                         | Can be selected from: No authentication, PLAIN, LOGIN, or CRAM-MD5                                                                                                 |
| Encryption method                                                                                                                                                                                                     |                                                     |                         | Can be selected from: No encryption or TLS                                                                                                                         |
| Notes:                                                                                                                                                                                                                |                                                     |                         |                                                                                                                                                                    |
| 1. Legend for file name. The YYYYMMDD-hhmmss format indicates the start date and time of a notification.<br>(YYYY: year, MM: month: DD: day, hh: hour, mm: minute, ss: second, N: server blade number (from 1 to 15)) |                                                     |                         |                                                                                                                                                                    |
| 2. Files are not attached to any email message with a destination address whose [Attach Log] is set to [Disable] in the email address settings.                                                                       |                                                     |                         |                                                                                                                                                                    |

The following table describes the specifications for the attachment enclosed with a notification message.

**Table 3-33 Specifications for the attachment**

| File name                      | Description                                                                                |
|--------------------------------|--------------------------------------------------------------------------------------------|
| svpsts_en-YYYYMMDD-hhmmss.gz   | System unit information                                                                    |
| trc-YYYYMMDD-hhmmss.tar.gz     | Management module log information                                                          |
| hvmdumpN-YYYYMMDD-hhmmss.gz    | Server blade log information (related to LPAR manager)                                     |
| raslogN-YYYYMMDD-hhmmss.tar.gz | Server blade log information (related to hardware)                                         |
| marlog_en.gz                   | Failure information (same information as in the body of a notification of failure message) |

## Setting items for the email notification functionality

This subsection provides information about email notification settings and email destination settings that you can configure from one of the consoles of the management module. The email notification settings consist of the settings for the management module and for the SMTP server. The email destination settings specify an email address to which notifications are sent.

The following tables describe the setting items for the email notification.

**Table 3-34 Email notification settings**

| Item                             | Description                                                                                                                                                                                                                                                    |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Email notification functionality | Enable or disable the email notification functionality.                                                                                                                                                                                                        |
| Sender email address             | Specify an email address from which notifications are sent, with 64 or fewer characters.<br>Alphanumeric characters and the following symbols can be used: ? @ \$ # % ^ - + = _ . [ ]<br>This address is used as the sender (From) address for email messages. |
| Host name                        | Specify the fully qualified domain name (FQDN) of the host, with 64 or fewer characters.                                                                                                                                                                       |
| Comment                          | You can add any comment with 32 or fewer characters.                                                                                                                                                                                                           |
| SMTP server                      | Specify an IP address or host name of the SMTP server. You can enter the FQDN with 64 or fewer characters.                                                                                                                                                     |
| Port number                      | Specify a port number of the SMTP server in the range from 1 to 65535. The default value is 25 if the setting for encryption for SMTP path is disabled or set to [TLS].                                                                                        |



**Note:** The management module does not support email notification by using IPv6 stateless addresses. To communicate with the SNMP server by using IPv6 addresses, disable the stateless address setting of the management module.

**Table 3-35 SMTP server authentication settings**

| Item                       | Description                                                                                                                                                                                                                                                                                                  |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Functionality              | Select whether to enable or disable the SMTP authentication.                                                                                                                                                                                                                                                 |
| SMTP authentication method | Specify the SMTP authentication method. You can select one of the following: PLAIN (plain-text authentication), CRAM-MD5 (challenge or response method), and LOGIN (plain-text and interactive authentication).                                                                                              |
| User name                  | <p>Specify a user name for SMTP authentication with 64 or fewer characters.</p> <p>Alphanumeric characters and the following symbols can be used: ? @ \$ # % ^ - + = _ . [ ] You can also specify a password.</p> <p>Both the user name and password are required if the SMTP authentication is enabled.</p> |

**Table 3-36 Email notification encryption settings**

| Item                     | Description                                                                                       |
|--------------------------|---------------------------------------------------------------------------------------------------|
| Encryption for SMTP path | Specify the encryption method for the SMTP path from one of the following: No encryption and TLS. |

The following table describes the setting items for destination information for the email notification functionality.

**Table 3-37 Destination information**

| Item            | Description                                                                                                                                                                                    |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Email address   | <p>Specify an email address to which notifications are sent, with 64 or fewer characters.</p> <p>Alphanumeric characters and the following symbols can be used: ? @ \$ # % ^ - + = _ . [ ]</p> |
| Nickname        | <p>Specify a nickname for the destination with 15 or fewer characters.</p> <p>This name is only used for displaying in the console, and is not used for notifications.</p>                     |
| Attach log file | Specify whether to attach a log file to an email message.                                                                                                                                      |

## Configuring email notification settings

To configure notification-related settings, such as a sender and destination address for email messages, use the Web console or the CLI console.

### To configure the notification-related settings from the Web console:

1. From the tree view in the **Administration** tab, select **Email Notification**.
2. From the **Notification Settings** or **Destinations Settings** tab, click the **Edit** button.  
Set the necessary items.

### To configure the notification-related settings from the CLI console:

1. Depending on the operation you are going to perform, execute one of the commands listed in the following table.

| Operation                                      | Command                                       |
|------------------------------------------------|-----------------------------------------------|
| Display the email notification settings        | <code>show e-mail mgmt-lan</code>             |
| Configure the email notification settings      | <code>set e-mail mgmt-lan notification</code> |
| Add and configure an email destination address | <code>set e-mail mgmt-lan address</code>      |
| Remove the email destination address           | <code>delete e-mail mgmt-lan address</code>   |

### Related topics

- [Specifications for the email notification functionality on page 3-76](#)
- [show e-mail mgmt-lan on page 5-236](#)
- [set e-mail mgmt-lan notification on page 5-223](#)
- [set e-mail mgmt-lan address on page 5-222](#)
- [delete e-mail mgmt-lan address on page 5-218](#)

## Confirming that an email message can be sent properly

When you have configured the email notification functionality, send a notification of current status (manually triggered) message to test email notification. You can select a destination email address from the list of configured addresses. You can select a single address or all the addresses.

To check if email messages can be sent properly, use the Web console or the CLI console.

Keep the following information in mind when you test email transmission:

- It can take several minutes to collect log information.
- If a notification is sent to multiple destinations, failure to send it to one of the destinations can result in failure to send it to all the destinations.
- If a notification fails, review your environment and settings based on the notification result message and the following procedures:
  - Check if the management module can communicate with your mail server.  
If it cannot communicate with the server, check:
    - The proper connection of your network cables

- The network configuration of your management module
- The specification of the DNS address in the network configuration of your management module if the host name is used to specify the mail server
- o Check if the SMTP service is running on the SMTP server.  
If the SMTP service is not running, start it.
- o Check if the notification settings and destination settings are properly configured for the email notification functionality.

**To check if an email message can be sent properly from the Web console:**

1. From the tree view in the **Administration** tab, select **Email Notification**.
2. From the **Action** pull-down menu, select **Present condition notification**.  
A notification message with the current state is sent.

**To check if an email message can be sent properly from the CLI console:**

1. Execute the `send e-mail latest mgmt-lan` command.

**Related topics**

- [Specifications for the email notification functionality on page 3-76](#)
- [send e-mail latest mgmt-lan on page 5-220](#)
- [List of messages when sending an email message fails on page 3-81](#)

## List of messages when sending an email message fails

The following table lists and describes messages when sending an email message fails.

**Table 3-38 List of messages when sending an email message fails**

| Code  | Message                                                                               | Description                                                                                                                                                             |
|-------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E0410 | <Address %> Sending e-mail notification was canceled. Address is not set.             | The destination address is incorrect, or a user corresponding to the specified address does not exist.<br>Make sure that your email destination is properly configured. |
| E0411 | <Address %> Sending e-mail notification was canceled. A communication error occurred. | An error occurred during communication with the SMTP server.<br>Make sure that your LAN connection is correct.                                                          |
| E0412 | <Address %> Sending e-mail notification was                                           | The module failed to connect to the SMTP server.                                                                                                                        |

| Code  | Message                                                                                                           | Description                                                                                                                                                                                                                                                                                                                  |
|-------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | canceled. Connecting to SMTP server failed.                                                                       | Review the following setting items to confirm that all of them are correct: <ul style="list-style-type: none"> <li>• General notification by email settings</li> <li>• State of the SMTP server</li> <li>• LAN connections</li> </ul>                                                                                        |
| E0413 | <Address %> Sending e-mail notification was canceled. Failed to resolve host.                                     | The module failed to look up the IP address of the SMTP server for the host name of that server.<br>Review the following setting items to confirm that all of them are correct: <ul style="list-style-type: none"> <li>• Email notification settings</li> <li>• Network settings (DNS)</li> <li>• LAN connections</li> </ul> |
| E0414 | <Address %> Sending e-mail notification was canceled. Configuration is invalid.                                   | The IP address for the SMTP server has an invalid format.<br>Make sure that your email notification settings are correct.                                                                                                                                                                                                    |
| E0415 | <Address %> Sending e-mail notification was canceled. SMTP server does not support requested authentication type. | The SMTP server does not support the SMTP authentication method specified in the email notification settings.<br>Make sure that the authentication method in the email notification settings is correct.                                                                                                                     |
| E0416 | <Address %> Sending e-mail notification was canceled. SMTP authentication failed.                                 | The user name or password for SMTP authentication is incorrect.<br>Make sure that the authentication user and password in the email notification settings are correct.                                                                                                                                                       |
| E0417 | <Address %> Sending e-mail notification was canceled. SMTP server does not support SSL/TLS.                       | The SMTP server does not support the encryption method specified in the email notification settings.<br>Make sure that the encryption method in the email notification settings is correct.                                                                                                                                  |
| E0418 | <Address %> Sending e-mail notification was canceled. Program failed.                                             | An unexpected error occurred.<br>Contact with your customer engineer or sales personnel.                                                                                                                                                                                                                                     |
| E0419 | <Address %> Sending e-mail notification was canceled. E-mail address is invalid.                                  | The destination address is incorrect, or a user corresponding to the specified address does not exist.<br>Make sure that your email destination is properly configured.                                                                                                                                                      |

# Syslog transfer

This section describes Syslog transfer function for management modules and BMC.

## Overview

Management modules and BMC can transfer events of user operation, hereinafter referred to as Audit event, to a syslog server. You can integrate and manage Audit events in management modules and BMC using the syslog server.



### Note:

- Audit events at user operation with stopping a management module, such as shutdown, restart, replacement, may not be sent depending on the timing.
  - When you shut down, restart, or switch a management module immediately after performing some operation, or when the management module fails immediately after your operation, Audit events may not be sent depending on the timing.
  - Only Audit events can be sent to the syslog server. Events as alert trigger for HCSM are not sent to the syslog server.
  - Audit events in a management module are sent to the syslog server from the management module. Audit events in BMC are sent to the syslog server from BMC. You need to configure settings for transfer to the syslog server in management modules and in BMC respectively.
- 

## Audit events to transfer

The audit events that are transferred are the events that are collected as operation logs or audit logs. See [List of operation log and audit log messages on page 4-13](#) for details.

## Log format

The flowing format is used for operation logs to be transferred to the syslog server:

```
[date] [IP address for SVP or BMC] [mm or bmc]: auditevent,[log message]
```

The following format is used for audit logs transferred to the syslog server.

```
[priority]1 [date] [IP address for SVP or BMC] [mm or bmc] -
[message ID] - [log message]
```

An operation log or an audit log is in [log message]. See [List of operation log and audit log messages on page 4-13](#), [Operation log format on page 4-8](#), [Format of the audit log on page 4-11](#) for the format and messages.

"user" is displayed as facility for logs transferred to the syslog server. For severity, "notice" is displayed as the result in the operation log or an audit log when an operation fails, and "info" is displayed when the operation result is other than failure.

## Using Syslog transfer

The following flowchart shows the procedure for using Syslog transfer.

### (1) Installing the Syslog server

Install a syslog server to transfer Audit events.

### (2) Setting Syslog transfer to management modules and BMC

Configure the following settings for the management module and BMC.

- Enabling/disabling Syslog transfer  
Enable or disable Syslog transfer. To send Audit events with Syslog transfer, enable it.
- Sending or not sending Audit events (only for management modules)  
Enable or disable Syslog transfer to send Audit events. To send them using Syslog transfer, enable it.
- Syslog server for destination  
Set an IP address or host name for the syslog server for destination. Use FQDN to set the host name.
- Port number  
Set the port number of the destination syslog server.
- Transfer protocol  
Set the protocols to be used for syslog transfer. Syslog transfer by using UDP or TCP is not encrypted.  
Syslog transfer using TLS is encrypted.
- TLS Version  
Set the TLS version to be used for syslog transfer. You can set the TLS version if you have specified TLS as the transfer protocol.
- Format  
Set the format of the logs to be transferred to the syslog server. You can select the operation or audit log format.



#### Note:

- Only one syslog server can be specified as destination.
  - Syslog transfer does not support SSL 3.0.
- 

### (3) Sending Syslog transfer test message

When you log into the management module CLI console or Web console, "Logged in to the System Console" or "Logged in to the System Web Console" is sent. For BMC, "Logged in to the remote console" is sent when you log into



BMC. Check if the message is sent or not. When the message is sent, Syslog transfer setting is correct.

## Editing the Syslog transfer settings of the management module

You can edit the syslog transfer settings of management modules by using the Web console.

**To edit the Syslog transfer settings of the management module from the Web console:**

1. From the tree view in the **Administration** tab, select **Syslog transfer**.
2. Click the **Edit** button.
3. Set the necessary items and execute the processing.

## Editing the Syslog transfer settings of BMC

To edit the Syslog transfer settings of BMC, use the Web console.

**To edit the Syslog transfer settings of BMC from the Web console:**

1. Select the **Resources** tab, and then from the tree view in **Modules**, select the target server blade.
2. From the **Edit** button in the **BMC** tab, select the item to be edited.
3. Specify the necessary items, and execute the process.



# Server Maintenance and Management by Management Modules

This chapter explains how to maintain and manage a server blade by using management modules.

- ☐ [Log data output by management modules and server blades](#)
- ☐ [Updating management module firmware](#)
- ☐ [Updating server blade firmware](#)
- ☐ [Restoring settings by management modules](#)
- ☐ [Restoring settings for server blades](#)
- ☐ [File management functionality](#)

## Log data output by management modules and server blades

This section describes log data output by management modules and server blades.

### Logs viewable from management modules

The following table shows the logs viewable from management modules.

**Table 4-1 Logs viewable from management modules**

| Item                                     | Description                                                                                                                                   |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| System event log (SEL)                   | This records information, warnings, and failure events that occurred on the system unit.                                                      |
| Optional Physical WWN change log         | Optional Physical WWN change history.                                                                                                         |
| Optional Physical MAC address change log | Optional Physical MAC address change history.                                                                                                 |
| MAR log                                  | MAR is the abbreviation of Maintenance Action Report. This log records events that caused failure notifications.                              |
| Environment log                          | Records the history of the intake and exhaust temperature data for the system unit.                                                           |
| Dump log                                 | Saves the dump log for the system unit. This dump log contains the settings of the system unit, logs, and internal data for failure analysis. |
| Operation log and audit log              | Records the operation history for management modules and BMC.                                                                                 |
| OS Console log                           | History of information output from a serial port (COM2) of a server blade                                                                     |

The following table shows consoles that can be used to check the logs for log data from management modules.

**Table 4-2 Checking logs**

| Operation                                             | Web console | CLI console | LCD touch console |
|-------------------------------------------------------|-------------|-------------|-------------------|
| Checking the system event log                         | Y           | Y           | --                |
| Checking the Optional Physical WWN change log         | Y           | Y           | --                |
| Checking the Optional Physical MAC address change log | Y           | Y           | --                |
| Checking the MAR log                                  | Y           | Y           | --                |
| Checking the environment log                          | Y           | Y           | --                |

| Operation                   | Web console | CLI console | LCD touch console |
|-----------------------------|-------------|-------------|-------------------|
| Checking the dump log       | Y           | Y           | Y                 |
| Checking the operation log  | Y           | --          | --                |
| Checking the audit log      | Y           | --          | --                |
| Checking the OS console log | Y           | --          | --                |

## Related topics

- [Checking the system event log on page 4-3](#)
- [Checking the Optional Physical WWN change log on page 4-3](#)
- [Checking the Optional Physical MAC address change log on page 4-4](#)
- [Checking the MAR log on page 4-4](#)
- [Checking the environment log on page 4-5](#)
- [Dump log on page 4-5](#)
- [Checking the dump log on page 4-7](#)
- [Checking the operation log and the audit log on page 4-13](#)
- [About OS console log on page 4-30](#)
- [Checking the OS console log on page 4-31](#)

## Checking the system event log

To check the system event log, use the Web console or the CLI console.

### To check the system event log from the Web console:

1. From the tree view in the **Alerts** tab, select **System Event Log**.  
The system event log is displayed.



**Tip:** Only the latest 100 system event log entries are displayed by default. To display all system event log entries, click the **Show all SELs** button.

### To check the system event log from the CLI console:

1. Execute the `show log sel` command.

## Related topics

- [show log sel on page 5-270](#)

## Checking the Optional Physical WWN change log

To check the Optional Physical WWN change log, use the Web console or the CLI console.

**To check the Optional Physical WWN change log from the Web console:**

1. From the tree view in the **Alerts** tab, select **Optional Physical WWN Change Log**.

The Optional Physical WWN change log is displayed.

**To check the Optional Physical WWN change log from the CLI console:**

1. Execute the `show log wwn-edit` command.

### Related topics

- [show log wwn-edit on page 5-272](#)

## Checking the Optional Physical MAC address change log

To check the Optional Physical MAC address change log, use the Web console or the CLI console.

**To check the Optional Physical MAC address change log from the Web console:**

1. From the tree view in the **Alerts** tab, select **Optional Physical MAC Change Log**.

The Optional Physical MAC address change log is displayed.

**To check the Optional Physical MAC address change log from the CLI console:**

1. Execute the `show log mac-edit` command.

### Related topics

- [show log mac-edit on page 5-265](#)

## Checking the MAR log

To check the MAR log, use the Web console or the CLI console.

**To check the MAR log from the Web console:**

1. From the tree view in the **Alerts** tab, select **MAR Log**.  
A list of MAR log entries is displayed.
2. Select a log entry whose details you want to check, and then click the **Show details** button.



**Note:** When using the web console from the web browser, press the **save** button within two minutes after the dialog for selecting a location for a downloaded file to be saved opens on the browser.

If Internet Explorer is used and you press the button after two or more minutes pass, the file is not saved as the correct size. Instead, the

message "Internet Explorer cannot download [IP address] - [File name]. Server returned invalid or unrecognized response." is returned or the file is incorrectly saved as a smaller size.

In such a case, download the file again.

---



**Tip:** Click the **Download** button to save the MAR log to a file.

---

#### To check the MAR log from the CLI console:

1. Execute the `show log mar-log` command.

#### Related topics

- [show log mar-log on page 5-266](#)

## Checking the environment log

To check the environment log, use the Web console or the CLI console.

#### To check the environment log from the Web console:

1. From the tree view in the **Alerts** tab, select **Environment Log**.  
Intake and exhaust temperatures for management modules, server blades, power supply modules, and switch modules are displayed.



**Note:** When using the web console from the web browser, press the **save** button within two minutes after the dialog for selecting a location for a downloaded file to be saved opens on the browser.

If Internet Explorer is used and you press the button after two or more minutes pass, the file is not saved as the correct size. Instead, the message "Internet Explorer cannot download [IP address] - [File name]. Server returned invalid or unrecognized response." is returned or the file is incorrectly saved as a smaller size.

In such a case, download the file again.

---



**Tip:** Click the **Download** button to save the environment log to a file.

---

#### To check the environment log from the CLI console:

1. Execute the `show log environment` command.

#### Related topics

- [show log environment on page 5-262](#)

## Dump log

The dump log contains system unit settings, logs, and internal data for failure analysis. When a failure occurs on the system unit, collect the dump log and then contact with your customer engineer or sales personnel.

The dump log is a file that is archived with tar. When you decompress the dump log, the following files are generated.

- raslogA-YYYYMMDD-hhmmss.tar.gz
- svpsts\_jp-YYYYMMDD-hhmmss.gz
- svpsts\_en-YYYYMMDD-hhmmss.gz
- hvmdumpA-YYYYMMDD-hhmmss.tar
- trc-YYYYMMDD-hhmmss.tar.gz
- marlog-YYYYMMDD-hhmmss.tar
- oplog\_svp-YYYYMMDD-hhmmss.dmp

In addition to the above files, files might be generated for failure analysis.

The following information is recorded in svpsts\_jp-YYYYMMDD-hhmmss.gz and svpsts\_en-YYYYMMDD-hhmmss.gz.

- The system event log at the time the dump log was collected
- The device configuration at the time the dump log was collected
- Important user-settings at the time the dump log was collected

These files are compressed with gzip. Therefore, decompress the files and view them with a text editor. "svpsts\_jp" indicates a Japanese file. "svpsts\_en" indicates an English file.



**Note:** When using the web console from the web browser, press the **save** button within two minutes after the dialog for selecting a location for a downloaded file to be saved opens on the browser.

If Internet Explorer is used and you press the button after two or more minutes pass, the file is not saved as the correct size. Instead, the message "Internet Explorer cannot download [IP address] - [File name]. Server returned invalid or unrecognized response." is returned or the file is incorrectly saved as a smaller size.

In such a case, download the file again.

---



**Tip:**

- Use general-purpose decompression software to decompress tar-archive and gzip files.
  - The log files other than svpsts\_jp-YYYYMMDD-hhmmss.gz and svpsts\_en-YYYYMMDD-hhmmss.gz are for failure analysis. The internal format is not public.
  - hvmdumpA-YYYYMMDD-hhmmss.tar is the dump log that LPAR manager saves to a management module. LPAR manager automatically saves the LPAR manager dump log when a failure occurs. In addition, you can manually save the LPAR manager dump log for failure analysis. To manually save the LPAR manager dump log, you need to use the LPAR manager screen or an HvmSh command.
  - You can collect the LP dump log for a specified server blade. You can download the LP dump log as a file but it is not saved in the management module.
-



## Related topics

- [Checking the dump log on page 4-7](#)

## Checking the dump log

To check the dump log, use the Web console, the CLI console, or the LCD touch console.



**Note:** If you use the web console from the web browser, disable the pop-up blocker in the Internet option settings of your Web browser. If the pop-up blocker is enabled, collection of the dump log fails.

---

### To check the dump log from the Web console:

1. Click the **Dump Log** button of General Tasks, in the lower-left side of the window.  
The dump log is saved to the PC connected to the Web console. To specify the location where the log is to be saved, follow the instructions displayed in the window.

### To check the dump log from the CLI console:

1. Execute the `export log failure` command.

### To check the dump log from the LCD touch console:

1. In the home window, touch the **Output dump log** button.
2. The dump log window appears.

## Related topics

- [export log failure on page 5-260](#)

## Notes on using the operation log and the audit log

The operation log and the audit log record the operation history of the system unit. Note the following when you use the operation log and the audit log:

- If you replace a management module while management modules are used in a redundant configuration, the collected operation log entries and audit log entries for management modules are deleted.
- If you replace a server blade, the collected operation log entries and audit log entries for the server blade are deleted.
- Operation log messages and audit log messages might differ depending on the firmware version.

## Related topics

- [Specifications of the operation log and the audit log on page 4-8](#)
- [Operation log format on page 4-8](#)
- [Checking the operation log and the audit log on page 4-13](#)

- [List of operation log and audit log messages on page 4-13](#)

## Specifications of the operation log and the audit log

The following table shows the specifications of the operation log and the audit log.

**Table 4-3 Specifications of the operation log and the audit log**

| Category                         | Server blade operation log and audit log                                                                                                                                   | Management module operation log and audit log                                                                                                                                                                                                                             |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recording method                 | Operation events are classified by operation event categories, and their operation results are recorded as "Success", "Failure", or "Occurrence".                          |                                                                                                                                                                                                                                                                           |
| Recorded operation               | The following operations are recorded: operations to start and stop the system unit, authentication operations, operations to change settings, and maintenance operations. |                                                                                                                                                                                                                                                                           |
| Number of recorded log entries   | 2,048 for each server blade (maximum)<br>If the number of recorded log entries exceeds the maximum on each server blade, the oldest log entry is overwritten.              | For operations that can be performed with server blade privileges: 2,048 for each server blade (maximum)<br>For other operations: 2,048 (maximum)<br>If the number of recorded log entries exceeds the maximum on each server blade, the oldest log entry is overwritten. |
| Download method                  | Downloaded by using a management module console.<br>Format: Variable length CSV file (delimiter: comma (,))<br>Character encoding: Shift-JIS                               |                                                                                                                                                                                                                                                                           |
| Number of downloaded log entries | 2,048 (maximum)                                                                                                                                                            | When a server blade is selected: 2,048 (maximum)<br>When a server chassis is selected: 18,432 (maximum) (2,048 log entries per server blade x 8 server blades + 2,048 log entries for other than server blades)                                                           |

## Operation log format

The following table shows the format of the operation log. The format of the management module operation log is the same as that of the server blade operation module.

**Table 4-4 Operation log format**

| Item                        | Size    | Description                                                                                                                                                                         | Remarks |
|-----------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Sequence number<br>(seq_no) | 1 to 10 | This records a number used to identify the order of log entries.<br><br>A value in the range from 1 to 999999999 is assigned. After 999999999, the sequence number loops back to 1. | --      |

| Item                            | Size     | Description                                                                                                                                                                                                                                                                                                                                                                               | Remarks                                                                                                                              |
|---------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Date and time<br>(date)         | 29       | This records the date, time, and time zone when the operation was logged.<br>YYYY-MM-DDThh:mi:ss.SSS±h2:m2:<br>YYYY; year, MM; month, DD; date, T; fixed (delimiter), hh; hour, mi; minute, ss; second, SSS; millisecond (fixed to 000)<br>h2: time zone offset hour, m2: time zone offset minute<br>The time zone offset is recorded as an offset from UTC.                              | --                                                                                                                                   |
| Server blade number<br>(par_no) | 1        | <ul style="list-style-type: none"> <li>Server blade operation log:<br/>This records the number of the server blade where the operation event occurred.</li> <li>Management module operation log:<br/>For operations that can be performed with server blade privileges: This records the server blade number in the range from 1 to 15. For other operations: This records 16.</li> </ul> | If a user logs in with server blade privileges, only operation log entries for server blades that the user can operate are provided. |
| Equipment name<br>(compid)      | 7 to 17  | <p>This records the name of the equipment that was used for the operation.</p> <ul style="list-style-type: none"> <li>Server blade operation log:<br/>Server Blade</li> <li>Management module operation log:<br/>Management Module</li> </ul>                                                                                                                                             | --                                                                                                                                   |
| Location<br>(place)             | 15 to 40 | <p>This records the host name of the equipment that was used for the operation.</p> <ul style="list-style-type: none"> <li>Server blade operation log:<br/>IP address for the server blade</li> <li>Management module operation log:<br/>IP address for the management module</li> </ul>                                                                                                  | --                                                                                                                                   |
| Operation category<br>(categ)   | 7 to 19  | This records the name of the category to which the operation was classified.                                                                                                                                                                                                                                                                                                              | See <a href="#">Table 4-5 Table of operation event categories on page 4-10</a> .                                                     |
| Operation result<br>(result)    | 7 to 10  | This records the operation result (Success, Failure, or Occurrence).                                                                                                                                                                                                                                                                                                                      | See <a href="#">Table 4-6 Table of operation event results on page 4-10</a> .                                                        |
| Operator type<br>(subtype)      | 10 to 14 | <p>This records the operator type.</p> <ul style="list-style-type: none"> <li>User operation: User Operation</li> <li>System process operation: System Process</li> </ul>                                                                                                                                                                                                                 | --                                                                                                                                   |
| Operator                        | 1 to 32  | This records the operator.                                                                                                                                                                                                                                                                                                                                                                | --                                                                                                                                   |

| Item                   | Size     | Description                                                                                                                                       | Remarks                                                                                                                                                                          |
|------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (subject)              |          | <ul style="list-style-type: none"> <li>User operation: Login account name</li> <li>System process operation: System process identifier</li> </ul> |                                                                                                                                                                                  |
| Session ID (sessionid) | 3 to 32  | This records information to identify the operator when two or more operators log in with the same login account.<br>(hexadecimal)                 | "N/A" is displayed for an operation that was not performed by a user logged in with the same login account as another user (for example, for an operation by system processing). |
| Message ID (msgid)     | 4        | This records the message ID.<br>(hexadecimal)                                                                                                     | --                                                                                                                                                                               |
| Message (message)      | 1 to 240 | Operation messages are recorded.                                                                                                                  | --                                                                                                                                                                               |


**Note:**

- Each item is recorded in variable length format.
- Items are divided by a comma (,), and each line is terminated by a linefeed code (CR or LF).
- The message is enclosed in double quotation marks ("").
- The character encoding of the recorded message is Shift-JIS.

**Table 4-5 Table of operation event categories**

| Recorded item       | Description                                                    |
|---------------------|----------------------------------------------------------------|
| StartStop           | Indicates a Start/Stop operation event.                        |
| Authentication      | Indicates an Identification or Authentication operation event. |
| ConfigurationAccess | Indicates a Configuration Access operation event.              |
| Maintenance         | Indicates a Maintenance operation event.                       |

**Table 4-6 Table of operation event results**

| Recorded item | Description                                                                                         |
|---------------|-----------------------------------------------------------------------------------------------------|
| Success       | Indicates that the operation event finished successfully.                                           |
| Failure       | Indicates that the operation event failed.                                                          |
| Occurrence    | Indicates that an operation event (an event that is not classified as Success or Failure) occurred. |

## Format of the audit log

The following table shows the format of the audit log.

**Table 4-7 Format of the audit log**

| Item                                        | Description                                                                                                                                                                                                                                                                                                                                                         | Remarks                                                                                                                                   |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Common identifier (CommonSpecID)            | Fixed to CELFSS                                                                                                                                                                                                                                                                                                                                                     | --                                                                                                                                        |
| Common specifications revision number (Rev) | 2                                                                                                                                                                                                                                                                                                                                                                   | --                                                                                                                                        |
| Sequence number (SequenceNum)               | This records a number used to identify the order of log entries. A value in the range from 1 to 9999999999 is assigned. After 9999999999, the sequence number loops back to 1.                                                                                                                                                                                      | This corresponds to the seq_no item of the operation log.                                                                                 |
| Message ID (MessageID)                      | This records the message ID.                                                                                                                                                                                                                                                                                                                                        | This corresponds to the msgid item of the operation log.                                                                                  |
| Date and time (DateTime)                    | This records the date, time, and time zone when the operation was logged.<br><br>YYYY-MM-DDThh:mi:ss.S<br>±h2:m2: YYYY; year, MM; month, DD; date, T; fixed (delimiter), hh; hour, mi; minute, ss; second, S; millisecond (fixed to 0)<br><br>h2: time zone offset hour, m2: time zone offset minute<br><br>The time zone offset is recorded as an offset from UTC. | This corresponds to the date item of the operation log.                                                                                   |
| Detection entity (EntityInfo)               | This records the name of the equipment that was used for the operation.<br><br>Management module audit log:<br>ManagementModule                                                                                                                                                                                                                                     | --                                                                                                                                        |
| Detection location (Location)               | This records the host name of the equipment that was used for the operation.<br><br>Management module audit log:<br>IP address for management modules                                                                                                                                                                                                               | This corresponds to the place item of the operation log.                                                                                  |
| Operation type (Category)                   | This records the name of the category to which the operation was classified.                                                                                                                                                                                                                                                                                        | See <a href="#">Table 4-5 Table of operation event categories on page 4-10</a> . This corresponds to the categ item of the operation log. |

| Item                                             | Description                                                                                                                                                                                                  | Remarks                                                                                                                                                                                        |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operation result (Result)                        | This records the operation result (Success, Failed, or Occurrence).                                                                                                                                          | --                                                                                                                                                                                             |
| Operator (SubjectID)                             | This records the operator. <ul style="list-style-type: none"> <li>User operation: Login account name</li> <li>System process operation: System process identifier</li> </ul>                                 | This corresponds to the subject item of the operation log.                                                                                                                                     |
| Hardware identification information (HardwareID) | This records the serial number of the equipment that was used for the operation.                                                                                                                             | --                                                                                                                                                                                             |
| Location information (LocInfo)                   | Management module audit log:<br>For operations that can be performed with server blade privileges: This records the server blade number in the range from 1 to 15.<br>For other operations: This records 16. | If a user logs in with server blade privileges, only operation log entries for server blades that the user can operate are provided. This corresponds to the par_no item of the operation log. |
| Location identification information (LocID)      | This information is not recorded in this equipment.                                                                                                                                                          | --                                                                                                                                                                                             |
| FQDN (FQDN)                                      | This information is not recorded in this equipment.                                                                                                                                                          | --                                                                                                                                                                                             |
| Redundancy identification information (HaID)     | This information is not recorded in this equipment.                                                                                                                                                          | --                                                                                                                                                                                             |
| Agent information (AgentInfo)                    | This information is not recorded in this equipment.                                                                                                                                                          | --                                                                                                                                                                                             |
| Request source host (ReqSourceHost)              | This information is not recorded in this equipment.                                                                                                                                                          | --                                                                                                                                                                                             |
| Request source port number (ReqSourcePort)       | This information is not recorded in this equipment.                                                                                                                                                          | --                                                                                                                                                                                             |
| Request destination host (ReqDestHost)           | This information is not recorded in this equipment.                                                                                                                                                          | --                                                                                                                                                                                             |
| Request destination port number (ReqDestPort)    | This information is not recorded in this equipment.                                                                                                                                                          | --                                                                                                                                                                                             |
| Batch operation identifier (BatchID)             | This information is not recorded in this equipment.                                                                                                                                                          | --                                                                                                                                                                                             |
| Log type information (LogCateg)                  | This information is not recorded in this equipment.                                                                                                                                                          | --                                                                                                                                                                                             |

| Item                                           | Description                                         | Remarks                                                    |
|------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------|
| Application identification information (AppID) | This information is not recorded in this equipment. | --                                                         |
| Reserved area (Reserv)                         | This information is not recorded in this equipment. | --                                                         |
| Message (Message)                              | Operation messages are recorded.                    | This corresponds to the message item of the operation log. |



**Note:**

- Each item is recorded in variable length format.
- Items are divided by a comma (,), and each line is terminated by a linefeed code (CR or LF).
- The message is enclosed in double quotation marks (").

## Checking the operation log and the audit log

To check the operation log and the audit log, use the Web console.

**To check the operation log and the audit log from the Web console:**

1. From the tree view in the **Alerts** tab, select **Operation Log**.
2. Select the log to be checked. If you select the operation log, click the **Download operation log** button. If you select the audit log, click the **Download audit log**.



**Note:** When using the web console from the web browser, press the **save** button within two minutes after the dialog for selecting a location for a downloaded file to be saved opens on the browser.

If Internet Explorer is used and you press the button after two or more minutes pass, the file is not saved as the correct size. Instead, the message "Internet Explorer cannot download [IP address] - [File name]. Server returned invalid or unrecognized response." is returned or the file is incorrectly saved as a smaller size.

In such a case, download the file again.

### Related topics

- [List of operation log and audit log messages on page 4-13](#)

## List of operation log and audit log messages

The following tables show the operation log and audit log messages for management modules and server blades.

**Table 4-8 List of management module operation log messages**

| ID   | Operation event categories       | Collection trigger                                   | Message                                                                                                   |
|------|----------------------------------|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| 0802 | Start/Stop                       | Request to operate a management module               | On Management module N, requested operation.<br>Channel: xxx Method: xxx                                  |
| 0803 |                                  | Failure of a request to operate a management module  | On Management module N, failed to requested operation.<br>Channel: xxx Method: xxx                        |
| 0804 |                                  | Request to shut down the server chassis              | On Server chassis, requested shutdown.<br>Channel: xxx                                                    |
| 0805 |                                  | Failure of a request to shut down the server chassis | On Server chassis, failed to requested shutdown.<br>Channel: xxx                                          |
| 0806 |                                  | Request to operate a switch module                   | On Switch module N, requested operation.<br>Channel: xxx Method: xxx                                      |
| 0807 |                                  | Failure of a request to operate a switch module      | On Switch module N, failed to requested operation.<br>Channel: xxx Method: xxx                            |
| 0808 |                                  | Request to operate a server blade                    | On Server blade N, requested operation.<br>Channel: xxx Method: xxx                                       |
| 0809 |                                  | Failure of a request to operate a server blade       | On Server blade N, failed to requested operation.<br>Channel: xxx Method: xxx                             |
| 1800 | Identification or Authentication | Successful login to the system console               | Logged in to the System Console.<br>Username: xxx Session ID: xxx<br>Source IP address: xxx               |
| 1801 |                                  | Failed login to the system console                   | Failed to login to the System Console.<br>Username: xxx Source IP address: xxx<br>Cause: xxx              |
| 1802 |                                  | Logout from the system console                       | Logged out from the System Console.<br>Username: xxx Session ID: xxx<br>Source IP address: xxx Cause: xxx |
| 1803 |                                  | Successful login to the Web console                  | Logged in to the System Web Console.<br>Username: xxx Session ID: xxx<br>Source IP address: xxx           |



| ID   | Operation event categories | Collection trigger                                                  | Message                                                                                                    |
|------|----------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 1804 |                            | Failed login to the Web console                                     | Failed to login to the System Web Console.<br>Username: xxx Source IP address: xxx Cause: xxx              |
| 1805 |                            | Logout from the Web console                                         | Logged out from the System Web Console.<br>Username: xxx Session ID: xxx Source IP address: xxx Cause: xxx |
| 1806 |                            | Failed login to the system console or the Web console               | Failed to login to the Console.<br>Cause: xxx                                                              |
| 1810 |                            | Successful disconnection from the BMC session                       | On Server blade N, disconnect from the BMC Session.<br>Channel: xxx Category: xxx Value: xxx               |
| 1811 |                            | Failed disconnection from the BMC session                           | On Server blade N, failed to disconnect the BMC Session.<br>Channel: xxx Category: xxx Value: xxx          |
| 1812 |                            | Login after the password expiration                                 | Permitted to log in to the Console (for changing password).<br>Username:xxx Cause:xxx                      |
| 1814 |                            | Successful disconnection from the BMC session                       | On Server bladeN, disconnect from the BMC Session.<br>Channel:xxx                                          |
| 1815 |                            | Failed disconnection from the BMC session                           | On Server bladeN, failed to disconnect the BMC Session.<br>Channel:xxx                                     |
| 3803 | Configuration Access       | Change to the settings of the power supply module                   | On Power supply module, setting is changed.<br>Channel: xxx Category: xxx Detail: xxx Value: xxx           |
| 3804 |                            | Change to the settings of the power supply module                   | On Power supply module N, setting is changed.<br>Channel: xxx Category: xxx Detail: xxx Value: xxx         |
| 3806 |                            | Change to the settings of the management LAN of a management module | Management LAN setting is changed.<br>Channel: xxx Category: xxx Value: xxx                                |
| 3808 |                            | Change to the settings of the switch module's management LAN        | On Switch module N, LAN setting is changed.                                                                |

| ID   | Operation event categories | Collection trigger                                                                                        | Message                                                                                                            |
|------|----------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
|      |                            |                                                                                                           | Channel: xxx Category: xxx Value: xxx                                                                              |
| 3809 |                            | Change to the settings of the switch module's management LAN                                              | On Switch moduleN, LAN setting is changed. (Apply to Management module setting)<br>Channel: xxx                    |
| 380E |                            | Change to the VLAN settings                                                                               | VLAN setting is changed. (Move port)<br>Channel: xxx Target: xxx Partition: xxx Switch module: xxx VLAN ID: xxx    |
| 380F |                            | Change to the VLAN settings                                                                               | VLAN setting is changed. (Move port)<br>Channel: xxx Target: xxx Server blade: xxx Switch module: xxx VLAN ID: xxx |
| 3810 |                            | Change to the VLAN settings                                                                               | VLAN setting is changed. (Delete port)<br>Channel: xxx VLAN ID: xxx                                                |
| 3821 |                            | Request to restore the management module settings to the initial settings (the settings at shipping time) | Reset management module to factory default setting.<br>Channel: xxx Category: xxx                                  |
| 382B |                            | Change to the email settings                                                                              | E-mail setting is changed.<br>Channel: xxx Category: xxx Detail: xxx Value: xxx                                    |
| 382E |                            | Change to the SNMP settings                                                                               | SNMP setting is changed.<br>Channel: xxx Category: xxx Detail: xxx Value: xxx                                      |
| 382F |                            | Removal of SNMP settings                                                                                  | SNMP setting is removed<br>Channel: xxx Category: xxx Number: xxx                                                  |
| 3830 |                            | Change to the security settings                                                                           | xxx service setting is changed.<br>Channel: xxx Category: xxx Value: xxx                                           |
| 3832 |                            | Creation of an SSH host key pair                                                                          | SSH host key pair is created.<br>Channel: xxx                                                                      |
| 3834 |                            | Saving an SSH host key pair                                                                               | SSH host key pair is backed up.<br>Channel: xxx File: xxx                                                          |
| 3836 |                            | Restoration of an SSH host key pair                                                                       | SSH host key pair is restored.<br>Channel: xxx File: xxx                                                           |

| ID   | Operation event categories | Collection trigger                                         | Message                                                                                                  |
|------|----------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| 3838 |                            | Creation of an SSL private key and self signed certificate | SSL private key and self signed certificate are created.<br>Channel: xxx Category: xxx Detail: xxx       |
| 383A |                            | Creation of a CSR                                          | SSL private key and certificated signing request (CSR) are created.<br>Channel: xxx                      |
| 383C |                            | Importing a certificate                                    | Certificate is imported.<br>Channel: xxx File: xxx Certificate file type: xxx                            |
| 383E |                            | Copying a certificate                                      | A certificate was copied.<br>Channel: xxx File: xxx Certificate file type: xxx                           |
| 3840 |                            | Backup of a certificate                                    | Certificate is backed up.<br>Channel: xxx File: xxx                                                      |
| 3842 |                            | Restoration of a certificate                               | Certificate is restored.<br>Channel: xxx File: xxx                                                       |
| 3844 |                            | Saving of the management module settings                   | Management module setting is backed up.<br>Channel: xxx File: xxx                                        |
| 3845 |                            | Restoration of a management module settings                | Management module setting is restored.<br>Channel: xxx File: xxx                                         |
| 384B |                            | Change to the LDAP settings                                | LDAP setting is changed.<br>Channel: xxx Category: xxx Detail: xxx Value: xxx                            |
| 384C |                            | Change to the LDAP settings                                | LDAP setting is changed.<br>Channel: xxx Category: xxx Detail: xxx                                       |
| 3850 |                            | Change to the power saving settings                        | Power saving setting is changed.<br>Channel: xxx Category: xxx Detail: xxx Value: xxx                    |
| 3853 |                            | Change to the power saving settings                        | On Server blade N, Power saving setting is changed.<br>Channel: xxx Category: xxx Detail: xxx Value: xxx |
| 385A |                            | Change to the date and time                                | On Management module, date and time is changed.<br>Channel: xxx Category: xxx Detail: xxx Value: xxx     |

| ID   | Operation event categories | Collection trigger                                                                           | Message                                                                                       |
|------|----------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 3861 |                            | Change to the server blade information settings, based on N+M cold standby                   | On Server blade N, N+M cold standby partition information setting is changed.<br>Channel: xxx |
| 3862 |                            | Change to the server blade settings                                                          | On Server blade N, setting is changed.<br>Channel: xxx Category: xxx Detail: xxx Value: xxx   |
| 3863 |                            | Change to the server blade settings                                                          | On Server blade N, setting is changed.<br>Channel: xxx Category: xxx                          |
| 3864 |                            | Change to the settings of the server blade's management LAN                                  | On Server blade N, LAN setting is changed.<br>Channel: xxx Category: xxx Value: xxx           |
| 3867 |                            | Change to the Optional Physical WWN settings                                                 | Additional WWN is changed.<br>Channel: xxx Server blade: xxx                                  |
| 3868 |                            | Change to the Optional Physical WWN settings                                                 | Additional WWN is changed.<br>Channel: xxx Server blade: xxx Card: xxx Slot: xxx              |
| 3869 |                            | Change to the Optional Physical WWN settings                                                 | Additional WWN is initialized.<br>Channel: xxx Server blade: xxx                              |
| 386A |                            | Change to the Optional Physical WWN settings                                                 | Additional WWN is initialized.<br>Channel: xxx Server blade: xxx Card: xxx Slot: xxx          |
| 386B |                            | Change to the Optional Physical MAC settings                                                 | Additional MAC is changed.<br>Channel: xxx Server blade: xxx                                  |
| 386C |                            | Change to the Optional Physical MAC settings                                                 | Additional MAC is changed.<br>Channel: xxx Server blade: xxx Card: xxx Slot: xxx              |
| 386D |                            | Change to the Optional Physical MAC settings                                                 | Additional MAC is initialized.<br>Channel: xxx Server blade: xxx                              |
| 386E |                            | Change to the Optional Physical MAC settings                                                 | Additional MAC is initialized.<br>Channel: xxx Server blade: xxx Card: xxx Slot: xxx          |
| 3870 |                            | Restoration of server blade settings to the initial settings (the settings at shipping time) | Reset Server blade N to factory default setting.<br>Channel: xxx Category: xxx                |

| ID   | Operation event categories | Collection trigger                                  | Message                                                                                                         |
|------|----------------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| 3873 |                            | Backup of the settings of a server blade            | On Server blade N, setting (xxx) is backed up.<br>Channel: xxx Bkup time: xxx File: xxx                         |
| 3874 |                            | Restoration of the settings of a server blade       | On Server blade N, setting (xxx) is restored.<br>Channel: xxx Bkup time: xxx                                    |
| 3875 |                            | Removal of the backup data of a server blade        | On Server blade N, setting (xxx) is removed.<br>Channel: xxx                                                    |
| 3876 |                            | Backup of the settings of a server blade (HBA)      | On Server blade N, setting (xxx) is backed up.<br>Channel: xxx Category: xxx Slot: xxx Bkup time: xxx File: xxx |
| 3877 |                            | Restoration of the settings of a server blade (HBA) | On Server blade N, setting (xxx) is restored.<br>Channel: xxx Category: xxx Slot: xxx Bkup time: xxx            |
| 3878 |                            | Removal of the backup data of a server blade (HBA)  | On Server blade N, setting (xxx) is removed.<br>Channel: xxx Category: xxx Slot: xxx                            |
| 3879 |                            | Backup of the settings of a server blade            | On Server blade N, setting (xxx) is backed up.<br>Channel: xxx File: xxx                                        |
| 387A |                            | Restoration of the settings of a server blade       | On Server blade N, setting (xxx) is restored.<br>Channel: xxx File: xxx                                         |
| 387D |                            | Backup of the settings of a server blade            | On Server blade N, setting (xxx) is backed up.<br>Channel: xxx Category: xxx Slot: xxx                          |
| 387E |                            | Restoration of the settings of a server blade       | On Server blade N, setting (xxx) is restored.<br>Channel: xxx Category: xxx Slot: xxx                           |
| 387F |                            | Removal of the settings of a server blade           | On Server blade N, setting (xxx) is removed.<br>Channel: xxx Category: xxx Slot: xxx                            |
| 3880 |                            | Creation of an account                              | An account is created.<br>Channel: xxx Account: xxx Status: xxx Role: xxx                                       |

| ID   | Operation event categories | Collection trigger                                       | Message                                                                                                       |
|------|----------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 3881 |                            | Change to an account                                     | An account is changed.<br>Channel: xxx Account: xxx Status: xxx Role: xxx                                     |
| 3882 |                            | Removal of an account                                    | An account is removed.<br>Channel: xxx Account: xxx                                                           |
| 3885 |                            | Removal of a role                                        | A role is removed.<br>Channel: xxx Role: xxx                                                                  |
| 3886 |                            | Change to a role                                         | A role is changed.<br>Channel:xxx Role:xxx<br>Server1-15:xxx Switch1-2:xxx<br>Net:xxx Chassis:xxx Account:xxx |
| 3887 |                            | Creation of a role                                       | A role is created.<br>Channel:xxx Role:xxx<br>Server1-15:xxx Switch1-2:xxx<br>Net:xxx Chassis:xxx Account:xxx |
| 3890 |                            | Creation of an email setting (an email address)          | E-mail setting is created.<br>Channel: xxx                                                                    |
| 3891 |                            | Change to an email setting (an email address)            | E-mail setting is changed.<br>Channel: xxx                                                                    |
| 3892 |                            | Removal of an email setting (an email address)           | E-mail setting is removed.<br>Channel: xxx                                                                    |
| 3898 |                            | Change to the settings of a switch module                | On Switch module N, setting is changed.<br>Channel: xxx Category: xxx Detail: xxx Value: xxx                  |
| 3899 |                            | Change to the settings of a switch module                | On Switch module N, setting is changed.<br>Channel: xxx Port#: xxx Category: xxx Detail: xxx Value: xxx       |
| 389A |                            | Change to the password for the LCD touch console         | LCD touch console password is changed.<br>Channel: xxx                                                        |
| 389B |                            | Initialization of the password for the LCD touch console | LCD touch console password is initialized.<br>Channel: xxx                                                    |
| 389D |                            | Clearing the host information for a server blade         | Host information on the server blade n has been cleared.<br>Channel: xxx                                      |

| ID   | Operation event categories | Collection trigger                                                                | Message                                                                                                                             |
|------|----------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| 3900 |                            | Change to the settings of the HCSM linkage functionality by using an HCSM command | HCSM cooperation setting is changed.<br>Channel:xxx Category:xxx<br>Detail:xxx Value:xxx                                            |
| 3901 |                            | Addition of HCSM server settings by using an HCSM command                         | HCSM manager setting is created.<br>Channel:xxx IP address:xxx Alert port:xxx Alert level:xxx Retry interval:xxx Retry duration:xxx |
| 3902 |                            | Change to the HCSM server settings by using an HCSM command                       | HCSM manager setting is changed.<br>Channel:xxx IP address:xxx Category:xxx Before:xxx After:xxx                                    |
| 3903 |                            | Change to the HCSM server settings by using an HCSM command                       | HCSM manager setting is changed.<br>Channel:xxx IP address:xxx Detail:xxx Value:xxx                                                 |
| 3904 |                            | Deletion of HCSM server settings by using an HCSM command                         | HCSM manager setting is removed.<br>Channel:xxx IP address:xxx                                                                      |
| 3905 |                            | Disconnection of the HCSM server session by using an HCSM command                 | HCSM manager setting is disconnected.<br>Channel:xxx IP address:xxx                                                                 |
| 3907 |                            | Send to the HCSM test alert                                                       | On Server BladeN, HCSM send test alert(N+M cold standby)<br>Channel:xxx Category:xxx                                                |
| 3910 |                            | Change to the security strength of a management module                            | On Management module, security configuration is changed.<br>Channel: xxx Detail: xxx Value: xxx                                     |
| 3911 |                            | Change to the security strength of a server blade                                 | On Server Blade N, security configuration is changed.<br>Channel: xxx Detail: xxx Value: xxx                                        |
| 3912 |                            | Change to the TLS/SSL version of the management module                            | On Management module, TLS/SSL version is changed.<br>Channel: xxx Detail: xxx Value: xxx                                            |
| 3913 |                            | Change to the syslog transfer settings                                            | Syslog transfer setting is changed.<br>Channel:xxx Detail:xxx Value:xxx                                                             |
| 3916 |                            | Change to the server blade settings                                               | On Server bladeN, setting is changed.<br>Channel:xxx Category:xxx Value:xxx                                                         |

| ID   | Operation event categories | Collection trigger                                                  | Message                                                                                                    |
|------|----------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 391A |                            | Change to the login banner settings                                 | Login banner setting is changed.<br>Channel:xxx Value:xxx                                                  |
| 391B |                            | Creation of the login banner message                                | Login banner message is registered.<br>Channel:xxx                                                         |
| 391C |                            | Change to the login banner message                                  | Login banner message is changed.<br>Channel:xxx                                                            |
| 391D |                            | Removal of the login banner message                                 | Login banner message is deleted.<br>Channel:xxx                                                            |
| 391E |                            | Change to the Web console (mgmt-lan) settings                       | Web console (mgmt-lan) setting is changed.<br>Channel:xxx Value:xxx                                        |
| 391F |                            | Change to the Web console (mnt-lan) settings                        | Web console (mnt-lan) setting is changed. Channel:xxx Value:xxx                                            |
| 3926 |                            | Change to the settings of the management LAN of a management module | Management LAN setting is changed.<br>Channel: xxx Category: xxx Value: xxx                                |
| 3927 |                            | Change to the settings of the server blade's management LAN         | On Server blade N, LAN setting is changed.<br>Channel: xxx Category: xxx Value: xxx                        |
| 3928 |                            | Change to the security settings                                     | xxx service setting is changed.<br>Channel: xxx Category: xxx Value: xxx                                   |
| 3929 |                            | Change to the settings of the switch module's management LAN        | On Switch module N, LAN setting is changed.<br>Channel: xxx Category: xxx Value: xxx                       |
| 392B |                            | Change to the password policy settings                              | Password policy setting is changed.<br>Channel:xxx Category:xxx Detail:xxx Value:xxx                       |
| 392C |                            | Change to the BMC user account settings                             | BMC user account setting is changed.<br>Channel:xxx ServerBlade:xxx Account:xxx Use:xxx Name:xxx           |
| 392D |                            | Change to the IPMI user account settings                            | IPMI user account setting is changed.<br>Channel:xxx ServerBlade:xxx Account:xxx Use:xxx Name:xxx Role:xxx |



| ID   | Operation event categories | Collection trigger                                          | Message                                                                                                       |
|------|----------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 392E |                            | Change to the USB(Management module) settings               | USB setting is changed.<br>Channel:xxx Category:xxx<br>Detail:xxx Value:xxx                                   |
| 3930 |                            | Change to the server blade settings                         | On Server bladeN, setting is changed.<br>Channel:xxx Category:xxx<br>Assign:xxx Redundancy:xxx                |
| 3931 |                            | Change to the RADIUS settings                               | Setting of RADIUS was changed.<br>Channel:xxx Category:xxx<br>Detail:xxx Value:xxx                            |
| 3932 |                            | Change to the RADIUS server settings                        | Setting of RADIUS serverN was changed.<br>Channel:xxx Category:xxx<br>Detail:xxx Value:xxx                    |
| 393A |                            | Change to the SVP-LP management communication settings      | Management module - LP communication setting was changed.<br>Channel:xxx Category:xxx<br>Detail:xxx Value:xxx |
| 393B |                            | Change to the server blade settings                         | On Server blade N, setting is changed.<br>Channel: xxx Category: xxx Detail: xxx Value: xxx                   |
| 393C |                            | Change to the server blade settings                         | On Server blade N, setting is changed.<br>Channel: xxx Category: xxx Detail: xxx Value: xxx                   |
| 393D |                            | Change to the server blade settings                         | On Server blade N, setting is changed.<br>Channel: xxx Category: xxx Detail: xxx Value: xxx                   |
| 3944 |                            | Change to the HCSM server settings by using an HCSM command | HCSM manager setting is changed.<br>Channel:xxx IP address:xxx<br>Detail:xxx Value:xxx                        |
| 3950 |                            | Change to the RADIUS server settings                        | Setting of RADIUS serverN was changed.<br>Channel:xxx Category:xxx<br>Detail:xxx Value:xxx                    |
| 3951 |                            | Change to the host name of a management module              | Host name(Management module) is changed.<br>Channel:xxx Value:xxx                                             |

| ID   | Operation event categories | Collection trigger                                                                                 | Message                                                                                                                                                                      |
|------|----------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3952 |                            | Change to the domain name of a management module                                                   | Domain name(Management module) is changed.<br>Channel:xxx Value:xxx                                                                                                          |
| 3953 |                            | Change to the host name of a server blade                                                          | Host name(Server bladeN) is changed.<br>Channel:xxx Value:xxx                                                                                                                |
| 3954 |                            | Change to the domain name of a server blade                                                        | Domain name(Server bladeN) is changed.<br>Channel:xxx Value:xxx                                                                                                              |
| 3955 |                            | When IPv4 address is assigned to management LAN by a DHCP server                                   | IPv4 address is assigned to a management LAN(Management module) from a DHCP server.<br>DHCP server:xxx IPv4 address:xxx Subnet mask:xxx Channel:xxx                          |
| 3956 |                            | When IPv4 address which was assigned by DHCP server is released due to the expiration of the lease | IPv4 address assigned to a management LAN(management module) is released due to the expiration of the lease.<br>DHCP server:xxx IPv4 address:xxx Subnet mask:xxx Channel:xxx |
| 3957 |                            | When IPv4 address which was assigned by DHCP server is released                                    | IPv4 address assigned to a management LAN(Management module) is released.<br>DHCP server:xxx IPv4 address:xxx Subnet mask:xxx Channel:xxx                                    |
| 8800 | Maintenance                | Change to the operation mode of the server chassis from normal mode to maintenance mode            | On Server chassis, changed into maintenance mode from normal mode.<br>Channel: xxx                                                                                           |
| 8801 |                            | Change to the operation mode of the server chassis from maintenance mode to normal mode            | On Server chassis, changed into normal mode from maintenance mode.<br>Channel: xxx                                                                                           |
| 8802 |                            | Change to the operation mode of a server blade from normal mode to maintenance mode                | On Server blade N, changed into maintenance mode from normal mode.<br>Channel: xxx                                                                                           |
| 8803 |                            | Change to the operation mode of a server blade from maintenance mode to normal mode                | On Server blade N, changed into normal mode from maintenance mode.<br>Channel: xxx                                                                                           |

| ID   | Operation event categories | Collection trigger                                                                       | Message                                                                                            |
|------|----------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 8804 |                            | Change to the operation mode of a switch module from normal mode to maintenance mode     | On Switch module N, changed into maintenance mode from normal mode.<br>Channel: xxx                |
| 8805 |                            | Change to the operation mode of a switch module from maintenance mode to normal mode     | On Switch module N, changed into normal mode from maintenance mode.<br>Channel: xxx                |
| 8806 |                            | Change to the operation mode of a management module from normal mode to maintenance mode | On Management module N, changed into maintenance mode from normal mode.<br>Channel: xxx            |
| 8807 |                            | Change to the operation mode of a management module from maintenance mode to normal mode | On Management module N, changed into normal mode from maintenance mode.<br>Channel: xxx            |
| 8810 |                            | Request to update the firmware of a server blade                                         | On Server blade N, requested server blade firmware update.<br>Channel: xxx                         |
| 8811 |                            | Request to update LPAR manager firmware                                                  | Requested Hitachi Virtualization Manager firmware update.<br>Channel: xxx Bank#: xxx <sup>1</sup>  |
| 8812 |                            | Request to remove LPAR manager firmware                                                  | Requested Hitachi Virtualization Manager firmware removed.<br>Channel: xxx Bank#: xxx <sup>1</sup> |
| 8813 |                            | Request to update the firmware of a switch module                                        | On Switch module N, requested firmware update.<br>Channel: xxx                                     |
| 8814 |                            | Request to update the firmware of a management module                                    | On Management module, requested firmware update.<br>Channel: xxx                                   |
| 8815 |                            | Request to update the firmware of a management module                                    | On Management module, requested firmware update (Copy and Update).                                 |
| 8816 |                            | Request to update LPAR manager firmware                                                  | Requested Logical Partitioning Manager firmware update.<br>Channel:xxx Bank#:xxx <sup>1</sup>      |
| 8817 |                            | Request to remove LPAR manager firmware                                                  | Requested Logical Partitioning Manager firmware removed.<br>Channel:xxx Bank#:xxx <sup>1</sup>     |

| ID                                                                                                                                                 | Operation event categories | Collection trigger                                                      | Message                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 8819                                                                                                                                               |                            | Mounting an ISO image file to a server blade                            | On server blade, mounted ISO image file.<br>Channel: xxx File: xxx                                 |
| 881A                                                                                                                                               |                            | Unmounting an ISO image file from a server blade                        | On server blade, unmounted ISO image file.<br>Channel: xxx File: xxx                               |
| 881C                                                                                                                                               |                            | Change to the sync EFI time settings                                    | On Server bladexxx, Sync EFI time setting is changed.<br>Channel:xxx Value:xxx                     |
| 881D                                                                                                                                               |                            | Change to the FRU(Server blade) settings by maintenance personnel.      | On Server bladeN, FRU setting is changed.<br>Channel:xxx Category:xxx<br>Detail:xxx Value:xxx      |
| 881E                                                                                                                                               |                            | Change to the FRU(Management module) settings by maintenance personnel. | On Management moduleN, FRU setting is changed.<br>Channel:xxx Category:xxx<br>Detail:xxx Value:xxx |
| Notes:                                                                                                                                             |                            |                                                                         |                                                                                                    |
| 1. A bank number indicates an area number. For details, see the <i>Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide</i> . |                            |                                                                         |                                                                                                    |

**Table 4-9 List of server blade operation log and audit log messages**

| ID   | Operation event categories | Collection trigger                                | Message                                       |
|------|----------------------------|---------------------------------------------------|-----------------------------------------------|
| 0001 | Start/Stop                 | A request to power on the server blade is issued  | Requested a power-on of the server blade.     |
| 0002 |                            | A request to power off the server blade is issued | Requested a power-off of the server blade.    |
| 0003 |                            | A request to reset the server blade is issued     | Requested a reset of the server blade.        |
| 0004 |                            | An NMI signal of the server blade is issued       | Issued an NMI signal of the server blade.     |
| 0005 |                            | The power button of the server blade is pressed   | Pressed the power button of the server blade. |
| 000C |                            | A request to restart BMC is issued                | Requested a restart of BMC.                   |
| 0012 |                            | BMC is started                                    | BMC started successfully.                     |

| ID   | Operation event categories       | Collection trigger                                         | Message                                                                                                         |
|------|----------------------------------|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| 0013 |                                  | An attempt to start BMC fails                              | BMC failed to start.                                                                                            |
| 0014 |                                  | It is detected that the server blade is powered on         | The server blade is powered on.                                                                                 |
| 0015 |                                  | It is detected that the server blade is powered off        | The server blade is powered off.                                                                                |
| 0017 |                                  | A request to shut down the server blade is issued          | Requested an OS shutdown of the server blade.                                                                   |
| 1001 | Identification or Authentication | A user logs in to the remote console                       | Logged in to the remote console. Username:xxx Source IP address:xxx User authentication method:xxx              |
| 1002 |                                  | A user logs out from the remote console                    | Logged out from the remote console. Username: xxx Source IP address: xxx Cause: xxx                             |
| 1003 |                                  | An attempt to log in to the remote console fails           | Failed to login to the remote console. Username: xxx Source IP address: xxx Cause: xxx                          |
| 1006 |                                  | The remote CD/DVD is started                               | Started using the remote CD/DVD. Username:xxx Source IP address:xxx                                             |
| 1007 |                                  | The remote CD/DVD is stopped                               | Stopped using the remote CD/DVD. Username:xxx Source IP address:xxx                                             |
| 1008 |                                  | A user logs in to the server blade web console             | Logged in to the server blade web console. Username: xxx Source IP address: xxx User authentication method: xxx |
| 1009 |                                  | A user logs out from the server blade web console          | Logged out from the server blade Web console. Username: xxx Source IP address: xxx Cause: xxx                   |
| 100A |                                  | An attempt to log in to the server blade web console fails | Failed to login to the server blade web console. Username: xxx Source IP address: xxx Cause: xxx                |
| 100F |                                  | An attempt to start the remote CD/DVD fails                | Failed to start using the remote CD/DVD. Source IP address:xxx                                                  |
| 3002 | Configuration Access             | A request to change the BMC IP address is issued           | Requested a change of BMC IP address. IP address after change:xxx Method:xxx                                    |

| ID   | Operation event categories | Collection trigger                                             | Message                                                                                                                                               |
|------|----------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3003 |                            | A request to change a BMC user account is issued               | Requested a change of BMC user account. User ID:xxx User name:xxx                                                                                     |
| 3006 |                            | A request to change LDAP settings is issued                    | Requested a change of LDAP settings. Method:xxx                                                                                                       |
| 3008 |                            | A request to change Remote KVM settings is issued              | Requested a change of Remote KVM settings. Port number:xxx Method:xxx                                                                                 |
| 3011 |                            | A request to change timezone settings is issued                | Requested a change of timezone settings.Method:xxx                                                                                                    |
| 3012 |                            | A request to change daylight savings time settings is issued   | Requested a change of daylight savings time settings. Daylight savings time:xxx Method:xxx                                                            |
| 3018 |                            | A request to change asset information is issued                | Requested a change of asset information. Method:xxx                                                                                                   |
| 301F |                            | A request to download operation logs is issued                 | Requested a download of operation logs. Method:xxx                                                                                                    |
| 3020 |                            | A request to download audit logs is issued                     | Requested a download of audit logs. Method:xxx                                                                                                        |
| 3022 |                            | A request to change WSMAN service settings is issued           | Requested a change of WSMAN service settings. Service:xxx wsmans port number:xxx Method:xxx                                                           |
| 3023 |                            | A request to change an IPMI user account is issued             | Requested a change of IPMI user account. User ID:xxx User name:xxx                                                                                    |
| 3025 |                            | A request to transition to Security strength High is issued    | Requested a transition to Security strength High. Method:xxx                                                                                          |
| 3026 |                            | A request to transition to Security strength Default is issued | Requested a transition to Security strength Default. Method:xxx                                                                                       |
| 3028 |                            | A request to change Remote console service settings is issued  | Requested a change of Remote console service settings. Service:xxx SSL/TLS communication:xxx SSLv3:xxx TLSv1.0:xxx TLSv1.1:xxx TLSv1.2:xxx Method:xxx |
| 302D |                            | A request to change IPMI over LAN service settings is issued   | Requested a change of IPMI over LAN service settings. Service:xxx IPMI over LAN v1.5:xxx Method:xxx                                                   |

| ID   | Operation event categories | Collection trigger                                                                                 | Message                                                                                                                                                 |
|------|----------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 302F |                            | A request to change Syslog transfer settings is issued                                             | Requested a change of Syslog transfer settings. Syslog transfer:xxx Syslog Server:xxx Port Number:xxx Method:xxx                                        |
| 3031 |                            | A request to change Password Aging settings is issued                                              | Requested a change of Password Aging setting. Service:xxx Account:xxx Method:xxx                                                                        |
| 3032 |                            | A request to change Login Banner settings issued                                                   | Requested a change of Login Banner setting. Service:xxx Method:xxx                                                                                      |
| 3033 |                            | A request to change RADIUS settings is issued                                                      | Requested a change of RADIUS settings. Method:xxx                                                                                                       |
| 3034 |                            | A request to change SMASH-CLP settings is issued                                                   | Requested a change of SMASH-CLP settings. Service:xxx CLP port number:xxx Method:xxx                                                                    |
| 3035 |                            | When IPv4 address is assigned to server blade management LAN by a DHCP server                      | IPv4 address is assigned to a management LAN(server bladexxx) from a DHCP server. DHCP server:xxx IPv4 address:xxx Subnet mask:xxx Channel:xxx          |
| 3036 |                            | When IPv4 address which was assigned by DHCP server is released due to the expiration of the lease | IPv4 address assigned to a management LAN(server bladexxx) is released due to the expiration of the lease. DHCP server:xxx IPv4 address:xxx Channel:xxx |
| 3037 |                            | When IPv4 address which was assigned by DHCP server is released                                    | IPv4 address assigned to a management LAN(server bladexxx) is released. DHCP server:xxx IPv4 address:xxx Subnet mask:xxx Channel:xxx                    |
| 8001 | Maintenance                | A request to transition from maintenance mode to normal mode is issued                             | Requested a transition from maintenance mode to normal mode. Method:xxx                                                                                 |
| 8002 |                            | A request to transition from normal mode to maintenance mode is issued                             | Requested a transition from normal mode to maintenance mode. Method:xxx                                                                                 |
| 8005 |                            | A request to update server blade firmware is issued                                                | Requested an update of server blade firmware.                                                                                                           |

| ID   | Operation event categories | Collection trigger                          | Message                                                          |
|------|----------------------------|---------------------------------------------|------------------------------------------------------------------|
| 8006 |                            | Server blade firmware is updated            | Server blade firmware was updated. New server blade firmware:xxx |
| 800B |                            | A request to dump hardware memory is issued | Requested a hardware memory dump. Method:xxx                     |

## About OS console log

The OS console log indicates text files in which information output from a serial port (COM2) of a server blade is recorded. The following tables list the specifications for OS console log.

**Table 4-10 Specifications for OS console log**

| Operations that trigger the information to be recorded | Log file name             | Maximum number of log files | Log format                                                                                                | Size                        |
|--------------------------------------------------------|---------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------|
| Powering off a server blade                            | h2_poff_n<br>(n:0,1)      | 2                           | First line: Data and time (local time) at which the OS console log is saved                               | Maximum 240 KB per log file |
| Resetting a server blade                               | h2_reset_n<br>(n:0,1,2,3) | 4                           | Second line and subsequent lines:                                                                         |                             |
| A watchdog timer expiring                              | h2_wdt_n<br>(n:0)         | 1                           | Information output from a serial port, to the beginning of which the output date and time (UTC) is added. |                             |
| Updating a server blade firmware                       | h2_flash_n<br>(n:0,1)     | 2                           |                                                                                                           |                             |
| Downloading the OS console log                         | h2_ondemand               | 1                           |                                                                                                           |                             |

If the number of log files used for recording the output information reaches the maximum, the files will be overwritten starting from the oldest file.



### Note:

- To use the OS console log, you must specify the settings for the OS. For details, see [Checking OS serial port settings on page 2-68](#).
- The OS console log is supported in the following firmware versions:
  - Management module firmware
    - A0150 or later
  - Server blade firmware
    - For CB 520H B3, server blade firmware 08-46 or later.



- For CB 520X B1, server blade firmware 07-43 or later.
- For CB 520X B2, server blade firmware 09-27 or later.

For server blades other than those listed above, the OS console log is supported in all the firmware versions.

---

## Checking the OS console log

To check the OS console log, use the Web console.

### To check the OS console log from the Web console:

1. **Resources** tab, from the tree view under **Modules**, select the target server blade.
2. From the **Action** pull-down menu, click **Download OS console log**.  
The archive (archived in the tar format, and then compressed by gzip) of all the log files for the OS console log that is recorded in a server blade is downloaded.  
File name: osconsllogN-YYYYMMDD-hhmmss.tar.gz (N: server blade slot number, YYYYMMDD: year, month, and date of download, hhmmss: time of download)



**Note:** When using the web console from the web browser, press the **save** button within two minutes after the dialog for selecting a location for a downloaded file to be saved opens on the browser.  
If Internet Explorer is used and you press the button after two or more minutes pass, the file is not saved as the correct size. Instead, the message "Internet Explorer cannot download [IP address] - [File name]. Server returned invalid or unrecognized response." is returned or the file is incorrectly saved as a smaller size.  
In such a case, download the file again.



### Tip:

- To decompress the compressed log files, use decompression software that is publicly available.
- 

## Updating management module firmware

This section explains how to update management module firmware.

### Firmware that can be updated on management modules

Firmware is software that is embedded in a device and provides basic hardware control. Multiple firmware programs are embedded in the CB 2500. You can update the following firmware from a management module. For details on how to update server blade firmware, see the next section. For details on how to update LPAR manager firmware, see the *Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide*.

**Table 4-11 Firmware type**

| Name                                                                                                                                                        | Description                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Management module firmware                                                                                                                                  | Firmware that runs on management modules.                                             |
| Dictionary                                                                                                                                                  | Data file that is saved in management modules and converts log messages. <sup>1</sup> |
| Server blade firmware                                                                                                                                       | Firmware that runs on server blades. This firmware consists of BMC and UEFI.          |
| LPAR manager firmware                                                                                                                                       | Firmware that is used for running LPAR manager on server blades.                      |
| Notes:                                                                                                                                                      |                                                                                       |
| 1. This is not exactly firmware but is updated from management modules like firmware. For convenience of explanation, we list this data file in this table. |                                                                                       |

### Related topics

- [Updating server blade firmware on page 4-40](#)

## Points to check before updating management module firmware

You can update the management module firmware and dictionary at once from a management module console or HCSM.

**Table 4-12 List of firmware programs to be updated**

| Firmware to be updated                                                                                                                                                                                                                                                                                                                                                                                           | Required time (minutes) | The management module is rebooted? | The firmware can be updated while the system runs? |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------------------|----------------------------------------------------|
| Management module firmware                                                                                                                                                                                                                                                                                                                                                                                       | 25 to 30                | Yes <sup>1</sup>                   | Yes <sup>2</sup>                                   |
| Dictionary                                                                                                                                                                                                                                                                                                                                                                                                       | 5 to 10                 | No                                 | Yes                                                |
| Notes:                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                                    |                                                    |
| 1. When management module firmware is updated, the management module automatically reboots. If the management module is in a redundant configuration, the active management module starts to reboot and the standby management module becomes active. When the management module completely reboots, the other management module starts to reboot. Then, the originally active management module becomes active. |                         |                                    |                                                    |
| 2. Before you update management module firmware during system operation, make sure that you read through the limitations below.<br>Note that you must stop the system before downgrading the management module firmware.                                                                                                                                                                                         |                         |                                    |                                                    |



**Tip:** The management module reboots twice during the processing to update the version of the management module firmware from A0175 or earlier to A0185 or later. The time required for the update is approximately 30 to 35 minutes.

The following limitations exist when you update management module firmware:

If the management module is in a redundant configuration, you can update management module firmware while server blades are running. However, the limitations below exist. Make sure that you check the contents of the limitations and understand risks before you update management module firmware.

- Do not update the management module firmware or dictionary from a different console or HCSM while management module firmware or a dictionary is being updated. If you do so, the management module firmware or dictionary might fail to be updated.

If the update fails, retry the update operation.

- While management module firmware is being upgraded, management modules temporarily stop. Do not perform the operations below on the system unit. These operations might fail due to a temporary network disconnection. After the management module firmware is completely upgraded, retry these operations.

Operations prohibited during an upgrade

- N+M cold standby manual failover or restoration (If this operation failed, you might need to re-configure the N+M environment for restoration.)
  - Login to a management module console
  - HCSM operation
  - SNMP manager operation
  - Establishing or changing the HA monitor cluster configuration
  - Use of the remote console (if the management server blade is installed on the server chassis, you cannot open the HCSM console window.)
  - LPAR manager operation
  - Login to the switch module console via the management port
  - Update of the server blade firmware
  - Update of the LPAR manager firmware
- 
- N+M cold standby manual failover or restoration (If this operation failed, you might need to re-configure the N+M environment for restoration.)
  - Login to a management module console
  - HCSM operation
  - Establishing or changing the HA monitor cluster configuration
  - Use of the remote console (if the management server blade is installed on the server chassis, you cannot open the HCSM console window.)
  - LPAR manager operation
  - Update of the server blade firmware

- Update of the LPAR manager firmware
- If you upgrade management module firmware while a server blade or the server chassis is being powered on or off, the upgrade might not finish normally. When you update management module firmware, do not power on or off server blades and the server chassis.
- If you do so, any of the alert messages below might be reported while the management module firmware is being upgraded. (These alert messages are just for checking during work procedures and do not affect the system behavior.)

| Alert type  | Content                                                           |
|-------------|-------------------------------------------------------------------|
| Warning     | FD78h Module lacks redundancy.(Location: Management LAN Port1)    |
|             | FD78h Module lacks redundancy.(Location: Management LAN Port2)    |
|             | FD78h Module lacks redundancy.(Location: Maintenance LAN port)    |
| Information | FD79h Module restored redundancy.(Location: Management LAN Port1) |
|             | FD79h Module restored redundancy.(Location: Management LAN Port2) |
|             | FD79h Module restored redundancy.(Location: Maintenance LAN port) |

Other information alerts might be reported but do not affect the system behavior.

- When you upgrade the version of the management module, you might receive an information-level SEL (for example, regarding the high temperature of CPU x), but this does not indicate a problem.
- If you perform this operation while using LPAR manager, an LPAR manager screen indicating "SVP Access Failure" might appear due to a temporary network disconnection. This does not cause a problem because abnormalities in communications are automatically restored.
- If the HA monitor (including the cluster manager) is installed, depending on the timing, a reset path failure message (KAMN624-E or KAMN399-E) might be output by the HA monitor while management module firmware is being upgraded, and the HA monitor will stop monitoring.

Upgrade management module firmware in an environment where the system status can be monitored. These messages might be output due to a factor other than the upgrade of management module firmware (for example, a hardware error). Make sure that you confirm that the path status is in normal (`status` is OK) by executing the `monrp` command, and perform the operation to restart monitoring of the reset path.

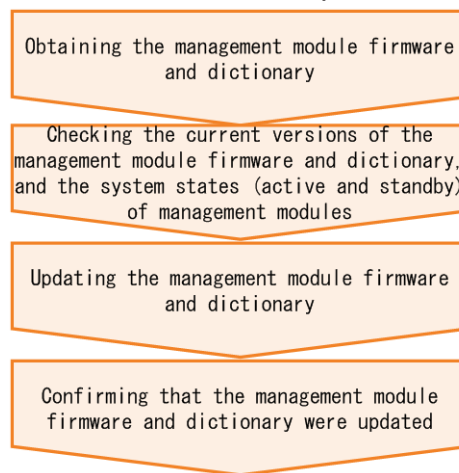
(If `status` is not OK, a failure due to a factor other than the upgrade of management module firmware is assumed and automatic failover might be impossible. In such a case, ask maintenance personnel to take appropriate actions.

- If the SNMP polling functionality or the Ping command is used to monitor the status of management modules, BMC, and switch modules, the monitoring system might indicate an abnormality when the network is temporarily disconnected. Verify that the monitoring is performed normally after the firmware upgrade.

- Upgrade the management module firmware during a period in which any impact on production operations is small. Delays in responses to the management module might occur during the upgrade.
- If a management module is switched while management module firmware is being upgraded, the upgrade fails. Remove the cause of the failure, and retry.
- If you use HCSM to update management module firmware, click **Refresh** after the update finishes, and then check the version of the management module firmware.

## General procedure for updating the management module firmware and dictionary

The following figure shows the general procedure for updating the management module firmware and dictionary and how to update them.



The following table shows update operations on a management module and availability of each console.

**Table 4-13 Update of the management module firmware and dictionary**

| Operation                                                                                                                                        | Web console | CLI console | LCD touch console |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------------|
| Checking the current versions of the management module firmware and dictionary, and the system states (active and standby) of management modules | Y           | Y           | Y                 |
| Updating the management module firmware and dictionary                                                                                           | Y           | Y           | Y                 |
| Confirming that the management module firmware and dictionary were updated                                                                       | Y           | Y           | Y                 |

**Note:**

- For details on how to use HCSM to update the management module firmware and dictionary, see the HCSM manual.

**Related topics**

- [Obtaining the management module firmware and dictionary on page 4-36](#)
- [Checking the current versions of the management module firmware and dictionary, and the system states \(active and standby\) of management modules on page 4-36](#)
- [Updating the management module firmware and dictionary on page 4-37](#)
- [Confirming that the management module firmware and dictionary were updated on page 4-39](#)

## Obtaining the management module firmware and dictionary

Contact your reseller for details on where to download the latest management module firmware and dictionary.

You need to download the following files: After you download the files, decompress them.

| Firmware to be updated     | File to be downloaded              | Result of decompression              |
|----------------------------|------------------------------------|--------------------------------------|
| Management module firmware | CB 2500 management module firmware | svpfw.AXXXX-X-XXXX.update readme.txt |
| Dictionary                 | CB 2500 dictionary                 | dict.AXXXX.update readme.txt         |

**Note:**

- Do not change the names of downloaded files.  
If you change the name of a downloaded file, management modules cannot recognize the file as a firmware file.
- Files for other system units (e.g. CB 2000) cannot be applied.

## Checking the current versions of the management module firmware and dictionary, and the system states (active and standby) of management modules

Check that the versions of the obtained management module firmware and dictionary are later than the current versions. If you update the management module firmware, connections will be lost because the management module reboots. After the management module firmware and dictionary are updated, check the system states (active and standby) of the management modules. If the system states are the same before and after the update, connections with management modules have been established normally.

**To use the Web console to check the current versions of the management module firmware and dictionary, and the system states (active and standby) of management modules:**

1. Click the **Resources** tab. From the **Modules** tree view, select **Management Modules**.  
Before you update management module firmware, check the system states of management modules 1 and 2.
2. Click the number of the management module whose system state is displayed as active in the management module information.  
The current versions of the management module firmware and dictionary are displayed in the [Firmware version] and [Dictionary version] fields.

**To use the CLI console to check the current versions of the management module firmware and dictionary, and the system states (active and standby) of management modules:**

1. Execute the `show mgmt-module firmware` command.

**To use the LCD touch console to check the current versions of the management module firmware and dictionary, and the system states (active and standby) of management modules:**

1. From the **Maintenance** menu, touch the **Management Module (MM)** button.  
The management module window appears.

### **Related topics**

- [show mgmt-module firmware on page 5-106](#)

## **Updating the management module firmware and dictionary**

Use the Web console, the CLI console, or the LCD touch console to update the management module firmware and dictionary.

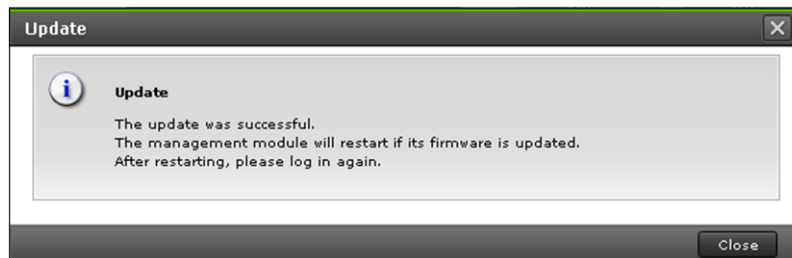
### **Operations to complete in advance**

Store the obtained update file onto the hard disk of the system console. If you need to update multiple firmware programs, store all files used for updating the firmware programs.

**To use the Web console to update the management module firmware and dictionary**

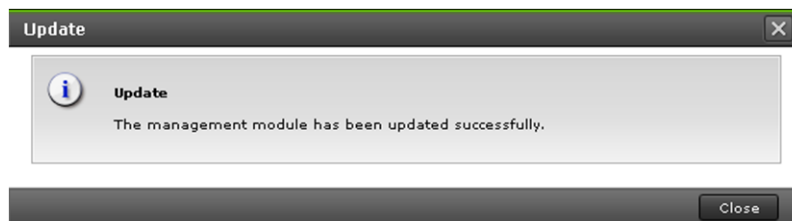
1. Click the **Resources** tab. From the **Modules** tree view, select **Management Modules**.
2. From the **Action** pull-down menu, select **Update Firmware**.
3. In the **Update Firmware** dialog box, select the check boxes for the firmware to be updated. Click the **Browse** button and select the update file.
4. In the **Update Firmware** dialog box, click the **Confirm** button.

5. Check that an update file is displayed for each firmware to be updated, and then click the **OK** button.  
First, upload of the firmware files starts. When the upload progress bar reaches the right end, the firmware update starts and the update progress bar appears. On the update progress bar, a message for the operation in progress is displayed. Wait for about 10 minutes or more until the update finishes.
6. When the update progress bar reaches the right end, the update finishes. Click the **Close** button.  
The displayed window differs depending on whether you specify an update of the management module firmware.  
If you specify an update of the management module firmware, the following window appears.



**Note:** Before the above message appears, the active management module might reboot due to completion of the update. In such a case, the message "Request timed out" is displayed on the Web console window. If this message appeared, wait for about 10 minutes and check the firmware versions. If you can confirm that the firmware programs have been updated to intended versions, there is no problem. If you cannot connect to the Web console, contact with your customer engineer or sales personnel.

If you do not specify the update of management module firmware, the following window appears.



7. If you specify an update of the management module firmware and connections are lost because of the reboot of the active management module, close the window.  
If you perform a firmware update without specifying the update file for management module firmware, you do not need to close the window.

### **To use the CLI console to update the management module firmware and dictionary**

1. Execute the `update mgmt-module firmware` command.



**To use the LCD touch console to check the current versions of the management module firmware and dictionary, and the system states (active and standby) of management modules:**

1. From the **Maintenance** menu, touch the **Management Module (MM)** button.  
The management module window appears.
2. From the pull-down menu, select **Firmware update**.
3. The F/W update window appears.



**Note:** You can update the management module firmware and dictionary at one time or separately.

If the management module is in a redundant configuration, the firmware update is performed for both systems even if you select either of the management modules on the management module window.

---

### **Related topics**

- [update mgmt-module firmware on page 5-126](#)

## **Confirming that the management module firmware and dictionary were updated**

To confirm that the management module firmware and dictionary were updated correctly, use the Web console, the CLI console, or the LCD touch console.

### **To use the Web console to confirm that the management module firmware and dictionary were updated:**

1. Click the **Resources** tab. From the **Modules** tree view, select **Management Modules**.  
If you can confirm in the management module information that the system states of the management modules after the update are the same as those before the update, the update of the management module firmware is complete. Check the system states of management modules 1 and 2.
2. Check that intended versions are displayed and then click the management module whose system state is displayed as active in the management module information.  
The current versions of management module firmware and dictionary are displayed in [Firmware version] and [Dictionary version] fields. Confirm that versions after the update are displayed.

### **To use the CLI console to confirm that the management module firmware and dictionary were updated:**

1. Execute the `show mgmt-module firmware` command.

**To use the LCD touch console to confirm that the management module firmware and dictionary were updated:**

1. From the **Maintenance** menu, touch the **Management Module (MM)** button.  
The management module window appears.

**Related topics**

- [show mgmt-module firmware on page 5-106](#)

## Updating server blade firmware

This section explains how to update server blade firmware.

### Points to check before updating server blade firmware

Server blade firmware can be updated from a management module console or HCSM.

Server blade firmware consists of BMC and UEFI. If you update server blade firmware, both BMC and UEFI are updated at the same time.

You can also use the Web console and the CLI console to update firmware for multiple server blades of the same type in the same server chassis at once.

Update of server blade firmware starts in background after the operation to update the firmware on a management module console. The operation on a management module console is complete for about 5 to 10 minutes. Then, update of server blade firmware is processed in background for about 10 to 30 minutes.

### Limitations on updating server blade firmware

The following limitations exist when you update server blade firmware:

- Power off server blades before you update server blade firmware.
- Update of server blade firmware over multiple types of server blades is not supported.

Firmware for a single type of server blades can be updated at the same time.

On the Web console, you can check the server blade type in **Product name** of the Hardware tab for the server blade.

To update firmware for multiple types of server blades, do for one type of server blades. After you confirm that the update is complete, do for another type of server blades.

- Because BMC restarts while server blade firmware is being updated, communication with management modules might be lost. In that case, the following warning SEL is collected but there is no problem.

Server blade: SVP-BMC communication error (IPMI over LAN)

- While server blade firmware is being updated, do not remove and operate server blades.
- If you update server blade firmware while server blades are running, the update of the UEFI in the firmware of each server blade is applied when the server blades are powered on the next time. In that case, the time required to power on the server blades takes longer than usual.
- If you attempt to power on a server blade while server blade firmware is being updated, the server blade is powered on after the update processing is complete.
- Do not power off a server blade during the first Post after background processing. If you do so, depending on timing, the server blade might not start normally.
- If a failover of management modules occurs while server blade firmware is being updated from a management module console, the update fails. Remove the failure factor and retry.
- In an SMP configuration, if you select a primary server blade, the firmware for all server blades constituting the SMP is updated.
- For non-primary server blades, if you update the firmware in an SMP configuration and then release the SMP configuration, the time required to start up the non-primary server blade is greater than usual.
- If either of the following cases applies, after updating the server blade firmware, change the Consistent Device Naming setting in the UEFI settings to Disable before restarting the OS:
  - If you are updating the server blade firmware of CB 520H B3 from version 08-36 or earlier to version 08-56 or later
  - If you are updating the server blade firmware of CB 520X B2 from version 09-14 or earlier to version 09-35 or later

For details on how to change the Consistent Device Naming setting, see the *Hitachi Compute Blade 2500 Series UEFI Setup Guide*.
- For CB 520H B3, if you update the firmware to server blade firmware 08-58 or earlier, some UEFI settings might return to their default values. In this case, power off the server blade and after updating the firmware, restore the UEFI settings by referring to [Restoring server blade settings on page 4-48](#) before turning the power on.
- To downgrade the server blade firmware of CB 520H B3 from version 08-81 or later to version 08-75 or earlier, perform the following procedure:
  - a. First downgrade the server blade firmware of CB 520H B3 to version 08-77.
  - b. Power on the server blade, and then start the operating system.
  - c. Shut down the operating system. Power off the server blade.
  - d. Downgrade the server blade firmware to version 08-75 or earlier.

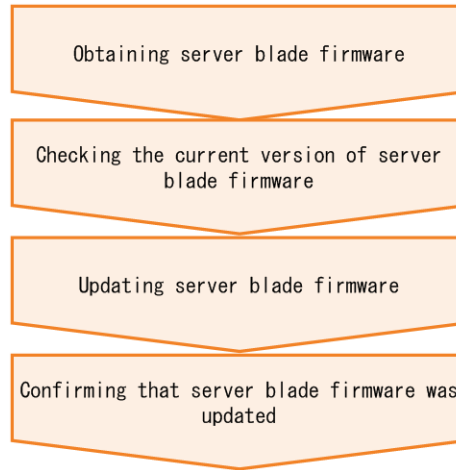
## Related topics

- [General procedure for updating server blade firmware on page 4-42](#)

- [Restoring server blade settings on page 4-48](#)

## General procedure for updating server blade firmware

The following figure shows the general procedure for updating server blade firmware and how to update it.



The following table shows update operations on a management module and availability of each console.

**Table 4-14 Updating server blade firmware**

| Operation                                             | Web console | CLI console | LCD touch console |
|-------------------------------------------------------|-------------|-------------|-------------------|
| Checking the current version of server blade firmware | Y           | Y           | Y                 |
| Updating server blade firmware                        | Y           | Y           | Y                 |
| Confirming that server blade firmware was updated     | Y           | Y           | Y                 |



**Note:**

- For details on how to use HCSM to update management module firmware and dictionary, see the HCSM manual.

### Related topics

- [Obtaining server blade firmware on page 4-43](#)
- [Checking the current version of server blade firmware on page 4-43](#)
- [Updating server blade firmware on page 4-43](#)
- [Confirming that server blade firmware was updated on page 4-45](#)

## Obtaining server blade firmware

Contact your reseller for details on where to download the latest management module firmware and dictionary.

After the firmware file is downloaded, decompress the files.



### Note:

- If you use the firmware file for a different model to update the firmware, the update fails. In such a case, use an appropriate file and retry to update the firmware.
  - Do not change the file name. If you change the name of a downloaded file, management modules cannot recognize the file as a firmware file.
  - Files for other system units (e.g. CB 2000) cannot be applied.
- 

## Checking the current version of server blade firmware

Before you update server blade firmware, check that the version of the obtained update server blade firmware is later than the current version.

### To check the current version of server blade firmware from the Web console:

1. Click the **Resources** tab. From the **Systems** tree view, select **Firmware**. **Total version** of the **Server Blade** tab displays the current firmware version for each server blade. For all server blades whose firmware is to be updated, check that the version of the update server blade firmware is later than the current version.

### To check the current version of server blade firmware from the Web console:

1. Execute the `show blade firmware` command.

### To check the current version of server blade firmware from the LCD touch console:

1. From the **Maintenance** menu, touch the **Server Blade (SB)** button.
2. In the Server blade window, select a target server blade.
3. From the pull-down menu, select **Detail information**.
4. The Detail information window appears.

### Related topics

- [show blade firmware on page 5-64](#)

## Updating server blade firmware

Use the Web console, the CLI console, or the LCD touch console to update server blade firmware.

### To update server blade firmware from the Web console:

1. Click the **Resources** tab. From the **Systems** tree view, select **Firmware**.
2. Select the server blades whose firmware is to be updated. With the server blades selected, click the **Update Server Blade firmware** button.
3. Click the **Browse** button in the **Update Firmware** dialog box and select the update file.  
Follow the OS procedure to open the file.
4. In the **Update Firmware** dialog box, click the **Confirm** button.
5. Confirm that the selected update file is displayed for **Server Blade Firmware** and all target server blades are displayed for **Server Blade**, and then click the **OK** button.
6. The firmware upload starts. When the upload progress bar reaches the right end, firmware update starts and the update progress bar appears. The update progress bar indicates the update progress for all target server blades. Wait for few minutes until the update finishes.
7. The firmware update result is displayed for each target server blade. Confirm that the firmware for all target server blades has been successfully updated, and then click the **Close** button.
8. Update processing starts in the background. Check the progress. In **Modules** of the **Resources** panel, click **All Modules**.
9. In **Modules** of **All Modules**, click [Server Blades].
10. Wait for about 10 to 30 minutes until **Status** in **Server Blades Information** changes from **Normal (updating)** to **Normal** for all target server blades.



#### Note:

- Because the contents of the **Status** tab is not automatically updated, you need to click the **Refresh** button periodically to update the display.
- The SEL "Server blade: SVP-BMC communication error (IPMI over LAN)" might be collected. If this SEL was collected, "Warning (updating)" might be displayed for **Status** in **Server Blades information**. Even in this case, if Status changes to "Normal", the update finished.

---

The update finished if Status changes to `Normal`.

### To update server blade firmware from the CLI console:

1. Execute the `update blade firmware bulk` command.

### To update server blade firmware from the LCD touch console:

1. From the **Maintenance** menu, touch the **Server Blade (SB)** button. The Server blade window appears.
2. From the pull-down menu, select **Firmware update**.
3. The Updating firmware window appears.



**Note:** Server blade firmware must be stored in the USB device that is connected to a USB connection port on the front panel of the server chassis.

---



**Note:** If the user directory for management modules does not have sufficient capacity, an attempt to update the server blade firmware might fail. If the update of the server blade firmware fails, use the file management functionality to check files in the user directory, delete unnecessary files, and then retry the update operation.

---

### Related topics

- [update blade firmware bulk on page 5-94](#)
- [Deleting a file from a management module on page 4-51](#)

## Confirming that server blade firmware was updated

To confirm that management module firmware and dictionary were updated correctly, use the Web console, the CLI console, or the LCD touch console.

### To confirm that server blade firmware was updated, from the Web console:

1. Click the **Resources** tab. From the **Systems** tree view, select **Firmware**.
2. **Total version** of the **Server Blade** tab displays the current firmware version for each server blade.  
For all server blades whose firmware was to be updated, check that the updated version is displayed.

### To confirm that server blade firmware was updated, from the CLI console:

1. Execute the `show blade firmware` command.

### To confirm that server blade firmware was updated, from the LCD touch console:

1. From the **Maintenance** menu, touch the **Server Blade (SB)** button.
2. In the Server blade window, select a target server blade.
3. From the pull-down menu, select **Detail information**.
4. The Detail information window appears.

### Related topics

- [show blade firmware on page 5-64](#)

## Restoring settings by management modules

This section explains how to restore settings by management modules.

## Information that can be restored by management modules

The following table shows settings that can be restored by management modules and availability of each console.

**Table 4-15 Information that can be saved or restored by management modules**

| Operation                            | Web console | CLI console | LCD touch console |
|--------------------------------------|-------------|-------------|-------------------|
| Saving management module settings    | Y           | --          | --                |
| Restoring management module settings | Y           | --          | --                |
| Saving LPAR manager settings         | Y           | --          | --                |
| Restoring LPAR manager settings      | Y           | --          | --                |

For details on how to restore LPAR manager settings, see the *Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide*.

### Related topics

- [Saving management module settings on page 4-46](#)
- [Restoring management module settings on page 4-47](#)

## Saving management module settings

Use the Web console to save management module settings.

It takes few minutes to save the settings.



**Note:** If you change the settings from a console or change server blade's power status during processing to save the settings, saving the settings might fail. Save management module settings under the state in which these changes do not occur.

### To save management module settings from the Web console

1. Click the **Resources** tab. From the **Modules** tree view, select **Management Modules**.
2. From the **Action** pull-down menu, select **Backup Settings**.  
The backup of the management module configuration information is downloaded.



**Note:** When using the web console from the web browser, press the **save** button within two minutes after the dialog for selecting a location for a downloaded file to be saved opens on the browser.  
If Internet Explorer is used and you press the button after two or more minutes pass, the file is not saved as the correct size. Instead, the message



"Internet Explorer cannot download [IP address] - [File name]. Server returned invalid or unrecognized response." is returned or the file is incorrectly saved as a smaller size.  
In such a case, download the file again.

---

## Restoring management module settings

Use the Web console to restore management module settings.

It takes few minutes to restore management module settings. When the restoration is complete, management modules reboot.

---



### Note:

- Because management modules reboot after their settings are restored, management modules stops. Do not restore management module settings while server blades are running.
  - If you restore management module settings, LPAR manager settings are also restored to the settings that were saved when management module settings were backed up.
  - If the current version of management module firmware is later than the version of the management module firmware used when management module settings were collected in a backup file and you use the backup file to restore management module settings, functionality that was not supported when the backup file was generated are set to their default values.
- 

### To restore management module settings from the Web console:

1. Click the **Resources** tab. From the **Modules** tree view, select **Management Modules**.
2. From the **Action** pull-down menu, select **Restore settings**.  
The backup is used to restore management module settings.

## Restoring settings for server blades

This section explains how to restore settings for server blades.

### Information that can be restored for server blades

You can restore the server blade BMC and EFI settings that can be specified from the Web console.

### Related topics

- [Setting the BMC of a server blade on page 2-72](#)
- [Setting the UEFI for a server blade on page 2-89](#)

## Saving server blade settings

Server blade settings are backed up automatically whenever the BMC and EFI settings are changed and whenever the Smart configure command is executed. Up to five generations of backups are retained.

## Restoring server blade settings

Use the Web console or CLI console to restore server blade settings.

The BMC and EFI settings of the server blade are restored by using the data that was backed up automatically. Follow the instructions in the displayed dialog box to restore the server blade settings.



**Note:** If you restore the server blade settings after updating the server blade firmware to a version newer than the version of the firmware when the server blade backup file was created, settings for functions that were not supported by the older firmware will be restored to their default values.

---

### To restore server blade settings from the Web console:

1. Click the **Resources** tab. From the **Modules** tree view, select **Server Blades**.
2. From the **Action** pull-down menu, select **Restore server blade settings**.
3. Select one of the backups of the settings to restore those settings.

To restore server blade settings from the CLI console, use the following commands to restore the backups:

- `restore blade bmc`
- `restore blade efi`

### Related topics

- [restore blade bmc on page 5-274](#)
- [restore blade efi on page 5-274](#)

## File management functionality

This section describes the file management functionality.

### About the file management functionality

This functionality allows you to use the Web console to view a list of the files (firmware manual, attachments, etc.) that are stored in the user directory for management modules. You can perform the following operations for files:

- Uploading a file to a management module
- Downloading a file from a management module

- Copying a file from the active management module to the standby management module



**Note:** Note that the operation to copy files from the active management module to the standby management module is only for maintenance work. Do not perform this operation.

---

The following items can be displayed by using the Web console:

- A maximum of 1,024 files are displayed.
- A maximum of 1,024 characters are displayed for a directory path. A maximum of 256 characters are displayed for a file name. Directory paths and file names that exceed the maximum number of characters are not displayed.

### Related topics

- [Structure of the user directory for management modules on page 4-49](#)
- [Uploading a file to a management module on page 4-50](#)
- [Downloading a file from a management module on page 4-50](#)
- [Deleting a file from a management module on page 4-51](#)

## Structure of the user directory for management modules

The structure of the user directory for management modules is as follows:

```
/iusb
 /attached
 /fw
 /iso
 /manual
```

At shipping time, attachments and manuals are stored in the following directories.

Attachments: `/iusb/attached`

Manuals: `/iusb/manual`



**Note:** Files stored in the directories below are used for maintenance work. Note that the attachments and manuals are excluded. Do not perform any operations (e.g., deletion) on the documents.

- `/iusb/attached`
  - `/iusb/fw`
  - `/iusb/iso`
  - `/iusb/manual`
- 

### Related topics

- [About the file management functionality on page 4-48](#)

- [Uploading a file to a management module on page 4-50](#)
- [Downloading a file from a management module on page 4-50](#)
- [Deleting a file from a management module on page 4-51](#)

## Uploading a file to a management module

To upload a file to a management module, use the Web console.

### To upload a file by using the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **File Management**.
2. Click the **Upload file** button.
3. In the **File upload** dialog box, select the directory to which the file is to be uploaded from the pull-down menu. Click the **Browse** button and select the file to be uploaded.
4. In the **File upload** dialog box, click the **Confirm** button.



### Tip:

- A maximum of 256 directories are displayed as upload destination directories.
  - The uploaded file is saved in both the active and standby management modules.
- 

### Related topics

- [About the file management functionality on page 4-48](#)

## Downloading a file from a management module

To download a file from a management module, use the Web console.

### To download a file by using the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **File Management**.
2. Click the file to be downloaded. With the file selected, click the **Download file** button.

The file is saved to the PC that is connected to the Web console. To specify the location where the file is to be saved, follow the instructions displayed in the window.



**Tip:** You can download manuals from the Web console menu.

---

### To download a manual from the Web console menu:

1. In the Web console menu, select **Help** and **User's guide**, and then click the user's guide that you want to read.



**Note:** When using the web console from the web browser, press the **save** button within two minutes after the dialog for selecting a location for a downloaded file to be saved opens on the browser. If Internet Explorer is used and you press the button after two or more minutes pass, the file is not saved as the correct size. Instead, the message "Internet Explorer cannot download [IP address] - [File name]. Server returned invalid or unrecognized response." is returned or the file is incorrectly saved as a smaller size. In such a case, download the file again.

---

### Related topics

- [About the file management functionality on page 4-48](#)

## Deleting a file from a management module

To delete a file from a management module, use the Web console.

### To delete a file by using the Web console:

1. From the **Systems** tree view in the **Resources** tab, click **File Management**.
2. Click the file to be deleted. With the file selected, click the **Delete file** button to delete the file.



**Tip:** If a file that has the same name as the file to be deleted exists in the standby management module, delete the file from the standby management module.

---



**Note:** Files stored in the directories below are used for maintenance work. Note that the attachments and manuals are excluded. Do not perform any operations (e.g., deletion) on the documents.

- /iusb/attached
  - /iusb/fw
  - /iusb/iso
  - /iusb/manual
- 

### Related topics

- [About the file management functionality on page 4-48](#)



# Commands That Can Be Executed From the CLI Console

This chapter describes the commands that can be executed from the CLI console and how to use them.

- ☐ [Command input format](#)
- ☐ [Commands to manage the server chassis](#)
- ☐ [Commands to manage server blades](#)
- ☐ [Commands to manage management modules](#)
- ☐ [Commands to manage management LAN modules](#)
- ☐ [Commands to manage I/O adapters](#)
- ☐ [Commands to manage switch modules](#)
- ☐ [Commands for power supply management](#)
- ☐ [Commands to manage fan modules](#)
- ☐ [Commands for cooling fan control module management](#)
- ☐ [Commands to manage the LCD touch console](#)
- ☐ [Commands for user management](#)
- ☐ [Commands for time settings](#)

- ☐ [Commands for language setting](#)
- ☐ [Commands for security settings](#)
- ☐ [Commands for network management](#)
- ☐ [Commands for remote access management](#)
- ☐ [Commands for SNMP management](#)
- ☐ [Commands for LPAR manager management](#)
- ☐ [Commands to collect log data](#)
- ☐ [Commands to obtain backups](#)
- ☐ [Commands for console management](#)
- ☐ [Commands to identify parts](#)



## Command input format

This section describes the input format of the commands that can be executed from the CLI console.

### Command conventions

The following table explains the command conventions that are used in this manual.

**Table 5-1 Command conventions**

| Convention | Description                                                                                                                                                                                                                                                                                                                                             |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| < >        | Indicates a parameter value that is specified by the user.<br>For details about the parameter values to be specified, see "Parameters" for each command.                                                                                                                                                                                                |
| [ ]        | Indicates a parameter that can be omitted.                                                                                                                                                                                                                                                                                                              |
| [   ]      | Indicates that you can either select one of the parameters from within the square brackets or omit all parameters.<br>You cannot select multiple parameters from within the curly brackets. A vertical bar ( ) is used to separate parameters.<br>Example: [-h -s]<br>In this example, you can select either -h or -s, or you can omit both parameters. |
| {   }      | Indicates that you can select one of the parameters from within the curly brackets. You cannot select multiple parameters from within the curly brackets.<br>A vertical bar ( ) is used to separate parameters.<br>Example: {-a -f <file_name>}<br>In this example, you can select either -a or -f <file_name>.                                         |

### notes on using commands

This section describes points that you should check before executing commands, such as the formats for specifying numbers and fullwide blades.

#### When you specify multiple numbers

To specify multiple numbers for a command, use either of the following two formats:

| Specification format                         | Example                                                                                          |
|----------------------------------------------|--------------------------------------------------------------------------------------------------|
| Use commas to separate the numbers.          | If you specify "0,2,3" for a command, command processing is performed for 0, 2, and 3.           |
| Specify a range of values by using a hyphen. | If you specify "1-7" for a command, command processing is performed for 1, 2, 3, 4, 5, 6, and 7. |

You cannot use both commas and hyphens when specifying multiple numbers.

You can specify multiple numbers for the following parameters:

- Server blade number
- Switch module number
- Management module number
- Management LAN module number
- Fan module number
- Fan control module number
- I/O adapter number
- Address number to which notifications are to be sent by email

Server blade numbers refer to the server blade slot numbers on the server chassis. For details about the slot configuration of the server chassis, see the *Hitachi Compute Blade 2500 Series Getting Started Guide*.

### To specify all numbers:

For some commands, if you specify `all` instead of a number (such as a slot number of a server blade), command processing is performed for all slot numbers. Depending on the command, you might not be able to specify `all` instead of a slot number. For details, see the explanation for each command.



**Tip:** A command cannot be executed for a slot in which no server blade is installed. If such a slot exists and if you execute a command with `all` specified, the following message appears even if the command ends successfully for all other slots in which server blades are installed:  
S0004 : Command succeeded partially.

---

### To specify a fullwide blade:

A fullwide blade uses two server blade slots. To specify a fullwide blade as a server blade for a CLI command, specify the smaller of the two slot numbers (the odd number) used for the fullwide blade.

### To set the character encoding

Set utf-8 for the character encoding.

## Commands to manage the server chassis

This section describes the commands to confirm and change the server chassis settings.

## init addmac

Initializes Optional Physical MAC addresses. Optional Physical MAC addresses are automatically created based on the first Optional Physical MAC address.

Use one of the following methods to specify the range of the Optional Physical MAC addresses that you want to initialize:

1. Initialize all Optional Physical MAC addresses in the entire chassis.  
Specify the `-c` parameter. The Optional Physical MAC addresses of every onboard LAN, mezzanine card, and I/O adapter in the chassis are initialized.
2. Initialize Optional Physical MAC addresses by server blade.  
Specify the `-b` parameter. The Optional Physical MAC addresses of every onboard LAN, mezzanine card, and I/O adapter that are installed in or connected to the specified server blade are initialized.  
You can specify multiple server blades. If you specify the primary blade in an SMP configuration, the Optional Physical MAC addresses of all server blades constituting the SMP configuration are initialized.

### Syntax

```
init addmac {-c|-b <blade_no>} [-F]
```

### Privilege

Chassis privilege

### Parameters

`-c`

Initializes all Optional Physical MAC addresses in the entire chassis.

`-b <blade_no>`

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or if you do not specify any server blade numbers, the Optional Physical MAC addresses of all server blades are initialized.

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To initialize all Optional Physical MAC addresses in the entire chassis:

```
$ init addmac -c -F
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

To initialize the Optional Physical MAC addresses of server blade 1:

```
$ init addmac -b 1 -F
I0037 : <Blade 1> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## init addwwn

Initializes Optional Physical WWNs. Optional Physical WWNs are automatically created based on the first Optional Physical WWN.

Use one of the following methods to specify the range of Optional Physical WWNs that you want to initialize:

1. Initialize all Optional Physical WWNs in the entire chassis.  
Specify the `-c` parameter. The Optional Physical WWNs of every onboard LAN, mezzanine card, and I/O adapter in the chassis are initialized.
2. Initialize Optional Physical WWNs by server blade.  
Specify the `-b <blade_no>` parameter. The Optional Physical WWNs of every onboard LAN, mezzanine card, and I/O adapter that are installed in or connected to the specified server blade are initialized.  
You can specify multiple server blades. If you specify the primary blade in an SMP configuration, the Optional Physical WWNs of all server blades constituting the SMP are initialized.

### Syntax

```
init addwwn {-c|-b <blade_no>} [-F]
```

### Privilege

Chassis privilege

### Parameters

`-c`

Initializes all Optional Physical WWNs in the entire chassis.

`-b <blade_no>`

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or if you do not specify any server blade numbers, the Optional Physical WWNs of all server blades are initialized.

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To initialize all Optional Physical WWNs in the entire chassis:

```
$ init addwwn -c -F
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

To initialize the Optional Physical WWNs of server blade 1:

```
$ init addwwn -b 1 -F
I0037 : <Blade 1> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## set chassis id

Changes the chassis ID.

### Syntax

```
set chassis id -c <cid> [-F]
```

### Privilege

Chassis privilege

### Parameters

-c <cid>

Chassis ID

You can use a maximum of 20 characters.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To set the chassis ID to SERVER1:

```
set chassis id -c SERVER1
```

## set chassis maintenance-mode

Sets maintenance mode for the chassis when maintenance work for the modules below is performed. Do not use this command for normal operation because this command is used for maintenance work.

- Power supply modules
- Fan modules
- Fan control modules

If you set maintenance mode, the remaining time for maintenance mode is set to 120 minutes.

## Syntax

```
set chassis maintenance-mode -m <mnt_mode> [-F]
```

## Privilege

Chassis privilege

## Parameters

-m <mnt\_mode>

Maintenance mode

- enable: Sets maintenance mode
- disable: Cancels maintenance mode

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set maintenance mode for the chassis:

```
$ set chassis maintenance-mode -m enable -F
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## set chassis usb validity

Enables or disables a USB port of the active management module.

## Syntax

```
set chassis usb validity -p <usb_port> -v <validity> [-F]
```

## Privilege

Chassis privilege

## Parameters

-p <usb\_port>

USB port number

You can specify a value from 1 to 2.

-v <validity>

Setting to enable or disable a USB port

- enable: Enables the USB port.
- disable: Disables the USB port.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To disable USB port 1:

```
$ set chassis usb validity -p 1 -v disable
Confirm? (y/[n]):y
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## set mac additional

Sets the Optional Physical MAC addresses of the mezzanine card, onboard LAN, and I/O adapter that are installed in the server blade.

### Syntax

```
set mac additional -b <blade_no> -c <card_type> -n <card_no> -co
<controller> -p <port> -m <mac> [-F]
```

### Privilege

Chassis privilege

### Parameters

-b <blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

-c <card\_type>

Card type

- mezzanine: Mezzanine card
- iobd: I/O adapter

-n <card\_no>

Card number

You can specify a value in the following range:

- For the mezzanine card: 1 to 4
- For the I/O adapter: 01A to 16B (Although no I/O adapter exists in server blade 15, a value 15A, 15B, 16A, or 16B is also displayed.)

-co <controller>

Controller number of the card

-p <port>

Port number of the controller

-m <mac>

MAC address

- XX:XX:XX:XX:XX:XX: XX indicates a hexadecimal number.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the Optional Physical MAC addresses of mezzanine card 1, controller 0, and port 1 for server blade 1:

```
$ set mac additional -b 1 -c mezzanine -n 1 -co 0 -p 1 -m
12:34:56:78:9a:bc
Confirm? (y/[n]):y
I0037 : <Blade 1> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

To specify settings for onboard LAN 1, use mezzanine card 1 to specify the following: -c mezzanine -n 1.

## set wwn additional

Sets the Optional Physical WWN information of the mezzanine card, onboard LAN, and I/O adapters that are installed in the server blade.

## Syntax

```
set wwn additional -b <blade_no> -c <card_type> -n <card_no> -p
<port> -wp <wwpn> -wn <wwnn> [-F]
```

## Privilege

Chassis privilege

## Parameters

-b <blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

-c <card\_type>

Card type

- mezzanine : Mezzanine card
- iobd: I/O adapter



-n <card\_no>

Card number

You can specify a value in the following range:

- For the mezzanine card: 1 to 4
- For the I/O adapter: 01A to 16B (Although no I/O adapter exists in server blade 15, a value 15A, 15B, 16A, or 16B is also displayed.)

-p <port>

Port number of the card

You can specify a value in the range from 0 to 3.

-wp <wwpn>

WWPN

- XX:XX:XX:XX:XX:XX:XX:XX: XX indicates a hexadecimal number.

-wn <wwnn>

WWNN

- XX:XX:XX:XX:XX:XX:XX:XX : XX indicates a hexadecimal number

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the Optional Physical WWNs of mezzanine card 1 and port 1 for server blade 1:

```
$ set wwn additional -b 1 -c mezzanine -n 1 -p 1 -wp
12:34:56:78:9a:bc:de:f0
-wn 0f:ed:cb:a9:87:65:43:21
Confirm? (y/[n]):y
I0037 : <Blade 1> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

To specify settings for onboard LAN 1, use mezzanine card 1 to specify the following: -c mezzanine -n 1.

## show chassis maintenance-mode

Displays whether maintenance work for the following modules is performed:

- Power supply modules
- Fan modules
- Fan control modules

The following information is displayed:

- Maintenance mode settings
- Remaining time for maintenance mode

## Syntax

```
show chassis maintenance-mode
```

## Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the maintenance mode of the chassis:

```
$ show chassis maintenance-mode
-- Chassis maintenance mode --
Maintenance mode : enable
Remaining time (min) : 115
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-2 Chassis maintenance mode**

| Displayed item       | Description                                                                                                                                                                                                        |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maintenance mode     | Maintenance mode <ul style="list-style-type: none"> <li>• enable: Maintenance work is performed</li> <li>• disable: Maintenance work is not performed</li> </ul>                                                   |
| Remaining time (min) | Remaining time for maintenance mode (minutes) <ul style="list-style-type: none"> <li>• 0 to 120: The remaining time for maintenance mode (minutes)</li> <li>• -----: Maintenance work is not performed.</li> </ul> |

## show chassis setting

Displays the server chassis settings.

## Syntax

```
show chassis setting
```

## Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the server chassis settings:

```
$ show chassis setting
-- chassis setting --
Chassis ID : CID
Maintenance classification : long
WDT time-out N+M switch : enable
-- chassis FRU setting --
Part/model number : XXXXXXXX
Serial number : XXXXXXXX
Model ID : 00
Midplane ID : 00
First WWN : 0011223344556677
-- Weight --
Weight [kg] : 103.90
-- chassis sensor information --
-- Watt --
PresentAC Power : 247.00
PresentDC Power : 44.00
-- Temp --
Present Ambient : 25.00
-- Flow --
PresentAir Flow : 7.75
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-3 chassis setting**

| Displayed item             | Description                                                                                                                                      |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Chassis ID                 | Chassis ID<br>A maximum of 20 characters are displayed.                                                                                          |
| Maintenance classification | Long-life support service setting <ul style="list-style-type: none"><li>normal: Normal service</li><li>long: Long-life support service</li></ul> |
| WDT time-out N+M switch    | WDT timeout N+M failover setting <ul style="list-style-type: none"><li>enable: A WDT timeout N+M failover is performed.</li></ul>                |

| Displayed item | Description                                                                                             |
|----------------|---------------------------------------------------------------------------------------------------------|
|                | <ul style="list-style-type: none"> <li>disable: A WDT timeout N+M failover is not performed.</li> </ul> |

**Table 5-4 chassis FRU setting**

| Displayed item    | Description                                                                                                                                                                                                                                                    |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Part/model number | Equipment model name<br>A maximum of 32 characters are displayed.                                                                                                                                                                                              |
| Serial number     | Serial number of the chassis<br>A maximum of 27 characters are displayed.                                                                                                                                                                                      |
| Model ID          | Chassis type                                                                                                                                                                                                                                                   |
| Midplane ID       | Midplane type                                                                                                                                                                                                                                                  |
| First WWN         | First Optional Physical WWN<br>The smallest number among the 512 Optional Physical WWNs assigned to the server chassis<br>The 11-byte information that consists of 3-byte attribute information and 8-byte WWN information is displayed in hexadecimal format. |

**Table 5-5 Weight**

| Displayed item | Description                                    |
|----------------|------------------------------------------------|
| Weight [kg]    | Weight (kg)<br>Includes the installed modules. |

**Table 5-6 chassis sensor information**

| Displayed item | Description                                                               |
|----------------|---------------------------------------------------------------------------|
| Watt           | Lists the power sensor names and sensor values for the server chassis.    |
| Temp           | Lists the thermal sensor names and sensor values for the server chassis.  |
| Flow           | Lists the air flow sensor names and sensor values for the server chassis. |

## show chassis status

Displays the server chassis status.

### Syntax

```
show chassis status
```

## Privilege

Chassis privilege

## Parameters

None

## Execution example

[To display the server chassis status:]

```
$ show chassis status
-- Chassis status --
Power : On
Fail : Normal
Warning : Normal
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-7 Chassis status**

| Displayed item | Description                                                                                                                                                                                                                      |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power          | Power supply status of the module <ul style="list-style-type: none"><li>Off : The module is powered off.</li><li>On : The module is powered on.</li></ul> If all server blades in the chassis are powered off, Off is displayed. |
| Fail           | Failure status of the module <ul style="list-style-type: none"><li>Normal: The status of the module is normal.</li><li>FAIL: A failure occurred on the module.</li></ul>                                                         |
| Warning        | Warning status of the module <ul style="list-style-type: none"><li>Normal: The status of the module is normal.</li><li>WARNING : A warning was issued for the module.</li></ul>                                                  |

## show chassis usb validity

Displays the status of each USB port (enabled or disabled) of the active management module.

## Syntax

```
show chassis usb validity
```

## Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the setting to enable or disable USB ports:

```
$ show chassis usb validity
-- Chassis USB validity --
USB port : 1
Validity : enable
-- Chassis USB validity --
USB port : 2
Validity : enable
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

**Table 5-8 Chassis USB validity**

| Displayed item | Description                                                                                                                                                   |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USB port       | USB port number<br>This is a value from 1 to 2.                                                                                                               |
| Validity       | Setting to enable or disable a USB port <ul style="list-style-type: none"><li>enable: Enables the USB port.</li><li>disable: Disables the USB port.</li></ul> |

## show mac additional

Displays the Optional Physical MAC addresses of the server blades.

- In an SMP configuration:  
If you specify the primary server blade or non-primary server blades, the MAC addresses of the specified server blades are displayed.
  - Command specification format: `show mac additional -b server-blade-numbers`  
When specifying the `-p` parameter, use the `-b` parameter to specify the primary server blade. The MAC addresses of all server blades that constitute an SMP configuration are displayed.
  - Command specification format: `show mac additional -b primary-server-blade-number -p`
- In a non-SMP configuration:

The MAC addresses of the server blades specified for the `-b` parameter are displayed.

Even if you specify the `-p` parameter, the displayed information does not change.

The following items are displayed:

- Card type
- Card number
- Controller number of the card
- Port number of the controller
- Whether editing is performed
- Whether a MAC address is duplicated
- MAC address

## Syntax

```
show mac additional [-b <blade_no>] [-p]
```

## Privilege

Chassis privilege

## Parameters

`-b <blade_no>`

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

`-p`

If you specify this parameter, the MAC addresses of all server blades that constitute an SMP configuration are displayed. In an SMP configuration, use the `-b` parameter to specify the primary server blade. In a non-SMP configuration, the MAC addresses of the individual server blades are displayed.

## Execution example

To display the Optional Physical MAC addresses of server blade 1:

```
$ show mac additional -b 1
-- Additional MAC List --
Slot : 1
Card Num Controller Port M C MAC address

mezzanine 1 0 0 * ! XX:XX:XX:XX:XX:XX
mezzanine 1 0 1 XX:XX:XX:XX:XX:XX
:
:
S0002 : Command succeeded.
```

```
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-9 Additional MAC List**

| Displayed item | Description                                                                                                                                                                                                                                                                         |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15.                                                                                                                                                                                                                                |
| Card           | Card type <ul style="list-style-type: none"><li>mezzanine : Mezzanine card</li><li>IOBD: I/O adapter</li></ul>                                                                                                                                                                      |
| Num            | Card number<br>This is a value in the following range: <ul style="list-style-type: none"><li>Mezzanine card : 1 to 4</li><li>I/O adapter: 01A to 16A, or 01B to 16B (Although no I/O adapter exists in server blade 15, a value 15A, 15B, 16A, or 16B is also displayed.)</li></ul> |
| Controller     | Controller number of the card                                                                                                                                                                                                                                                       |
| Port           | Port number of the controller                                                                                                                                                                                                                                                       |
| M              | Whether editing is performed <ul style="list-style-type: none"><li>Blank: No editing is performed.</li><li>*: Editing is performed.</li></ul>                                                                                                                                       |
| C              | Whether a MAC address is duplicated <ul style="list-style-type: none"><li>Blank: Not duplicated</li><li>!: Duplicated</li></ul>                                                                                                                                                     |
| MAC address    | MAC address <ul style="list-style-type: none"><li>XX:XX:XX:XX:XX:XX : Optional Physical MAC address</li></ul>                                                                                                                                                                       |

## Rules

In an SMP configuration, if you specify `-p` and a non-primary server blade, the command displays the following message instead of MAC addresses:

```
E0640 : <Blade %1$d> Command was canceled. Specified blade is not
the primary blade of SMP.
```

## Related topics

- [WWNs and MAC addresses that can be checked in management module consoles on page 2-98](#)



## show mac current

Displays the MAC addresses used by the onboard LANs, mezzanine cards, or I/O adapters that are installed in the server blades.

- In an SMP configuration:  
If you specify the primary server blade or non-primary server blades, the MAC addresses for the specified server blades are displayed.
  - Command specification format: `show mac current -b server-blade-numbers`  
When specifying the `-p` parameter, use the `-b` parameter to specify the primary server blade. The MAC addresses of all server blades that constitute an SMP configuration are displayed.
  - Command specification format: `show mac current -b primary-server-blade-number -p`
- In a non-SMP configuration:  
The MAC addresses for the server blades that are specified in the `-b` parameter are displayed.  
Even if you specify the `-p` parameter, the displayed information does not change.

### Syntax

```
show mac current [-b <blade_no>] [-p]
```

### Privilege

Chassis privilege

### Parameters

`-b <blade_no>`

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

`-p`

Displays the MAC addresses for all server blades constituting an SMP configuration. In an SMP configuration, specify the primary server blades in the `-b` parameter. In a non-SMP configuration, the MAC address for each server blade is displayed.

### Execution example

To display the MAC addresses used by the onboard LANs, mezzanine cards, or I/O adapters that are installed in server blade 1:

```
$ show mac current -b 1
-- Current MAC List --
Slot : 1
```

```

MAC type : additional
Card Num Controller Port MAC address

mezzanine 1 0 0 XX:XX:XX:XX:XX:XX
mezzanine 1 0 1 XX:XX:XX:XX:XX:XX
:
:
S0002 : Command succeeded.
S0000 : Command was finished.
$

```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-10 Current MAC List**

| Displayed item | Description                                                                                                                                                  |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15.                                                                                                         |
| MAC type       | MAC address type <ul style="list-style-type: none"> <li>original: Default Physical MAC address</li> <li>additional: Optional Physical MAC address</li> </ul> |
| Card           | Card type <ul style="list-style-type: none"> <li>mezzanine: Mezzanine card</li> <li>Onboard LAN: Onboard LAN</li> <li>IOBD: I/O adapter</li> </ul>           |
| Num            | Card number <ul style="list-style-type: none"> <li>Mezzanine card: 1 to 4</li> <li>Onboard LAN: 1</li> <li>I/O adapter: 01A to 14B</li> </ul>                |
| Controller     | Controller number of the card                                                                                                                                |
| Port           | Port number of the controller                                                                                                                                |
| MAC address    | MAC address <ul style="list-style-type: none"> <li>XX:XX:XX:XX:XX:XX:XX:XX: Default Physical MAC address or Optional Physical MAC address</li> </ul>         |

## Related topics

- [WWNs and MAC addresses that can be checked in management module consoles on page 2-98](#)

## show mac original

Displays the Default Physical MAC addresses used by the onboard LANs, mezzanine cards, or I/O adapters that are installed in the server blades.

- In an SMP configuration:  
If you specify the primary server blade or non-primary server blades, the MAC addresses for the specified server blades are displayed.
  - Command specification format: `show mac original -b server-blade-numbers`  
If you specify the `-p` parameter, use the `-b` parameter to specify the primary server blade. The Default Physical MAC addresses for all server blades constituting an SMP configuration are displayed.
  - Command specification format: `show mac original -b primary-server-blade-number -p`
- In a non-SMP configuration:  
The MAC addresses for the server blades that are specified in the `-b` parameter are displayed.  
Even if you specify the `-p` parameter, the displayed information does not change.

## Syntax

```
show mac original [-b <blade_no>] [-p]
```

## Privilege

Chassis privilege

## Parameters

`-b <blade_no>`

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

`-p`

Displays the MAC addresses for all server blades constituting SMP. In an SMP configuration, specify the primary server blades in the `-b` parameter. In a non-SMP configuration, the MAC address for each server blade is displayed.

## Execution example

To display the Default Physical MAC addresses for the cards installed in server blade 1:

```
$ show mac original -b 1
-- Original MAC List --
Slot : 1
Card Num Controller Port MAC address

mezzanine 1 0 0 XX:XX:XX:XX:XX:XX
mezzanine 1 0 1 XX:XX:XX:XX:XX:XX
:
```

```

:
S0002 : Command succeeded.
S0000 : Command was finished.
$

```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-11 Default Physical MAC List**

| Displayed item | Description                                                                                                                                        |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15.                                                                                               |
| Card           | Card type <ul style="list-style-type: none"> <li>mezzanine: Mezzanine card</li> <li>Onboard LAN: Onboard LAN</li> <li>IOBD: I/O adapter</li> </ul> |
| Num            | Card number <ul style="list-style-type: none"> <li>Mezzanine card: 1 to 4</li> <li>Onboard LAN: 1</li> <li>I/O adapter: 01A to 14B</li> </ul>      |
| Controller     | Controller number of the card                                                                                                                      |
| Port           | Port number of the controller                                                                                                                      |
| MAC address    | MAC address <ul style="list-style-type: none"> <li>XX:XX:XX:XX:XX:XX:XX:XX: Default Physical MAC address</li> </ul>                                |

## Rules

- In an SMP configuration, if you execute this command with `-p` and a non-primary server blade specified, the following message appears and the MAC address is not displayed:

```

E0640 : <Blade %1$d> Command was canceled. Specified blade is
not the primary blade of SMP.

```

## Related topics

- [WWNs and MAC addresses that can be checked in management module consoles on page 2-98](#)

## show wwn additional

Displays the Optional Physical WWNs of the server blades.

- In an SMP configuration:

If you specify the primary server blade or non-primary server blades, the WWNs of the specified server blades are displayed.

Command specification format: `show wwn additional -b server-blade-numbers`

When specifying the `-p` parameter, use the `-b` parameter to specify the primary server blade. The WWNs of all server blades that constitute an SMP configuration are displayed in order.

Command specification format: `show wwn additional -b primary-server-blade-number -p`

- In a non-SMP configuration:  
The WWNs of the server blades specified for the `-b` parameter are displayed.  
Even if you specify the `-p` parameter, the displayed information does not change.

The following items are displayed:

- Card type
- Card number
- Port number of the card
- Whether editing is performed
- Whether WWPN is duplicated
- WWPN
- Whether WWNN is duplicated
- WWNN

## Syntax

```
show wwn additional [-b <blade_no>] [-p]
```

## Privilege

Chassis privilege

## Parameters

`-b <blade_no>`

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

`-p`

If you specify this parameter, the WWNs of all server blades that constitute an SMP configuration are displayed. In an SMP configuration, use the `-b` parameter to specify the primary server blade. In a non-SMP configuration, the WWNs of the individual server blades are displayed.

## Execution example

To display the Optional Physical WWNs when mezzanine card 1 is installed in server blade 1:

```
$ show wwn additional -b 1
-- Additional WWN List --
Slot : 1
Card Num Port M C World wide port name C World wide node name

mezzanine 1 0 * 24:00:00:00:87:00:00:18 24:00:00:00:87:00:00:19
mezzanine 1 1 24:00:00:00:87:00:00:1a 24:00:00:00:87:00:00:1b
mezzanine 1 2 24:00:00:00:87:00:00:1c 24:00:00:00:87:00:00:1d
mezzanine 1 3 24:00:00:00:87:00:00:1e 24:00:00:00:87:00:00:1f
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-12 Additional WWN List**

| Displayed item       | Description                                                                                                                                                                                                                                                                                     |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot                 | Server blade number<br>This is a value from 1 to 15.                                                                                                                                                                                                                                            |
| Card                 | Card type <ul style="list-style-type: none"><li>mezzanine: Mezzanine card</li><li>IOBD: I/O adapter</li></ul>                                                                                                                                                                                   |
| Num                  | Card number<br>This is a value in the following range: <ul style="list-style-type: none"><li>Mezzanine card: 1 to 4</li><li>I/O adapter installed in the I/O adapter slot: 01A to 16B (Although no I/O adapter exists in server blade 15, a value from 15A to 16B is also displayed.)</li></ul> |
| Port                 | Port number of the card                                                                                                                                                                                                                                                                         |
| M                    | Whether editing is performed <ul style="list-style-type: none"><li>Blank: No editing is performed.</li><li>*: Editing is performed. (* is displayed if WWPN, WWNN, or both are changed from the initial values.)</li></ul>                                                                      |
| C                    | Whether WWPN is duplicated <ul style="list-style-type: none"><li>Blank: Not duplicated</li><li>!: Duplicated</li></ul>                                                                                                                                                                          |
| World wide port name | WWPN                                                                                                                                                                                                                                                                                            |

| Displayed item       | Description                                                                                                               |
|----------------------|---------------------------------------------------------------------------------------------------------------------------|
|                      | <ul style="list-style-type: none"> <li>XX:XX:XX:XX:XX:XX:XX:XX : Additional WWN</li> </ul>                                |
| C                    | Whether WWNN is duplicated <ul style="list-style-type: none"> <li>Blank: Not duplicated</li> <li>!: Duplicated</li> </ul> |
| World wide node name | WWNN <ul style="list-style-type: none"> <li>XX:XX:XX:XX:XX:XX:XX:XX : Additional WWN</li> </ul>                           |

## Rules

- In an SMP configuration, if you specify `-p` and a non-primary server blade, this command displays the following message and does not display WWNs:  

```
E0640 : <Blade %1$d> Command was canceled. Specified blade is not the primary blade of SMP.
```
- If an onboard LAN is installed, the Optional Physical WWN for which a mezzanine is displayed as the card type and 1 is displayed as the card number is assigned to the onboard LAN.

## Related topics

- [WWNs and MAC addresses that can be checked in management module consoles on page 2-98](#)

## show wwn current

Displays the WWNs used by the onboard LANs, mezzanine cards, or I/O adapters that are installed in the server blades.

- In an SMP configuration:  
 If you specify the primary server blade or non-primary server blades, the WWNs for the specified server blades are displayed.
  - Command specification format: `show wwn current -b server-blade-numbers`  
 If you specify the `-p` parameter, use the `-b` parameter to specify the primary server blade. The WWNs for all server blades constituting an SMP configuration are displayed.
  - Command specification format: `show wwn current -b primary-server-blade-number -p`
- In a non-SMP configuration:  
 The WWNs for the server blades that are specified in the `-b` parameter are displayed.  
 Even if you specify the `-p` parameter, the displayed information does not change.

## Syntax

```
show wwn current [-b <blade_no>] [-p]
```

## Privilege

Chassis privilege

## Parameters

**-b <blade\_no>**

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

**-p**

Displays the WWNs for all server blades constituting an SMP configuration. In an SMP configuration, specify the primary server blades in the `-b` parameter. In a non-SMP configuration, the WWN for each server blade is displayed.

## Execution example

To display the WWNs used by the cards installed in server blade 1:

```
$ show wwn current -b 1
-- Current WWN List --
Slot : 1
WWN type : additional
Card Num Port World wide port name World wide node name

mezzanine 1 0 24:00:00:00:87:00:00:18 24:00:00:00:87:00:00:19
mezzanine 1 1 24:00:00:00:87:00:00:1a 24:00:00:00:87:00:00:1b
mezzanine 1 2 24:00:00:00:87:00:00:1c 24:00:00:00:87:00:00:1d
mezzanine 1 3 24:00:00:00:87:00:00:1e 24:00:00:00:87:00:00:1f
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

**Table 5-13 Current WWN List**

| Displayed item | Description                                                                                                                                                 |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15.                                                                                                        |
| WWN type       | WWN type <ul style="list-style-type: none"><li><code>original</code>: Default Physical WWN</li><li><code>additional</code>: Optional Physical WWN</li></ul> |
| Card           | Card type                                                                                                                                                   |



| Displayed item       | Description                                                                                                                                         |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | <ul style="list-style-type: none"> <li>• mezzanine: Mezzanine card</li> <li>• Onboard LAN: Onboard LAN</li> <li>• IOBD: I/O adapter</li> </ul>      |
| Num                  | Card number <ul style="list-style-type: none"> <li>• Mezzanine card: 1 to 4</li> <li>• Onboard LAN: 1</li> <li>• I/O adapter: 01A to 14B</li> </ul> |
| Port                 | Port number of the card                                                                                                                             |
| World wide port name | WWPN <ul style="list-style-type: none"> <li>• XX:XX:XX:XX:XX:XX:XX:XX: Default Physical WWN or Optional Physical WWN</li> </ul>                     |
| World wide node name | WWNN <ul style="list-style-type: none"> <li>• XX:XX:XX:XX:XX:XX:XX:XX: Default Physical WWN or Optional Physical WWN</li> </ul>                     |

## Rules

In an SMP configuration, if you execute this command with `-p` and a non-primary server blade specified, the following message appears and the WWN is not displayed:

```
E0640 : <Blade %1$d> Command was canceled. Specified blade is not
the primary blade of SMP.
```

## Related topics

- [WWNs and MAC addresses that can be checked in management module consoles on page 2-98](#)

## show wwn original

Displays the Default Physical WWNs used by the onboard LANs, mezzanine cards, or I/O adapters that are installed in the server blades.

- In an SMP configuration:
  - If you specify the primary server blade or non-primary server blades, the WWNs for the specified server blades are displayed.
    - Command specification format: `show wwn original -b server-blade-numbers`
 If you specify the `-p` parameter, use the `-b` parameter to specify the primary server blade. The Default Physical WWNs for all server blades constituting an SMP configuration are displayed.
    - Command specification format: `show wwn original -b primary-server-blade-number -p`
- In a non-SMP configuration:

The WWNs for the server blades that are specified in the `-b` parameter are displayed.  
 Even if you specify the `-p` parameter, the displayed information does not change.

## Syntax

```
show wwn original [-b <blade_no>] [-p]
```

## Privilege

Chassis privilege

## Parameters

`-b <blade_no>`

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

`-p`

Displays the WWNs for all server blades constituting an SMP configuration. In an SMP configuration, specify the primary server blades in the `-b` parameter. In a non-SMP configuration, the WWN for each server blade is displayed.

## Execution example

To display the Default Physical WWNs used by the cards installed in server blade 1:

```
$ show wwn original -b 1
-- Original WWN List --
Slot : 1
Card Num Port World wide port name World wide node name

mezzanine 1 0 24:00:00:00:87:00:00:18 24:00:00:00:87:00:00:19
mezzanine 1 1 24:00:00:00:87:00:00:1a 24:00:00:00:87:00:00:1b
mezzanine 1 2 24:00:00:00:87:00:00:1c 24:00:00:00:87:00:00:1d
mezzanine 1 3 24:00:00:00:87:00:00:1e 24:00:00:00:87:00:00:1f
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-14 Default Physical WWN List**

| Displayed item       | Description                                                                                                                                          |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot                 | Server blade number<br>This is a value from 1 to 15.                                                                                                 |
| Card                 | Card type <ul style="list-style-type: none"><li>• mezzanine: Mezzanine card</li><li>• Onboard LAN: Onboard LAN</li><li>• IOBD: I/O adapter</li></ul> |
| Num                  | Card number <ul style="list-style-type: none"><li>• Mezzanine card: 1 to 4</li><li>• Onboard LAN: 1</li><li>• I/O adapter: 01A to 14B</li></ul>      |
| Port                 | Port number of the card                                                                                                                              |
| World wide port name | WWPN <ul style="list-style-type: none"><li>• XX:XX:XX:XX:XX:XX:XX:XX: Default Physical WWN</li></ul>                                                 |
| World wide node name | WWNN <ul style="list-style-type: none"><li>• XX:XX:XX:XX:XX:XX:XX:XX: Default Physical WWN</li></ul>                                                 |

### Related topics

- [WWNs and MAC addresses that can be checked in management module consoles on page 2-98](#)

## shutdown chassis

Shuts down the server chassis.

### Syntax

```
shutdown chassis [-F]
```

### Privilege

Chassis privilege

### Parameters

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To shut down the server chassis:

```
shutdown chassis
```

## Rules

When execution of this command finishes, sessions with management modules are closed.

## Commands to manage server blades

This section describes the commands to confirm and change server blade settings.

### assign blade hvm firmware

Assigns the LPAR manager firmware to a server blade.

In an SMP configuration, if you specify a primary server blade, the LPAR manager firmware that is to be used by all server blades constituting an SMP configuration is assigned.

If you specify a non-primary server blade, the LPAR manager firmware is assigned to the non-primary server blade but this does not affect the behavior of the non-primary server blade. In this case, the following message appears to notify you that the LPAR manager firmware was assigned but does not affect the behavior of the server blade:

```
W0031 : <Blade X> Set data is not used. Specified blade is not the
primary blade of SMP. (X indicates the specified server blade
number.)
```

### Syntax

```
assign blade hvm firmware <blade_no> {-b <hvm_bank_no>|-d} [-F]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

-b <hvm\_bank\_no>

Area number for the LPAR manager firmware that is to be assigned to the server blade

You can specify a value from 0 to 3.

-d

Releases the LPAR manager firmware assignment for the server blade.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To assign the LPAR manager firmware in area 0 to server blade 1:

```
assign blade hvm firmware 1 -b 0
```

To release the LPAR manager firmware assignment for server blade 1:

```
assign blade hvm firmware 1 -d
```

## bmc-reset blade

Resets the BMCs of the server blades.

The following are methods for resetting BMC:

- Powering on the sub-power supply of a server blade
- Restarting the BMC of a server blade
- Restarting the BMC of a server blade constituting an SMP configuration

## Syntax

```
bmc-reset blade [<blade_no>] [-h|-s|-sb] [-F]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

-h

Restarts the BMC by powering off and then powering on the sub-power supply of a server blade.

If you omit both the `-h` and `-s` parameters, this command assumes that `-h` is specified.



**Note:** Executing this command while a server blade is powered on powers off the server blade.

---

-s

Restarts the BMC. You can omit this parameter.

In an SMP configuration, specify the server blade numbers of primary server blades. The BMCs of all server blades constituting the SMP configuration are sequentially restarted.

-sb

Restarts the BMC of the specified server blade only.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To power on the sub-power supply of server blade 1:

```
bmc-reset blade 1
```

To restart the BMCs of all server blades:

```
bmc-reset blade all -s
```

### Rules

- If the BMCs of all server blades constituting the SMP configuration are not restarted at the same time, the initialization might fail. If you specify the `-sb` parameter and only some of the server blades constituting the SMP configuration, the following warning message about the possibility of an initialization failure appears:

```
W0032 : <Blade X> A part of the blades of the SMP is specified.
Initialize may not complete. (X indicates the specified server
blade number.)
```

- In an SMP configuration, if you execute this command with the `-h` or `-s` parameter and a non-primary server blade specified, the following message appears, the sub-power supply is not powered on, and the BMC is not restarted:

```
E0640 : <Blade %1$d> Command was canceled. Specified blade is
not the primary blade of SMP.
```

## clear blade hvm

Initializes the LPAR manager settings for the server blades.

In an SMP configuration, if you specify a primary server blade, the settings of the LPAR manager that is used by all server blades constituting the SMP configuration are initialized. If you specify a non-primary server blade, the LPAR manager settings for the server blade are initialized but they do not affect the behavior of the non-primary server blade.

### Syntax

```
clear blade hvm [<blade_no>] [-F]
```

### Privilege

Server blade privileges

### Parameters

*<blade\_no>*

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.  
If you specify `all` or omit this parameter, command processing is performed for all server blades.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To initialize the LPAR manager settings for server blade 1:

```
clear blade hvm 1
```

## delete blade os-info

Clears the host information (host name, OS) stored in the management modules that is acquired from the server blade.

If the actual host information and the host information displayed on the console differ, use this command to delete the host information.

### Syntax

```
delete blade os-info <blade_no> [-F]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To clear the host information for server blade 1:

```
$ delete blade os-info 1 -F
I0117 : <Blade 1> Clearing host information was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## disconnect blade bmc session

Closes all remote console sessions connected to the specified server blade.

In an SMP configuration, specify the primary server blade. Closes remote console sessions connected to the primary server blade.

## Syntax

```
disconnect blade bmc session <blade_no>[-F]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To close all remote console sessions connected to server blade 1:

```
disconnect blade bmc session 1
```

## Rules

In an SMP configuration, if you execute this command with a non-primary server blade specified, the following message appears and the sessions are not closed:

```
E0640 : <Blade %1$d> Command was canceled. Specified blade is not
the primary blade of SMP.
```

## export blade efi setting

Exports the EFI setting values of the server blade to a file.

## Syntax

```
export blade efi setting <blade_no>
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.



-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To export the EFI setting values of server blade 1 to a file:

```
$ export blade efi setting 1
Confirm? (y/[n]):y
I0108 : <Blade 1> Writing EFI settings to file was completed.
I0009 : File name is "eficonf-1-20150301-090000.txt".
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## import blade efi setting

Imports the EFI setting values of the server blade into a file.

### Syntax

```
import blade efi setting <blade_no> -f <file_name> [-F]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

-f<file\_name>

Name of the file to which the EFI setting values are written.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To import the EFI setting values of server blade 1 into a file:

```
$ import blade efi setting 1 -f xxx.txt -F
I0037 : <Blade 1> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

- Before executing the command, you need to use the FTP protocol to send the file to which the EFI setting values are written.
- To create a file in which the EFI setting values are written, as a base, use the file output by the `export blade efi setting` command.
- If the model of the server blade is different from the one used when EFI setting values are exported, an attempt to import the EFI setting values will fail.

## init blade bmc setting

Initializes the BMC configuration information for the server blades.

Regardless of whether the specified server blades constitute an SMP configuration, the BMC configuration information for each specified server blade is initialized.

## Syntax

```
init blade bmc setting [<blade_no>] [-F]
```

## Privilege

Server blade privileges

## Parameters

*<blade\_no>*

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To initialize the BMC configuration information of server blade 1:

```
init blade bmc setting 1
```

## Rules

- When you execute this command, the BMC automatically starts. The SEL entry "Server blade: SVP-BMC communication error (IPMI over LAN)" might be collected, but this is not a problem.

## init blade efi setting

Initializes the UEFI configuration information for the server blades.

Regardless of whether the specified server blades constitute an SMP configuration, the UEFI configuration information for each specified server blade is initialized.

### Syntax

```
init blade efi setting [<blade_no>] [-F]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To initialize the EFI configuration information of server blade 1:

```
init blade efi setting 1
```

### Rules

In an SMP configuration, if you execute this command with a non-primary server blade specified, the command processing finishes normally but the configuration information for the server blade is not initialized.

If you execute this command for CB 520X B1/B2/B3, BMC automatically restarts and the SEL entry "Server blade: SVP-BMC communication error (IPMI over LAN)" might be collected. However, this does not cause any problems.

While the server blade is powered on, this command displays the following message and is not executed:

```
E0620 : <Blade X> Command was canceled. Response from BMC was abnormal.
```

If the above message appears while the server blade is powered off, contact with your customer engineer or sales personnel.

## poweroff blade

Powers off the server blades. The following are two methods for powering off server blades:

- Forced power-off
- Power-off

Select the method for powering off the server blade by specifying a parameter. Specify either `-h` or `-s`.

In an SMP configuration, specify primary server blades. All server blades constituting the SMP configuration are powered off.

### Syntax

```
poweroff blade [<blade_no>] [-h|-s] [-F]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

`-h`

Forcibly powers off the specified server blade.

`-s`

Shuts down the OS running on the specified server blade and then powers off the server blade. Note that, depending on the settings of the OS running on the server blade, the server blade might not be powered off. Before you use this command, check the OS settings.

If you omit both the `-h` and `-s` parameters, this command assumes that `-s` is specified.

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To shut down the OS running on server blade 1:

```
poweroff blade 1
```

To forcibly power off all server blades:

```
poweroff blade all -h
```

## Rules

In an SMP configuration, if you execute this command with a non-primary server blade specified, the following message appears and the server blade is not powered off:

```
E0640 : <Blade %1$d> Command was canceled. Specified blade is not
the primary blade of SMP.
```

## poweron blade

Powers on the server blades.

In an SMP configuration, specify primary server blades. All server blades constituting an SMP configuration are powered on.

## Syntax

```
poweron blade [<blade_no>] [-F]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To power on server blade 1:

```
poweron blade 1
```

## Rules

- If the OS operation mode is LP and no LP license is set, you cannot power on the server blade.
- In an SMP configuration, if you execute this command with a non-primary server blade specified, the following message appears and the server blade is not powered on:

```
E0640 : <Blade %1$d> Command was canceled. Specified blade is
not the primary blade of SMP.
```

## pre-configure blade

Executes Smart configure for the server blades.

In an SMP configuration, specify primary server blades. Smart configure is executed for all server blades constituting the SMP configuration.

### Syntax

```
pre-configure blade [<blade_no>] -m <preconf_mode> [-F]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

-m

Smart configure execution mode

get: Forced acquisition

maint: Diagnosis

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To execute Pre-configure for server blade 1:

```
pre-configure blade 1 -m get
```

### Rules

In an SMP configuration, if you execute this command with a non-primary server blade specified, the following message appears and Smart configure is not executed:

```
E0640 : <Blade %1$d> Command was canceled. Specified blade is not
the primary blade of SMP.
```

## reset blade

Resets the server blades. The following are two methods for resetting the server blade:

- Hard reset
- NMI issuance

In an SMP configuration, specify primary server blades. The server blades constituting the SMP configuration are reset.

## Syntax

```
reset blade [<blade_no>] [-h|-s] [-F]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

-h

Executes hard reset for the specified server blade.

If you omit both the `-h` and `-s` parameters, this command assumes that `-h` is specified.

-s

Issues an NMI (Non-Maskable Interrupt) for the OS running on the specified server blade.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To reset server blade 1:

```
reset blade 1
```

To issue an NMI for all server blades:

```
reset blade all -s
```

## Rules

In an SMP configuration, if you execute this command with a non-primary server blade specified, the following message appears and the server blade is not reset:

```
E0640 : <Blade %1$d> Command was canceled. Specified blade is not
the primary blade of SMP.
```

## set blade ac-recovery

Changes the settings for the operation to be performed when power is restored to the server blades.

In an SMP configuration, if you specify a primary server blade, the settings for the operation to be performed when power is restored to all server blades constituting the SMP configuration are changed. If you specify non-primary server blades, the setting values are changed but they do not affect the behavior of the non-primary server blades.

## Syntax

```
set blade ac-recovery [<blade_no>] [-a <ac_recovery>] [-w
<wait_time>] [-F]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

-a <ac\_recovery>

Operation to be performed when the power supply is restored

- `stay`: Keeps the server blade powered off even when power is supplied to the server chassis.
- `pon`: Powers on the server blade when power is supplied to the server chassis.
- `last`: Returns the power status of the server blade to its previous status (right before the server chassis was powered off) when power is supplied to the server chassis.

-w <wait\_time>

Wait time after power is restored (in minutes).

You can specify a value from 0 to 60.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To power on server blade 1, 10 minutes after power is supplied to the server chassis:

```
set blade ac-recovery 1 -a pon -w 10
```

To power on server blade 1 immediately when power is supplied to the server chassis:

```
set blade ac-recovery 1 -a pon -w 0
```



To keep server blade 1 powered off when power is supplied to the server chassis:

```
set blade ac-recovery 1 -a stay
```

To return the power status of server blade 2 to its previous status (right before the server chassis was powered off) when power is supplied to the server chassis:

```
set blade ac-recovery 2 -a last
```

## Rules

If you execute this command with a non-primary server blade specified, the following warning message appears because the setting values do not affect the behavior of the non-primary server blade:

```
W0031 : <Blade X> Set data is not used. Specified blade is not the
primary blade of SMP. (X indicates the specified server blade
number.)
```

## set blade bmc account

Sets a BMC user account whose BMC user account number of the server blade is in the range from 1 to 4.

Regardless of whether an SMP configuration is used, the BMC user account of the specified server blade is set.

Set the following items:

- Whether to enable or disable the BMC user account
- User name
- Password

## Syntax

```
set blade bmc account <blade_no> -a <account_no> [-u <account_use>]
[-n <user_name>] [-p <password>] [-F]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

-a <account\_no>

BMC user account number.

You can specify a value from 1 to 4. You cannot specify multiple values.

-u <account\_use>

Whether to enable or disable the BMC user account

- enable: Enables the BMC user account.
  - disable: Disables the BMC user account.
- If you omit this parameter, the setting (enable or disable) is not changed.  
You cannot disable the BMC user account number 1.

**-n <user\_name>**

User name

You can enter a character string of 1 to 16 characters. The string can contain alphanumeric characters and the following symbols: . \_ \$ - = + \* % ? @ / ' ! ~ ; ^ ( ) [ ] { } | , ` The symbols <, >, &, #, ", \, and spaces cannot be used.

The first character must be an alphanumeric character.

If you omit this parameter, the user name is not changed.

You cannot register the same user name as another BMC user account. In addition, you cannot register the same user name as an IPMI user account.

**-p <password>**

Password

You can enter a character string of 1 to 20 characters. The string can contain alphanumeric characters and the following symbols: . \_ \$ - = + \* % ? : @ / \ ' ! ~ ; ^ ( ) [ ] { } | , ` The symbols <, >, &, #, ", and spaces cannot be used.

If you omit this parameter, the password is not changed.

**-F**

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To enable a BMC user account whose BMC user account number is 1, for the server blade number 1:

```
$ set blade bmc account 1 -a 1 -u enable -n bmcuser -p password
Confirm? (y/[n]):y
I0037 : <Blade 0> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

You cannot disable the BMC user account number 1 for each server blade.

## set blade bmc time local

Changes the BMC clock of the server blade.

Regardless of whether the specified server blade constitutes an SMP configuration, the BMC clock of the specified server blade is changed.

## Syntax

```
set blade bmc time local <blade_no> -d <date_time> [-F]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

-d <date\_time>

Date and time

The format is YYYY-MM-DD hh:mm:ss.

Separate the date and the time with a space character. Enclose the entire value in double quotation marks, because this value contains a space character.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To change the BCM clock of server blade 1:

```
set blade bmc time local 1 -d "2012-05-01 15:00:00" -F
```

## Rules

- This command cannot be used to change the BMC time for the CB 520H B3/B4, if the BMC time adjustment method for the server blade is set to **Synchronize time to the management module using NTP**.  
If **Synchronize time to the management module using NTP** is specified and this command is executed, the BMC time is not changed. However, the following message indicating that the command finished normally is displayed:  
I0037 : <Blade X> Setting was completed. (X: Server blade number)
- This command cannot change the BMC time for the other server blades. Executing this command does not change the BMC time. However, the following message indicating that the command finished normally is displayed:  
I0037 : <Blade X> Setting was completed. (X: Server blade number)

## set blade hvm setting

Changes the LP settings of the server blade.

The following item can be changed:

- Performance tuning options

## Syntax

```
set blade hvm setting <blade_no> -pt <pref_tuning> [-F]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Slot number of server blade in the server chassis

Range is from 1 to 15.

Multiple selection is not available.

-pt <pref\_tuning>

Specify whether to enable or disable Performance tuning options

enable: Enabled

disable: Disabled

-F

Executes the command without inquiry.

## Execution example

[Enable Performance tuning options for server blade 1]

```
$ set blade hvm setting 1 -pt enable -F
I0037 : <Blade 1> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## set blade ipmi account

Sets an IPMI user account for the server blade. You can set an IPMI user account whose number is in the range from 2 to 9.

Regardless of whether an SMP configuration is used, the IPMI user account of the specified server blade is set.

Set the following items:

- Whether to enable or disable the IPMI user account
- User name
- Password
- Privilege

## Syntax

```
set blade ipmi account <blade_no> -a <account_no> [-u <account_use>]
[-n <user_name>] [-p <password>] [-l <privilege_level>] [-F]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

-a <account\_no>

IPMI user account number.

You can specify a value from 2 to 9. You cannot specify multiple values.

You cannot set the IPMI user account number 1.

-u <account\_use>

Whether to enable or disable the IPMI user account

- enable: Enables the IPMI user account
- disable: Disables the IPMI user account

If you omit this parameter, the setting (enable or disable) is not changed.

-n <user\_name>

User name

You can enter a character string of 1 to 16 characters. The string can contain alphanumeric characters and the following symbols: . \_ \$ - = + \* % ? @ / ' ! ~ ; ^ ( ) [ ] { } | , ` The symbols <, >, &, #, ", \, and spaces cannot be used.

The first character must be an alphanumeric character.

If you omit this parameter, the user name is not changed.

You cannot register the same user name as another IPMI user account. In addition, you cannot register the same user name as an BMC user account.

-p <password>

Password

You can enter a character string of 1 to 20 characters. The string can contain alphanumeric characters and the following symbols: . \_ \$ - = + \* % ? : @ / \ ' ! ~ ; ^ ( ) [ ] { } | , ` The symbols <, >, &, #, ", and spaces cannot be used.

If you omit this parameter, the password is not changed.

-l <privilege\_level>

Privilege

You can select from the following privilege levels:

- administrator: Administrator
- operator: Operator
- user: User
- callback: Callback
- noaccess: NO ACCESS

If you omit this parameter, the privilege is not changed. The initial value is NO ACCESS.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To enable the IPMI user account whose account number is 3, for the server blade number 1:

```
$ set blade ipmi account 1 -a 3 -u enable -n ipmiuser -p password -l
operator
Confirm? (y/[n]):y
I0037 : <Blade 0> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## set blade led

Turns the identification LED indicators of the server blades on or off.

Regardless of whether the specified server blades constitute an SMP configuration, the identification LED indicator for each specified server blade is turned on or off.

### Syntax

```
set blade led [<blade_no>] -l <led_type> -t <led_on_off> [-F]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

-l <led\_type>

LED indicator type

lid: Identification LED indicator

-t <led\_on\_off>

LED indicator status

on: Turns the LED indicator on.

off: Turns the LED indicator off.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To turn on the identification LED indicator of server blade 1:

```
set blade led 1 -l lid -t on
```

To turn off the identification LED indicator of server blade 1:

```
set blade led 1 -l lid -t off
```

## set blade maintenance-mode

Sets maintenance mode for the server blade when maintenance work for the server blade is performed. Do not use this command for normal operations because this command is used for maintenance work.

If you set maintenance mode, the remaining time for maintenance mode is set to 120 minutes.

## Syntax

```
set blade maintenance-mode <blade_no> -m <mnt_mode> [-F]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

-m <mnt\_mode>

Maintenance mode

- enable: Sets maintenance mode.
- disable: Cancels maintenance mode.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set maintenance mode for server blade 1:

```
$ set blade maintenance-mode 1 -m enable
Confirm? (y/[n]):y
I0037 : <Blade 1> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## set blade lom license

Registers the LOM license for the server blade.

You must specify either `-k <lom_key>` or `-f <key_file>` as a parameter for which the LOM license key is specified.

### Syntax

```
set blade lom license <blade_no> -l <lom_license> {-k <lom_key>|-f
<key_file>} [-F]
```

### Privilege

Server blade privileges

### Parameters

`<blade_no>`

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

`-l <lom_license>`

Information about whether LOM is used

- enable: LOM is used
- disable: LOM is not used

`-k <lom_key>`

LOM license key

You can use a maximum of 256 characters.

`-f <key_file>`

LOM license key file name

You can use a maximum of 256 characters.

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the LOM license of server blade 1:



```
$ set blade lom license 1 -l enable -k XXXXXXXXXXXXXXXXXXXXXXXX
Confirm? (y/[n]):y
I0037 : <Blade 1> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

If you specify the LOM license key file name, before executing this command, use the FTP protocol to send the LOM license key file.

If you send the LOM license key file while executing this command to register the LOM license key, registration of the LOM license key might fail.

## set blade mgmt-lan

Changes the following management LAN settings for the server blade.

- IP address (IPv4)
- Subnet mask
- Default gateway

Regardless of whether the specified server blade constitutes an SMP configuration, the management LAN settings for the specified server blade are changed.

## Syntax

```
set blade mgmt-lan <blade_no> [-i <ip_addr>] [-s <subnet_mask>] [-g
<default_gateway>] [-m <static or dhcp>] [-dg <Default gateway from
DHCP server>] [-dn <DNS server from DHCP server>] [-do <Domain name
from DHCP server>] [-dd <DDNS enable or disable>] [-F]
```

## Privilege

Network privilege

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

-i <ip\_addr>

IP address

-s <subnet\_mask>

Subnet mask

-g <default\_gateway>

Default gateway

-m <static or dhcp>

IPv4 address assign mode

-dg <Default gateway from DHCP server>

Whether to use DHCP supplied default gateway or not

-dn <DNS server from DHCP server>

Whether to use DHCP supplied DNS server or not

-do <Domain name from DHCP server>

Whether to use DHCP supplied domain name or not

-dd <DDNS enable or disable>

Whether to use DDNS or not

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the IP address, subnet mask, and default gateway for the management LAN of server blade 1:

```
set blade mgmt-lan 1 -i 192.168.0.50 -s 255.255.255.0 -g 192.168.0.1
```

To change the IP address for the management LAN of server blade 1:

```
set blade mgmt-lan 1 -i 192.168.0.60
```

To enable DHCP on the management LAN interface of server blade 1, use DHCP supplied default gateway and enable DDNS on the LAN interface:

```
set blade mgmt-lan 1 -m dhcp -dg enable -dd enable -F
```

To disable DHCP on the management LAN interface of server blade 1 (parameters assigned via DHCP are preserved and used as static settings):

```
set blade mgmt-lan 1 -m static -F
```

## set blade mgmt-v6 address

Sets the management LAN (IPv6) for the server blade.

You can set a static address. To set a static address, enter the following items:

- IP address (IPv6)
- Prefix length
- Whether to enable use of the default gateway
- Default gateway

## Syntax

```
set blade mgmt-v6 address <blade_no> -st <setting> [-i <ip_address>]
[-p <prefix_len>] [-gs <dgw_setting>] [-g <default_gateway>] [-F]
```

## Privilege

Network privilege

## Parameters

*<blade\_no>*

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

*-st <setting>*

Specify whether to enable use of a static address.

- enable: Enabled.
- disable: Disabled.

You cannot omit this parameter.

*-i <ip\_address>*

IP address (IPv6)

If you entered *-st enable*, this item is required. If you entered *-st disable*, omit this parameter.

*-p <prefix\_len>*

Prefix length

Specify a value from 1 to 128.

If you entered *-st enable*, this item is required. If you entered *-st disable*, omit this parameter.

*-gs <dgw\_setting>*

Specify whether to enable use of the default gateway (IPv6).

- enable: Enabled.
- disable: Disabled.

If you entered *-st enable*, this item is required. If you entered *-st disable*, omit this parameter.

If you want to specify the default gateway (*-g*), specify *enable*.

*-g <default\_gateway>*

Default gateway (IPv6)

If you entered *-st enable* or *-gs enable*, this item is required.

If you entered *-st disable* or *-gs disable*, or if you omitted *-gs*, omit this parameter.

*-F*

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the static address for server blade 1 in the management LAN settings (IPv6):

```
set blade mgmt-v6 address 1 -st enable -i fe80::200:87ff:feb2:c24 -p
64 -gs enable -g fe80::200:87ff:feb2:c20
```

## Rules

- A duplication check is not performed for the specified address.
- For the default gateway, you can specify only an address that is reachable from the address for the server blade.
- You cannot set the loopback address (::1/128).

## set blade name

Change the hostname and domain name of the server blade.

Regardless of whether the specified server blade constitutes an SMP configuration, the settings for each specified server blade are changed.

## Syntax

```
set blade name <blade_no> [-h <hostname>] [-d <domain_name>] [-ih] [-
id] [-F]
```

## Privilege

Server blade privilege

## Parameters

<blade\_no>

Server blade number You can specify a value from 1 to 15.

You cannot specify multiple values.

-h <hostname>

Hostname

-d <domain name>

Domain Name

-ih

Initialize hostname

-id

Initialize domain name

-F

Specify this parameter to execute the command without displaying a confirmation dialog. You can omit this parameter.

## Execution example

To set the hostname and domain name of server blade 1:

```
set blade name 1 -h bladel -d example.org
```

To initialize the hostname and domain name of server blade 1:

```
set blade name 1 -ih -id -F
```

## set blade os-mode

Changes the OS operation modes of the server blades.

In an SMP configuration, if you specify a primary server blade, the OS operation modes of all server blades constituting the SMP configuration are changed. If you specify non-primary server blades, the setting values are changed but they do not affect the behavior of the non-primary server blades.

### Syntax

```
set blade os-mode [<blade_no>] -m <os_mode> [-F]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

-m <os\_mode>

OS operation mode

- `basic`: Starts the OS that runs when LPAR manager is disabled.
- `hvm`: Starts LPAR manager.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To enable LPAR manager on server blade 1:

```
set blade os-mode 1 -m hvm
```

To disable LPAR manager on server blade 2:

```
set blade os-mode 2 -m basic
```

### Rules

If you execute this command with a non-primary server blade specified, the following warning message appears because the setting values do not affect the behavior of the non-primary server blade:

W0031 : <Blade X> Set data is not used. Specified blade is not the primary blade of SMP. (X indicates the specified server blade number.)

## set blade preconf

Changes the Smart configure settings for the server blades.

In an SMP configuration, if you specify a primary server blade, the Smart configure settings for the server blades constituting the SMP configuration are changed. If you specify non-primary server blades, the setting values are changed but they do not affect the behavior of the non-primary server blades.

### Syntax

```
set blade preconf [<blade_no>] [-n <n+m>] [-w <wwn_type>] [-m
<mac_type>] [-F]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

-n <n+m>

N+M cold standby setting

- enable: Enables N+M cold standby.
- disable: Disables N+M cold standby.

-w <wwn\_type>

WWN type

- original: Default Physical WWN
- additional: Optional Physical WWN

-m <mac\_type>

MAC type

- original: Default Physical MAC
- additional: Optional Physical MAC

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To enable N+M cold standby and to set both the WWN type and the MAC type to Optional Physical for server blade 1:

```
set blade preconf 1 -n enable -w additional -m additional -F
I0037 : <Blade 1> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

- When N+M cold standby is enabled, even if you specify Default Physical WWN, Optional Physical WWN will be used.
- If you execute this command with a non-primary server blade specified, the following warning message appears because the setting values do not affect the behavior of the non-primary server blade:  
W0031 : <Blade X> Set data is not used. Specified blade is not the primary blade of SMP. (X indicates the specified server blade number.)

## set blade smp construction

Sets SMP configurations for the server blades.

You can use this command to specify SMP configuration patterns. You need to select an SMP configuration pattern for each of the server blade slot number ranges from 1 to 8 and from 9 to 15. You can separately specify an SMP configuration pattern for slots 1 to 8 and for slots 9 to 15. The following table describes SMP configuration patterns.

| Description of SMP configuration patterns                                                                                                                                                                                                    | Character string specified in the parameter |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| All server blades are used in non-SMP configurations                                                                                                                                                                                         | 1-1-1-1                                     |
| The lower two tiers (slot number: 1 to 4 or 9 to 12) are used in a 2-blade SMP configuration<br>The upper two tiers (slot number: 5 to 8 or 13 to 15) are used in a non-SMP configuration                                                    | 2-1-1                                       |
| The middle two tiers (slot number: 3 to 6 or 11 to 14) are used in a 2-blade SMP configurations<br>The lowest tier (slot number: 1 and 2, or 9 and 10) and the highest tier (slot number: 7 and 8, or 15) are used in non-SMP configurations | 1-2-1                                       |
| The upper two tiers (slot number: 5 to 8 or 13 to 15) are used in 2-blade SMP configurations                                                                                                                                                 | 1-1-2                                       |

| Description of SMP configuration patterns                                                                                                                                                     | Character string specified in the parameter |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| The lower two tiers (slot number: 1 to 4 or 9 to 12) are used in non-SMP configurations                                                                                                       |                                             |
| The lower two tiers (slot number: 1 to 4 or 9 to 12) are used in a 2-blade SMP configuration<br>The upper two tiers (slot number: 5 to 8 or 13 to 15) are used in a 2-blade SMP configuration | 2-2                                         |
| All tiers are used in 4-blade SMP configurations                                                                                                                                              | 4                                           |

## Syntax

```
set blade smp construction [-l <smp_pattern>] [-u <smp_pattern>] [-F]
```

## Privilege

Chassis privilege

## Parameters

-l <smp\_pattern>

SMP configuration pattern to be set for slots 1 to 8

-u <smp\_pattern>

SMP configuration pattern to be set for slots 9 to 15

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To use slots 1 to 8 in non-SMP configurations and the upper two tiers (slot number: 13 to 15) in 2-blade SMP configurations:

```
set blade smp construction -l 1-1-1-1 -u 1-1-2
```

## Rules

You can set configurations including SMP configuration settings only if either of the following conditions is satisfied:

- Server blades that support SMP configurations are installed into all slots for which SMP is to be configured, and SMP connect boards appropriate for SMP configurations are installed.
- No server blades are installed in the slots for which SMP is to be configured.



When you configure a non-SMP configuration, you can ignore the installation statuses of server blades and SMP connection boards.

You cannot change the SMP configuration settings of server blades when the server blades to be changed are powered on, or are being powered on or off.

## set blade tpm license

Registers the TPM license for the server blade.

### Syntax

```
set blade tpm license <blade_no> -k <tpm_key> [-F]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

-k <tpm\_key>

TPM license key

You can use a maximum of 127 characters.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To set the TPM license of server blade 1:

```
$ set blade tpm license 1 -k XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Confirm? (y/[n]):y
I0037 : <Blade 1> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## show blade bmc account

Displays the BMC user account of the server blade. Regardless of whether an SMP configuration is used, the BMC user account of the specified server blade is displayed. For a server blade, BMC user accounts whose BMC user account number is in the range from 1 to 4 are displayed.

The following items are displayed:

- BMC user account number of the server blade.
- Whether to enable or disable the user account

- User name  
The password is not displayed.

## Syntax

```
show blade bmc account [<blade_no>]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

## Execution example

To display the BMC user accounts of server blade number 1:

```
$ show blade bmc account 1
-- BMC user account information --
Slot : 1
-- BMC user account --
User account number : 1
Use : enable
User name : user
-- BMC user account --
User account number : 2
Use : disable
User name :
-- BMC user account --
User account number : 3
Use : disable
User name :
-- BMC user account --
User account number : 4
Use : disable
User name :
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-15 BMC user account information**

| Displayed item | Description                                          |
|----------------|------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15. |

**Table 5-16 BMC user account**

| Displayed item      | Description                                                                                                                                      |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| User account number | BMC user account number.<br>The range is from 1 to 4.                                                                                            |
| Use                 | Whether to enable or disable the BMC user account <ul style="list-style-type: none"> <li>enable: Enabled.</li> <li>disable: Disabled.</li> </ul> |
| User name           | User name                                                                                                                                        |

## show blade bmc session

Displays the following information about the remote console sessions connected to the server blades:

- Session number
- Session type
- Session ID
- IP address type
- Connection-source IP address
- Connected user name
- Session start time

In an SMP configuration, specify primary server blades. The remote console session information for the primary server blade is displayed.

### Syntax

```
show blade bmc session [<blade_no>]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

## Execution example

To display information about the remote console session for server blade 1:

```
show blade bmc session 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-17 BMC session**

| Displayed item | Description                                          |
|----------------|------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15. |
| Session Count  | Number of sessions                                   |

**Table 5-18 BMC session detail**

| Displayed item     | Description                                                                     |
|--------------------|---------------------------------------------------------------------------------|
| Number             | Remote console session number                                                   |
| Session kind       | Remote console session type<br>Remote Console: Remote console                   |
| Session ID         | Remote console session ID                                                       |
| IP kind            | Remote console session IP address type<br>IPv4: IPv4<br>IPv6: IPv6              |
| IP address         | Remote console session IP address                                               |
| User name          | Remote console session user name                                                |
| Session start time | Remote console session start time<br>The format is <i>YYYY/MM/DD hh:mm:ss</i> . |

## Rules

- User name might not be displayed.
- In an SMP configuration, if you execute this command with a non-primary server blade specified, the following message appears and the session information is not displayed:  
E0640 : <Blade %1\$d> Command was canceled. Specified blade is not the primary blade of SMP.

# show blade bmc time local

Displays the BMC clocks of the server blades.

Regardless of whether the specified server blades constitute an SMP configuration, the BMC clock for each specified server blade is displayed.

## Syntax

show blade bmc time local [<blade\_no>]

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

## Execution example

To display the BMC clock of server blade 1:

```
show blade bmc time local 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

Table 5-19 BMC local time

| Displayed item | Description                                                                                                                                                                                                         |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15.                                                                                                                                                                |
| Date           | Date<br>The date format is <i>YYYY-MM-DD</i> .<br>For <i>YYYY</i> , a value from 1970 to 2037 is displayed. For <i>MM</i> , a value from 01 to 12 is displayed. For <i>DD</i> , a value from 01 to 31 is displayed. |
| Time           | Time<br>The time format is <i>hh:mm:ss</i> .<br><i>hh</i> is a value from 00 to 23. <i>mm</i> is a value from 00 to 59. <i>ss</i> is a value from 00 to 59.                                                         |

## show blade firmware

Displays the following firmware version information for the server blades:

- Server blade firmware version
- BMC version
- EFI version
- LPAR manager firmware version
- LPAR manager firmware area number

For each of the above items, the current version and the version to be used during the next startup are displayed. The current LPAR manager firmware version is displayed when LPAR manager firmware is assigned to the server blade and the OS operation mode is LP. The version to be used during the next startup is displayed when LPAR manager firmware is assigned to the server blade.

### Syntax

```
show blade firmware [<blade_no>] [-b]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

-b

Shows the versions of the firmware stored in the BMC firmware storage destination and the EFI firmware destination (bank).

### Execution example

To display the firmware version information for server blade 1:

```
show blade firmware 1
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-20 Server blade firmware version**

| Displayed item | Description                                          |
|----------------|------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15. |

**Table 5-21 Total version**

| Displayed item  | Description                                                      |
|-----------------|------------------------------------------------------------------|
| Current version | Current server blade firmware version                            |
| Next version    | Server blade firmware version to be used during the next startup |

**Table 5-22 BMC version**

| Displayed item  | Description                                                                                          |
|-----------------|------------------------------------------------------------------------------------------------------|
| Current version | Current BMC version                                                                                  |
| Next version    | BMC version to be used during the next startup                                                       |
| Bank 0 version  | BMC version for bank 0.<br>The version is displayed when the <code>-b</code> parameter is specified. |
| Bank 1 version  | BMC version for bank 1.<br>The version is displayed when the <code>-b</code> parameter is specified. |

**Table 5-23 EFI version**

| Displayed item  | Description                                                                                          |
|-----------------|------------------------------------------------------------------------------------------------------|
| Current version | Current EFI version                                                                                  |
| Next version    | EFI version to be used during the next startup                                                       |
| Bank 0 version  | EFI version for bank 0.<br>The version is displayed when the <code>-b</code> parameter is specified. |
| Bank 1 version  | EFI version for bank 1.<br>The version is displayed when the <code>-b</code> parameter is specified. |

**Table 5-24 LPAR manager firmware**

| Displayed item  | Description                           |
|-----------------|---------------------------------------|
| Current version | Current LPAR manager firmware version |

| Displayed item | Description                                                                 |
|----------------|-----------------------------------------------------------------------------|
| Current bank   | Area number of the current LPAR manager firmware                            |
| Next version   | LPAR manager firmware version to be used during the next startup            |
| Next bank      | Area number of the LPAR manager firmware to be used during the next startup |

## show blade hardware

Displays the following hardware information for the server blade:

- Hardware information
- FRU information
- Sensor information

### Syntax

```
show blade hardware [<blade_no>] [-h] [-f] [-s]
```

### Privilege

Server blade privileges

### Parameters

*<blade\_no>*

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

`-h`

Displays the hardware information for the specified server blade.

`-f`

Displays the FRU information for the specified server blade.

`-s`

Displays the sensor information for the specified server blade.

You must specify at least one of `-h`, `-f`, and `-s` parameters.

### Execution example

To display the hardware information, FRU information, and sensor information for server blade 5 (primary server blade) when server blades 5 and 7 constitute an SMP configuration:



```

$ show blade hardware 5 -h -f -s
-- Server blade hardware information --
Slot : 5
-- Server blade --
Product name : XXXXXXXXX
Model name : XXXXXXXXX
Serial number : XXXXXXXXX
-- CPU --
Name : XXXXXXXXX
Installed : 2
Slots : 2
-- CPU (SMP configuration) --
Installed : 4
Slots : 4
-- Memory (SMP configuration) --
Memory [MB] : 32768
-- I/O card --
Mezzanine 1 : -----
Mezzanine 2 : XXXXXXXXX
Mezzanine 3 : -----
Mezzanine 4 : -----
PCI 0 : -----
PCI 1 : -----
Daughter card 0 : -----
-- OnBoard LAN 1 --
Type : 10Gb Onboard LAN
LOM#1 MAC for Port#0 : 00:00:87:22:ba:20
LOM#1 MAC for Port#1 : 00:00:87:22:ba:21
LOM#1 MAC for Port#2 : 00:00:87:22:ba:22
LOM#1 MAC for Port#3 : 00:00:87:22:ba:23
-- LP license --
LP model : Essential
Upper bound of version : 94
-- Power --
Nameplate power [W] : 268
-- Weight --
Weight [kg] : 6.700
-- UUID --
UUID : XXXXXXXXX-XXXX-XXXX-XXXX-
XXXXXXXXXXXXXXXX
-- BMC MAC address --
BMC MAC address 0 : f8:48:97:4c:1f:78
BMC MAC address 1 : f8:48:97:4c:1f:79
-- LOM type --
LOM : enable
-- SMP configuration --
Product name : 2-blade SMP connect board
Primary blade : 6
Blade list : 4,6
-- Server blade FRU information --
-- Board Information --
Manufacture : XXXXXXXXX
Product Name : XXXXXXXXX
Serial Number : XXXXXXXXX
Part/Model Number : XXXXXXXXX
-- Product Information --
Manufacture : XXXXXXXXX
Product Name : XXXXXXXXX
Part/Model Number : XXXXXXXXX
Product Version : XXXXXXXXX

```

```

Serial Number : XXXXXXXXX
Asset Tag : XXXXXXXXX
-- MultiRecord Information --
Manufacture ID : 000074
Module Type 1 : 00
Module Type 2 : 71
OEM Type : 02000000
E Type : 01
BMC LAN#0 MAC Addr. : f8:48:97:4c:1f:78
BMC LAN#1 MAC Addr. : f8:48:97:4c:1f:79
BMC USB#0 MAC Addr. : f8:48:97:4c:1f:7a
BMC USB#1 MAC Addr. : f8:48:97:4c:1f:7b
Nameplate : 268
Product Part/Model Number for Maintenance : XXXXXXXXX
UUID : XXXXXXXXX-XXXX-XXXX-XXXX-
XXXXXXXXXXXXXXXX
BMC LAN Connection : 00
LOM Type : 02
LOM#1 MAC for Port#0 : 00:00:87:22:ba:20
LOM#1 MAC for Port#1 : 00:00:87:22:ba:21
LOM#1 MAC for Port#2 : 00:00:87:22:ba:22
LOM#1 MAC for Port#3 : 00:00:87:22:ba:23
10GbE LOM Compatibility : 00
Weight : 6.700
LOM Type2 : 02
-- Mezzanine FRU Information --
Mezzanine number : 2
-- Product area Information --
Manufacture : XXXXXXXXX
Product Name : XXXXXXXXX
Part/Model Number : XXXXXXXXX
Serial Number : XXXXXXXXX
-- Server blade sensor information --
-- Temp --
Inlet 1 Temp : 25.00
Inlet 2 Temp : 25.00
VInlet 1 Temp : 25.00
VInlet 2 Temp : 23.00
VInlet 3 Temp : 23.00
-- Volt --
MB VBAT : 2.96
S0002 : Command succeeded.
S0000 : Command was finished.
$

```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

Common displayed items (items displayed when `-h`, `-f`, or `-s` is specified)

**Table 5-25 Server blade hardware information**

| Displayed item | Description |
|----------------|-------------|
| Slot           | Slot number |

| Displayed item | Description                                                                                                            |
|----------------|------------------------------------------------------------------------------------------------------------------------|
|                | Regardless of which parameter (-h, -s, or -f) you specified, the slot number for each server blade is displayed first. |

Hardware information displayed items (items displayed when -h is specified)

**Table 5-26 Server blade**

| Displayed item | Description   |
|----------------|---------------|
| Product name   | Name          |
| Model name     | Model name    |
| Serial number  | Serial number |

**Table 5-27 CPU**

| Displayed item | Description                                               |
|----------------|-----------------------------------------------------------|
| Name           | Name                                                      |
| Installed      | Number of installed CPUs (value for target server blades) |
| Slots          | Total number of slots (value for target server blades)    |

**Table 5-28 CPU(SMP configuration)**

| Displayed item | Description                                                                                                               |
|----------------|---------------------------------------------------------------------------------------------------------------------------|
| Installed      | Number of installed CPUs (total number of CPUs that are installed in all server blades constituting an SMP configuration) |
| Slots          | Total number of slots (total number of slots for all server blades constituting an SMP configuration)                     |



**Tip:** This item is displayed only for primary server blades in an SMP configuration.

**Table 5-29 Memory**

| Displayed item | Description                                                    |
|----------------|----------------------------------------------------------------|
| Memory [MB]    | Memory (MB) (total memory capacity of the target server blade) |



**Tip:** This item is displayed only for server blades in a non-SMP configuration or for non-primary server blades in an SMP configuration.

**Table 5-30 Memory (SMP configuration)**

| Displayed item | Description                                                                                |
|----------------|--------------------------------------------------------------------------------------------|
| Memory [MB]    | Memory (MB) (total memory capacity of all server blades constituting an SMP configuration) |



**Tip:** This item is displayed only for primary server blades in an SMP configuration.

**Table 5-31 I/O card**

| Displayed item  | Description                                                                                               |
|-----------------|-----------------------------------------------------------------------------------------------------------|
| Mezzanine 1     | Mezzanine name                                                                                            |
| Mezzanine 2     | Mezzanine name                                                                                            |
| Mezzanine 3     | Mezzanine name                                                                                            |
| Mezzanine 4     | Mezzanine name                                                                                            |
| PCI 0           | PCI card name                                                                                             |
| PCI 1           | PCI card name                                                                                             |
| Daughter card 0 | Daughter card name<br>If an internal SD card is installed, the name of the internal SD card is displayed. |

**Table 5-32 OnBoard LAN 1**

| Displayed item       | Description            |
|----------------------|------------------------|
| Type                 | Type                   |
| LOM#1 MAC for Port#0 | MAC address for port 0 |
| LOM#1 MAC for Port#1 | MAC address for port 1 |
| LOM#1 MAC for Port#2 | MAC address for port 2 |
| LOM#1 MAC for Port#3 | MAC address for port 3 |



**Tip:** LOM#1 MAC for Port#0, LOM#1 MAC for Port#1, LOM#1 MAC for Port#2, and LOM#1 MAC for Port#3 are displayed only when an Onboard LAN is installed.

**Table 5-33 PCI expansion blade**

| Displayed item             | Description                                  |
|----------------------------|----------------------------------------------|
| full height connection kit | Whether the PCI expansion blade is installed |

| Displayed item             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | <ul style="list-style-type: none"> <li>installed(PCI expansion blade x16 full height card adapter): The PCI expansion blade ((x16 FH 1slot)) is installed.</li> <li>installed(PCI expansion blade x8 full height card adapter): The PCI expansion blade ((x8 FH 2slot)) is installed.</li> </ul>                                                                                                                                                                                 |
| low profile connection kit | <p>Whether the PCI expansion blade connection kit is installed</p> <ul style="list-style-type: none"> <li>installed(PCI expansion blade x8 low profile card adapter): The PCI expansion blade connection kit ((x8 LP 2slot)) is installed.</li> <li>installed(PCI expansion blade x4 low profile card adapter): The PCI expansion blade connection kit ((x4 LP 4slot)) is installed.</li> <li>not installed: The PCI expansion blade connection kit is not installed.</li> </ul> |



**Tip:** The above items are displayed only if a PCI expansion blade is installed.

**Table 5-34 LP license**

| Displayed item         | Description                                |
|------------------------|--------------------------------------------|
| LP model               | LP model                                   |
| Upper bound of version | Upper bound of the available version range |

**Table 5-35 Power**

| Displayed item      | Description     |
|---------------------|-----------------|
| Nameplate power [W] | Rated power (W) |

**Table 5-36 Weight**

| Displayed item | Description |
|----------------|-------------|
| Weight [kg]    | Weight (kg) |

**Table 5-37 UUID**

| Displayed item | Description |
|----------------|-------------|
| UUID           | UUID        |

**Table 5-38 BMC MAC address**

| Displayed item    | Description           |
|-------------------|-----------------------|
| BMC MAC address 0 | MAC address 0 for BMC |
| BMC MAC address 1 | MAC address 1 for BMC |

**Table 5-39 Expansion blade**

| Displayed item | Description                                                             |
|----------------|-------------------------------------------------------------------------|
| Product name   | Product name<br>The name of the expansion blade is displayed.           |
| Model name     | Model name<br>The model name of the expansion blade is displayed.       |
| Serial number  | Serial number<br>The serial number of the expansion blade is displayed. |



**Tip:** The above items are displayed only if an expansion blade is installed.

**Table 5-40 LOM type**

| Displayed item | Description                                                                                                                                                                                                                                                      |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOM            | LOM type<br>Whether LOM support of the server blade is enabled is displayed. <ul style="list-style-type: none"> <li>• enable: Enabled</li> <li>• disable: Disabled</li> <li>• -----: The information about whether LOM support is enabled is not set.</li> </ul> |

**Table 5-41 SMP configuration**

| Displayed item | Description                                                                                                                         |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Product name   | SMP connection board name                                                                                                           |
| Primary blade  | Primary server blade number<br>Displays the primary server blade number for the SMP configuration.<br>This is a value from 1 to 15. |
| Blade list     | List of server blades                                                                                                               |

| Displayed item | Description                                                                                                    |
|----------------|----------------------------------------------------------------------------------------------------------------|
|                | Displays the numbers for all server blades constituting an SMP configuration.<br>This is a value from 1 to 15. |

FRU information displayed items (items displayed when `-f` is specified)

**Table 5-42 Server blade FRU information**

| Displayed item          | Description                                                       |
|-------------------------|-------------------------------------------------------------------|
| Board Information       | Lists the FRU board information items for the server blade.       |
| Product Information     | Lists the FRU product information items for the server blade.     |
| MultiRecord Information | Lists the FRU MultiRecord information items for the server blade. |

**Table 5-43 Mezzanine FRU Information**

| Displayed item   | Description      |
|------------------|------------------|
| Mezzanine number | Mezzanine number |



**Tip:** This item is displayed only when a mezzanine card is installed.

**Table 5-44 Product area Information**

| Displayed item    | Description       |
|-------------------|-------------------|
| Manufacture       | Manufacturer code |
| Product Name      | Product name      |
| Part/Model Number | Model name        |
| Serial Number     | Serial number     |

**Table 5-45 Extension blade FRU Information**

| Displayed item      | Description                                                                 |
|---------------------|-----------------------------------------------------------------------------|
| Board Information   | The board information about the FRUs of the expansion blade is displayed.   |
| Product Information | The product information about the FRUs of the expansion blade is displayed. |

| Displayed item          | Description                                                                      |
|-------------------------|----------------------------------------------------------------------------------|
| MultiRecord Information | The multi-record information about the FRUs of the expansion blade is displayed. |



**Tip:** The above items are displayed only if an expansion blade is installed.

Sensor information displayed items (items displayed when `-s` is specified)

**Table 5-46 Server blade sensor information**

| Displayed item | Description                                                            |
|----------------|------------------------------------------------------------------------|
| Temp           | Lists the thermal sensor names and sensor values for the server blade. |
| Volt           | Lists the voltage sensor names and sensor values for the server blade. |

## show blade hvm setting

Displays the following LPAR manager settings for the server blades:

- LPAR manager model
- Available LPAR manager firmware version
- License expiration date
- Performance tuning options

In an SMP configuration, if you specify primary server blades or non-primary server blades, the LPAR manager settings for the specified server blades are displayed. If you specify non-primary server blades, the setting values are shown in parentheses.

In a non-SMP configuration, the LPAR manager settings for the specified server blades are displayed.

### Syntax

```
show blade hvm setting [<blade_no>] [-p] [-v]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.



If you specify `all` or omit this parameter, command processing is performed for all server blades.

`-p`

Displays the LP licenses to be used in an SMP configuration. In an SMP configuration, specify primary server blades. In a non-SMP configuration, the LP license for each server blade is displayed.

Omitting the `-p` parameter displays the license expiration date.

Specifying the `-p` parameter displays the Performance tuning options.

`-v`

Displays the model name by adding the internal ID to the model type of LP license.

## Execution example

To display the LPAR manager settings for server blade 1:

```
show blade hvm setting 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-47 LPAR manager setting**

| Displayed item                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot                            | Server blade number<br>This is a value from 1 to 15.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LPAR manager license Model Type | LPAR manager model <ul style="list-style-type: none"><li>• Essential: Essential model</li><li>• Advanced: Advanced model</li><li>• -----: Displayed when no server blade is installed, the LP license is not set, or the slot number is the larger of the two slot numbers (the even number) used for the fullwide blade.</li></ul>                                                                                                                                                                                                |
| Valid through                   | License expiration date <ul style="list-style-type: none"><li>• YYYY-MM: Year and month</li><li>• YYYY-MM-DD: Year, month, and date</li><li>• Permanent: Permanent license</li></ul> Nothing is displayed when one of the following conditions is met: <ul style="list-style-type: none"><li>• The server blade is not installed.</li><li>• The LP license is not set.</li><li>• The slot number for a fullwide blade has the larger number (with an even number).</li><li>• The <code>-p</code> parameter is specified.</li></ul> |

| Displayed item                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Performance tuning options             | Performance tuning options <ul style="list-style-type: none"> <li>• enable: Enabled</li> <li>• disable: Disabled</li> <li>• -----: Unsupported license (The license for all blades in an SMP configuration is not Enterprise.)</li> <li>• Unknown (<i>Numerical value</i>): Undefined setting</li> </ul> Nothing is displayed when one of the following conditions is met: <ul style="list-style-type: none"> <li>• The server blade is not installed.</li> <li>• The LP license is not set.</li> <li>• The slot number for a fullwide blade has the larger number (with an even number).</li> <li>• The -p parameter is not specified.</li> </ul> |
| LPAR manager license Enable<br>Version | Available LPAR manager firmware version<br>No value is displayed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## show blade ipmi account

Displays the IPMI user account of the server blade.

Regardless of whether an SMP configuration is used, the IPMI user account of the specified server blade is displayed. For a server blade, IPMI user accounts whose IPMI user account number is in the range from 2 to 9 are displayed.

The following items are displayed:

- IPMI user account number of the server blade.
- Whether to enable or disable the IPMI user account
- User name
- Privilege

The password is not displayed.

### Syntax

```
show blade ipmi account [<blade_no>]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

## Execution example

To display the IPMI user accounts of server blade number 1:

```
$ show blade ipmi account 1
-- IPMI user account information --
Slot : 1
-- IPMI user account --
User account number : 2
Use : enable
User name : user
Privilege : Administrator
-- IPMI user account --
User account number : 3
Use : disable
User name :
Privilege :
(omitted)
-- IPMI user account --
User account number : 9
Use : disable
User name :
Privilege :
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-48 IPMI user account information**

| Displayed item | Description                                          |
|----------------|------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15. |

**Table 5-49 IPMI user account**

| Displayed item      | Description                                                                                                                                    |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| User account number | IPMI user account number.<br>This is a value from 2 to 9.                                                                                      |
| Use                 | Whether to enable or disable the IPMI user account <ul style="list-style-type: none"><li>enable: Enabled.</li><li>disable: Disabled.</li></ul> |
| User name           | User name                                                                                                                                      |

| Displayed item | Description                                                                                                                                                                                                 |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Privilege      | Privilege<br>You can display the following privilege levels: <ul style="list-style-type: none"> <li>• Administrator</li> <li>• Operator</li> <li>• User</li> <li>• Callback</li> <li>• NO ACCESS</li> </ul> |

## show blade maintenance-mode

Displays whether maintenance work for the server blades is performed.

The following information is displayed:

- Maintenance mode settings
- Remaining time for maintenance mode
- The IP address for the Maintenance LAN

### Syntax

```
show blade maintenance-mode [<blade_no>]
```

### Privilege

Server blade privilege

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

### Execution example

To display the maintenance mode for server blade 1:

```
$ show blade maintenance-mode 1
-- Blade maintenance mode --
Slot : 1
Maintenance mode : enable
Remaining time (min) : 115
IP address : 192.168.254.11
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-50 Blade maintenance mode**

| Displayed item       | Description                                                                                                                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot                 | Server blade number<br>This is a value from 1 to 15.                                                                                                                                                     |
| Maintenance mode     | Maintenance mode <ul style="list-style-type: none"><li>enable: Maintenance work is performed.</li><li>disable: Maintenance work is not performed.</li></ul>                                              |
| Remaining time (min) | Remaining time for maintenance mode (minutes) <ul style="list-style-type: none"><li>0-120: The remaining time for maintenance mode (minutes)</li><li>-----: Maintenance work is not performed.</li></ul> |
| IP address           | Maintenance LAN's IP address <ul style="list-style-type: none"><li>-----: Not set</li></ul>                                                                                                              |

## show blade mgmt-lan

Displays the following management LAN settings for the server blades:

- IP address
- Subnet mask
- Default gateway

Regardless of whether the specified server blades constitute SMP, the management LAN settings for each specified server blade are displayed.

## Syntax

```
show blade mgmt-lan [<blade_no>]
```

## Privilege

Network privilege

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

## Execution example

To display the management LAN settings for server blade 1:

```
show blade mgmt-lan 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-51 Blade management LAN setting**

| Displayed item  | Description                                                                        |
|-----------------|------------------------------------------------------------------------------------|
| Slot            | Server blade number<br>This is a value from 1 to 15.                               |
| Mode            | IPv4 address assign mode (Static or DHCP)                                          |
| DHCP server     | IP address of the DHCP server<br>(displayed when IPv4 address assign mode is DHCP) |
| IP address      | IP address                                                                         |
| Subnetmask      | Subnet mask                                                                        |
| Default gateway | Default gateway                                                                    |

**Table 5-52 Blade DHCP setting**

| Displayed item                                                             | Description                                                                                                                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use DHCP supplied settings<br>Default gateway<br>DNS server<br>Domain name | Whether to use the following parameters supplied via DHCP or not. <ul style="list-style-type: none"><li>Default gateway</li><li>DNS server</li><li>Domain name</li></ul> |

**Table 5-53 Blade DDNS setting**

| Displayed item | Description                 |
|----------------|-----------------------------|
| DDNS           | Whether to use DDNS or not. |

## show blade mgmt-v6 setting

Displays the management LAN settings for server the blades.

The following information is displayed:

- IPv6 address configuration information for the server blade
- Static address of the server blade

## Syntax

```
show blade mgmt-v6 setting [<blade_no>]
```

## Privilege

Network privilege

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

## Execution example

To display the management LAN settings (IPv6) for server blade 1:

```
show blade mgmt-v6 setting 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-54 Blade management LAN setting (IPv6)**

| Displayed item | Description                                          |
|----------------|------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15. |

**Table 5-55 IPv6 address setting**

| Displayed item  | Description                                                                                                                                          |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allocation      | Address setting method<br>Displays the address allocation method. <ul style="list-style-type: none"><li>Static address: Static address</li></ul>     |
| Status          | Status<br>Displays whether address settings are enabled. <ul style="list-style-type: none"><li>enable: Enabled.</li><li>disable: Disabled.</li></ul> |
| IP address      | IP address (IPv6)                                                                                                                                    |
| Prefix len      | Prefix length<br>This is a value from 1 to 128.                                                                                                      |
| Default gateway | Default gateway (IPv6)                                                                                                                               |

# show blade name

Display the hostname and domain name of the server blades:

Regardless of whether the specified server blades constitute SMP, the hostname and domain name of specified server blade are displayed.

## Syntax

show blade name [*<blade\_no>*]

## Privilege

Server blade privilege

## Parameters

*<blade\_no>*

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

If you specify all or omit this parameter, command processing is performed for all server blades.

## Execution example

To display the hostname and domain name of server blade 1:

show blade name 1

## Execution results

The following table shows the items that are displayed as the execution results of this command.

Table 5-56 Blade name setting

| Displayed item | Description         |
|----------------|---------------------|
| Slot           | Server blade number |
| Hostname       | Hostname            |
| Domain name    | Domain name         |

# show blade os-info

Displays host information including the host name and OS that obtained from the server blade.

## Syntax

show blade os-info [*<blade\_no>*]



## Privilege

Server blade privileges

## Parameters

*<blade\_no>*

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

## Execution example

To display the host information for server blade 1:

```
$ show blade os-info 1
-- Blade hosts information --
Slot : 1
Host name : Server-1
OS : Microsoft Windows Server 2012 R2 Standard
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-57 Blade hosts information**

| Displayed item | Description                                                                                                                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15.                                                                                                                                                                       |
| Host name      | Host name obtained from the server blade <ul style="list-style-type: none"><li>----- : Displayed when host name is not obtained, or the OS operation mode of the server blade is LP mode.</li></ul>                        |
| OS             | OS name obtained from the server blade <ul style="list-style-type: none"><li>LP : Displayed when the OS operation mode of the server blade is LP mode.</li><li>----- : Displayed when host name is not obtained.</li></ul> |

## show blade setting

Displays the following settings for the server blades:

- Operation to be performed when the power supply is restored
- Wait time after power is restored

- N+M cold standby setting
- WWN type
- MAC type
- OS operation mode

In an SMP configuration, if you specify a primary server blade, the settings for all server blades constituting the SMP configuration are displayed. If you specify non-primary server blades, the setting values are shown in parentheses. The setting values do not affect the behavior of the non-primary server blades.

## Syntax

```
show blade setting [<blade_no>]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

## Execution example

To display the settings for server blade 1:

```
$ show blade setting 1
-- Blade setting --
Slot : 1
-- Blade AC recovery setting --
AC recovery : stay
Wait time(min) : 10
-- Blade pre-configure setting --
N+M : enable
WWN type : additional
MAC type : additional
-- OS mode --
OS mode : basic
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-58 Blade setting**

| Displayed item | Description                                          |
|----------------|------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15. |

**Table 5-59 Blade AC recovery setting**

| Displayed item  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AC recovery     | <p>Operation to be performed when the power supply is restored.</p> <ul style="list-style-type: none"> <li>• stay: Keeps the server blade powered off even when power is supplied to the server chassis.</li> <li>• pon: Powers on the server blade when power is supplied to the server chassis.</li> <li>• last: Returns the power status of the server blade to its previous status (right before the server chassis was powered off) when power is supplied to the server chassis.</li> </ul> <p>In an SMP configuration, the settings for non-primary server blades are shown in parentheses. The values enclosed with parentheses do not affect the behavior of the non-primary server blades.</p> |
| Wait time (min) | <p>Wait time after power is restored</p> <p>In an SMP configuration, the settings for non-primary server blades are shown in parentheses. The values enclosed with parentheses do not affect the behavior of the non-primary server blades.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

**Table 5-60 Blade Smart configure setting**

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                       |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N+M            | <p>N+M cold standby setting</p> <ul style="list-style-type: none"> <li>• enable: N+M cold standby is enabled.</li> <li>• disable: N+M cold standby is disabled.</li> </ul> <p>In an SMP configuration, the settings for non-primary server blades are shown in parentheses. The values enclosed with parentheses do not affect the behavior of the non-primary server blades.</p> |
| WWN type       | <p>WWN type</p> <ul style="list-style-type: none"> <li>• original: Default Physical</li> <li>• additional: Optional Physical</li> </ul> <p>In an SMP configuration, the settings for non-primary server blades are shown in parentheses. The values enclosed with parentheses do not affect the behavior of the non-primary server blades.</p>                                    |
| MAC type       | MAC type                                                                                                                                                                                                                                                                                                                                                                          |

| Displayed item | Description                                                                                                                                                                                                                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <ul style="list-style-type: none"> <li>original: Default Physical</li> <li>additional: Optional Physical</li> </ul> <p>In an SMP configuration, the settings for non-primary server blades are shown in parentheses. The values enclosed with parentheses do not affect the behavior of the non-primary server blades.</p> |

**Table 5-61 OS mode**

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                        |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OS mode        | <p>OS operation mode</p> <ul style="list-style-type: none"> <li>basic: The OS that runs when LPAR manager is disabled starts.</li> <li>hvm: LPAR manager starts.</li> </ul> <p>In an SMP configuration, the settings for non-primary server blades are shown in parentheses. The values enclosed with parentheses do not affect the behavior of the non-primary server blades.</p> |

## show blade smp construction

Displays the SMP configuration patterns for server blades.

An SMP configuration pattern is displayed for each of the server blade slot number ranges from 1 to 8 and from 9 to 15. The following table describes SMP configuration patterns.

| Description of SMP configuration patterns                                                                                                                                                                                                                | Character string displayed as an execution result |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| All server blades are used in non-SMP configurations                                                                                                                                                                                                     | 1-1-1-1                                           |
| <p>The lower two tiers (slot number: 1 to 4 or 9 to 12) are used in a 2-blade SMP configuration</p> <p>The upper two tiers (slot number: 5 to 8 or 13 to 15) are used in a non-SMP configuration</p>                                                     | 2-1-1                                             |
| <p>The middle two tiers (slot number: 3 to 6 or 11 to 14) are used in a 2-blade SMP configurations</p> <p>The lowest tier (slot number: 1 and 2, or 9 and 10) and the highest tier (slot number: 7 and 8, or 15) are used in a non-SMP configuration</p> | 1-2-1                                             |
| To use the upper two tiers (slot number: 5 to 8 or 13 to 15) in 2-blade SMP configurations                                                                                                                                                               | 1-1-2                                             |

| Description of SMP configuration patterns                                                                                                                                                     | Character string displayed as an execution result |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| To use the lower two tiers (slot number: 1 to 4 or 9 to 12) in non-SMP configurations                                                                                                         |                                                   |
| The lower two tiers (slot number: 1 to 4 or 9 to 12) are used in a 2-blade SMP configuration<br>The upper two tiers (slot number: 5 to 8 or 13 to 15) are used in a 2-blade SMP configuration | 2-2                                               |
| All tiers are used in a 4-blade SMP configurations                                                                                                                                            | 4                                                 |

## Syntax

`show blade smp construction`

## Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the SMP configuration for the server chassis:

`show blade smp construction`

## Execution results

**Table 5-62 SMP construction**

| Displayed item | Description                                 |
|----------------|---------------------------------------------|
| Slot 1-8       | SMP configuration pattern for slots 1 to 8  |
| Slot 9-15      | SMP configuration pattern for slots 9 to 15 |

## show blade status

Displays the statuses of the server blades.

## Syntax

`show blade status [<blade_no>]`

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

## Execution example

To display the status of server blade 1:

```
$ show blade status 1
-- Blade status --
Slot : 1
Install : installed
Initialize : Init comp
Power detail : Off
Power : Off
Fail : Normal
Warning : Normal
Mass(kg) : 13.400
-- Power On suppression --
Status : disable
-- LED status --
LED type : POWER
Light : off
LED type : FAULT
Light : off
LED type : ERROR LOG
Light : off
LED type : LID
Light : off
-- SMP connect board status --
Install : not installed
SMP type : -----
-- N+M cold standby status --
Last result : Don't care
Status : Not get
CNA Information Status : Not backed up
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-63 Blade status**

| Displayed item | Description                                          |
|----------------|------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15. |

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <p>In an SMP configuration, the server blade type (primary server blade or non-primary server blade) is displayed next to the server blade number.</p> <ul style="list-style-type: none"> <li>Example: When the server blade is the primary server blade:<br/>Slot : 1 (primary)</li> <li>Example: When the server blade is a non-primary server blade:<br/>Slot : 3 (non primary)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Install        | <p>Whether the server blade is installed</p> <ul style="list-style-type: none"> <li>installed: The server blade is installed.</li> <li>not installed: The server blade is not installed.</li> <li>-----: Indicates that the larger of the two slot numbers (the even number) is used for the fullwide blade.</li> </ul> <p>Regardless of whether the specified server blades constitute an SMP configuration, whether or not each specified server blade is installed is displayed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Initialize     | <p>The initialization status of the server blade</p> <p>The initialization status of the server blade is displayed. After initialization successfully ends, you can perform operations such as a power supply operation.</p> <ul style="list-style-type: none"> <li>Not install: The server blade is not installed.</li> <li>Not initialize: The server blade is not initialized.</li> <li>Init executing: The server blade is now being initialized.</li> <li>Init comp: The server blade was successfully initialized.</li> <li>Reinitializing: The server blade was successfully initialized and is now being reinitialized (BMC restart, server blade firmware update, etc.).</li> <li>Init comp NG: Initialization of the server blade failed.</li> <li>-----: Indicates the larger of the two slot numbers (the even number) used for the fullwide blade.</li> </ul> <p>In an SMP configuration, if you specify a primary server blade, the initialization status of the entire SMP configuration is displayed. The following are initialization statuses of the entire SMP configuration:</p> <ul style="list-style-type: none"> <li>Not install: No server blades constituting an SMP configuration are installed.</li> <li>Not install: At least one server blade constituting an SMP configuration is installed and the BMC initialization has not started yet.</li> <li>Init executing: In the SMP configuration, there are some server blades whose BMCs are being initialized.</li> </ul> |

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <ul style="list-style-type: none"> <li>• Init comp: The BMCs of all server blades constituting an SMP configuration were successfully initialized.</li> <li>• Reinitializing: In an SMP configuration, there are some server blades whose BMCs are being reinitialized after they were successfully initialized.</li> <li>• Init comp NG: In an SMP configuration, there are some server blades that failed to be initialized. This status is set if initialization is performed when only some of the server blades constituting an SMP configuration or only some of the SMP connect boards are installed.</li> <li>• -----: Indicates the larger of the two slot numbers (the even number) used for the fullwide blade.</li> </ul> <p>In an SMP configuration, if you specify a non-primary server blade, the initialization status of the server blade is displayed. The following are initialization statuses for a server blade:</p> <ul style="list-style-type: none"> <li>• Not install: The server blade is not installed.</li> <li>• Not initialize: The server blade is not initialized.</li> <li>• Init executing: The server blade is now being initialized.</li> <li>• Init comp: The server blade was successfully initialized.</li> <li>• Init comp NG: Initialization of the server blade failed.</li> <li>• -----: Indicates the larger of the two slot numbers (the even number) used for the fullwide blade.</li> </ul> |
| Power detail   | <p>Detailed power supply status of the server blade</p> <ul style="list-style-type: none"> <li>• Off: The server blade is powered off.</li> <li>• Reserve: The server blade is in a reservation standby state and is waiting to be powered on.</li> <li>• Powering on: The server blade is now powering on.</li> <li>• Reserve: The server blade is powered on.</li> <li>• Powering on: The server blade is now powering off.</li> <li>• Error: Acquisition of the information failed.</li> <li>• -----: Indicates no server blade installed, a non-primary server blade in an SMP configuration, or the larger of the two slot numbers (the even number) used for the fullwide blade.</li> </ul> <p>In an SMP configuration, if you specify a primary server blade, the detailed power supply status of the entire SMP configuration is displayed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Power          | <p>Power supply status of the server blade</p> <ul style="list-style-type: none"> <li>• Off: The server blade is powered off.</li> <li>• On: The server blade is powered on.</li> <li>• -----: Indicates no server blade installed, a non-primary server blade in an SMP configuration, or the</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |



| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <p>larger of the two slot numbers (the even number) used for the fullwidth blade.</p> <p>In an SMP configuration, if you specify a primary server blade, the detailed power supply status of the entire SMP configuration is displayed.</p>                                                                                                                                                                                                                                                                                      |
| Fail           | <p>Failure status of the server blade</p> <ul style="list-style-type: none"> <li>Normal: The status of the server blade is normal.</li> <li>FAIL: A failure occurred for the server blade.</li> <li>-----: Indicates no server blade installed, or the larger of the two slot numbers (the even number) used for the fullwidth blade.</li> </ul> <p>Regardless of whether the specified server blades constitute an SMP configuration, the status of each specified server blade is displayed.</p>                               |
| Warning        | <p>Warning status of the server blade</p> <ul style="list-style-type: none"> <li>Normal: The status of the server blade is normal.</li> <li>WARNING: A warning was issued for the server blade.</li> <li>-----: Indicates that no server blade is installed, or the larger of the two slot numbers (the even number) is used for the fullwidth blade.</li> </ul> <p>Regardless of whether the specified server blades constitute an SMP configuration, the warning status of each specified server blade is displayed.</p>       |
| Mass (kg)      | <p>Weight of the server blade</p> <p>The weight is given in kilograms (kg).</p> <p>Regardless of whether the specified server blades constitute an SMP configuration, the weight of each specified server blade is displayed.</p>                                                                                                                                                                                                                                                                                                |
| TPM License    | <p>TPM License</p> <ul style="list-style-type: none"> <li>enable: Enabled</li> <li>disable: Disabled</li> </ul> <p>Regardless of whether the specified server blades constitute an SMP configuration, the TPM license of each specified server blade is displayed. This item is not displayed when no server blade is installed, or the server blade slot is the larger of the two slot numbers (the even number) used for the fullwidth blade. This item is not displayed when TPM license management function is disabled.</p> |

**Table 5-64 Power On suppression**

| Displayed item | Description                                                                                                                              |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Status         | <p>Power-on suppression status</p> <ul style="list-style-type: none"> <li>enable: The power-on suppression status is enabled.</li> </ul> |

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <ul style="list-style-type: none"> <li>• disable: The power-on suppression status is disabled.</li> <li>• -----: Indicates that no server blade is installed, a non-primary server blade is in an SMP configuration, or the larger of the two slot numbers (the even number) is used for the fullwide blade.</li> </ul> <p>In an SMP configuration, if you specify a primary server blade, the power-on suppression status of the entire SMP configuration is displayed.</p> |

**Table 5-65 LED status**

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LED type       | <p>LED indicator type</p> <p>If the server blade is not installed, this item is not displayed.</p> <ul style="list-style-type: none"> <li>• POWER: LED indicator for the power button</li> <li>• FAULT: Failure detection LED indicator</li> <li>• ERROR LOG: Error log LED indicator</li> <li>• LID: Identification LED indicator</li> <li>• PRIMARY: Primary LED indicator. This item is displayed only for CB 520X B1/B2/B3 server blades.</li> </ul> <p>Regardless of whether the specified server blades constitute SMPs, the LED indicator type for each specified server blade is displayed.</p> |
| Light          | <p>LED indicator status</p> <p>If the server blade is not installed, this item is not displayed.</p> <ul style="list-style-type: none"> <li>• on: The LED indicator is lit.</li> <li>• off: The LED indicator is unlit.</li> </ul> <p>Regardless of whether the specified server blades constitute an SMP configuration, the LED indicator status for each specified server blade is displayed.</p>                                                                                                                                                                                                     |

**Table 5-66 SMP connect board status**

| Displayed item | Description                                                                                                                                                                                                              |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Install        | <p>Installation status of the SMP connect board</p> <ul style="list-style-type: none"> <li>• installed: The SMP connect board is installed.</li> <li>• not installed: The SMP connect board is not installed.</li> </ul> |
| SMP type       | <p>Type of the SMP connect board</p> <ul style="list-style-type: none"> <li>• 1SMP: The 1-blade SMP connect board is installed.</li> </ul>                                                                               |

| Displayed item | Description                                                                                                                                                                                                                                                       |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <ul style="list-style-type: none"> <li>• 2SMP: The 2-blade SMP connect board is installed.</li> <li>• 4SMP: The 4-blade SMP connect board is installed.</li> <li>• -----: No SMP connect board is installed, or the SMP connect board type is unknown.</li> </ul> |

**Table 5-67 N+M cold standby status**

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Last result    | <p>The last execution result of N+M cold standby</p> <p>The execution result when Smart configure was last executed is displayed.</p> <ul style="list-style-type: none"> <li>• OK: The last execution completed normally. You can use the server blade as is.</li> <li>• NG: The last execution failed. According to the condition, execute Smart configure or power on the server blade.</li> <li>• Don't care: Pre-configure is disabled.</li> <li>• -----: Indicates that no server blade is installed, a non-primary server blade is in an SMP configuration, or the larger of the two slot numbers (the even number) is used for the fullwide blade.</li> </ul> <p>In an SMP configuration, if you specify a primary server blade, the last execution result of N+M cold standby for the entire SMP configuration is displayed.</p>                                                                                                                                                                                 |
| Status         | <p>N+M cold standby status</p> <ul style="list-style-type: none"> <li>• Not get: The information is not collected. This indicates that Smart configure has not been executed since the server chassis was powered on or the server blade configuration was changed.</li> <li>• Getting: The information will be collected. This indicates that Smart configure is either manually or automatically executed.</li> <li>• Valid: The information is valid. This indicates that the execution of Smart configure finishes.</li> <li>• Not set: The information is not set. This indicates that although the N+M cold standby failover occurred, the failover or recovery destination server blade is not started. This status temporarily occurs during the N+M cold standby failover or recovery.</li> <li>• -----: Indicates that no server blade is installed, a non-primary server blade is in an SMP configuration, or the larger of the two slot numbers (the even number) is used for the fullwide blade.</li> </ul> |

| Displayed item         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | In an SMP configuration, if you specify a primary server blade, the N+M cold standby status of the entire SMP configuration is displayed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CNA Information Status | <p>CNA information status</p> <ul style="list-style-type: none"> <li>• Not backed up: The information is not backed up.</li> <li>• Backed up: The information is backed up.</li> <li>• Waiting for restore: The information is waiting to be restored.</li> <li>• Waiting for clear: The information is waiting to be cleared.</li> <li>• -----: Indicates that no server blade is installed, a non-primary server blade is in an SMP configuration, or the larger of the two slot numbers (the even number) is used for the fullwide blade.</li> </ul> <p>In an SMP configuration, if you specify a primary server blade, the CNA information status of the entire SMP configuration is displayed.</p> |

## update blade firmware bulk

Updates the firmware for the server blades.

In an SMP configuration, you need to update the firmware for all server blades constituting the SMP configuration at the same time. Because of this, specify the numbers of all server blades constituting an SMP configuration.

### Syntax

```
update blade firmware bulk [<blade_no>] -f <fw_file_name> [-F]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

-f <fw\_file\_name>

Name of the firmware update file

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To update the firmware of server blade 1:

```
$ update blade firmware bulk 1 -f xxx.update
W0012 : BMC restart automatically.
W0013 : New EFI firmware will be used the next time EFI is booted.
Confirm? (y/[n]):y
I0107 : <Blade 1> Update firmware was started.
I0042 : <Blade 1> Update firmware was completed.
I0015 : Update firmware was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

- You must send the firmware update file via FTP before executing this command.  
If you send a firmware update file while this command is running, the firmware update might fail. If the firmware update fails, retry the update operation.
- If you specify only some of the server blades constituting an SMP configuration, the following message appears and the update is not performed:  
E0655 : <Blade X> Command was canceled. Only a part of the blades of the SMP is specified. (X indicates the specified server blade number.)

## Commands to manage management modules

This section describes the commands to confirm and change the settings for management modules.

### clear mgmt-module boot-disable

Clears the boot disable status for a management module.

#### Syntax

```
clear mgmt-module boot-disable <mgmt_no> [-F]
```

#### Privilege

Chassis privilege

#### Parameters

<mgmt\_no>

Management module number

You can specify a value 1 or 2. You cannot specify multiple values.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To clear the boot disable status for management module 1:

```
clear mgmt-module boot-disable 1
```

### Rules

If you clear the boot disable status for the management module that you are connecting to, when execution of this command finishes, sessions with management modules will close.

## delete mgmt-module file

Deletes files under the user directories for management modules.

### Syntax

```
delete mgmt-module file {-a|-f <file_name>} [-F]
```

### Privilege

Chassis privilege

### Parameters

-a

Deletes all files.

-f <file\_name>

File name

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To delete all files under the user directories for management modules:

```
delete mgmt-module file -a
```

To delete the file readme.txt under the user directories for management modules:

```
delete mgmt-module file -f readme.txt
```

## restart mgmt-module

Restarts management modules.

## Syntax

```
restart mgmt-module [<mgmt_no>] [-a] [-s] [-F]
```

## Privilege

Chassis privilege

## Parameters

<mgmt\_no>

Management module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all management modules.

-a

Restarts the active management module. You can omit this parameter.

-s

Restarts the standby management module. You can omit this parameter.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To restart management module 1:

```
restart mgmt-module 1
```

To restart the active management module:

```
restart mgmt-module -a
```

To restart the standby management module:

```
restart mgmt-module -s
```

## Rules

If you restart the management module that you are connecting to, when execution of this command finishes, sessions with management modules will close.

## set mgmt-module led

Turns the LID lamps of management modules on or off.

## Syntax

```
set mgmt-module led [<mgmt_no>] [-a] [-s] -l <led_type> -t
<led_on_off> [-F]
```

## Privilege

Chassis privilege

## Parameters

*<mgmt\_no>*

Management module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all management modules.

`-a`

Operates the active management module. You can omit this parameter.

`-s`

Operates the standby management module. You can omit this parameter.

`-l <led_type>`

LED indicator type

lid: Identification LED indicator

`-t <led_on_off>`

LED indicator status

on: Turns the LED indicator on.

off: Turns the LED indicator off.

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To turn on the LID lamp for management module 1:

```
set mgmt-module led 1 -l lid -t on
```

To turn off the LID lamp for management module 1:

```
set mgmt-module led 1 -l lid -t off
```

## set mgmt-module dns

Sets the DNS to be used in the management LAN for management modules.

You can set the following information:

- Information about whether to prioritize IPv4 DNS settings or IPv6 DNS settings
- IPv4 DNS settings (a maximum of three addresses)
- IPv6 DNS settings (a maximum of three addresses)



## Syntax

```
set mgmt-module dns -p <priority> [-v4 <ipv4_addr>] [-v6
<ipv6_addr>] [-F]
```

## Privilege

Network privilege

## Parameters

-p <priority>

Priority

Specify whether to access IPv4 DNS servers first or to access IPv6 DNS servers first.

- ipv4: Gives priority to IPv4 DNS servers.
- ipv6: Gives priority to IPv6 DNS servers.

You cannot omit this parameter.

-v4 <ipv4\_addr>

IP address for a DNS server (IPv4)

You can specify a maximum of three IPv4 addresses separated by commas. Do not enter a space character between a comma and an address.

The IP addresses of the current IPv4 DNS servers will be replaced with the entered addresses. Specify the IP addresses for all DNS servers that you want to use.

If you omit this parameter, all IPv4 DNS server settings will be deleted.

-v6 <ipv6\_addr>

DNS server IP address (IPv6)

You can specify a maximum of three IPv6 addresses separated by commas. Do not enter a space character between a comma and an address.

The addresses of the current IPv6 DNS servers will be replaced with the entered addresses. Specify the IP addresses for all DNS servers that you want to use.

If you omit this parameter, all IPv6 DNS server settings will be deleted.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set one set of IPv4 DNS servers and two sets of IPv6 DNS servers, and to give priority to the IPv6 DNS servers:

```
set mgmt-module dns -p ipv6 -v4 192.168.20.101 -v6
fe80::200:87ff:feb2:c24,fe80::200:87ff:feb2:c20
```

## Rules

- A duplication check is not performed for the specified address.
- For the default gateway, you can specify an address that is reachable from the address for management modules.
- For the IP addresses of IPv6 DNS server, you cannot set the loopback address (::1/128).
- For the IP addresses of IPv4 DNS servers, you can specify only an address that has a value in the range from 1 to 126 or from 128 to 223 in the top field.
- You cannot set a broadcast address, which is an address that has all 0s or 1s in the host field.

## set mgmt-module maintenance-mode

Sets the maintenance mode for the management module when maintenance work for the modules below is performed. Do not use this command for normal operations because this command is used for maintenance work.

- Management module
- Management LAN module

If you set maintenance mode, the remaining time for maintenance mode is set to 120 minutes.

## Syntax

```
set mgmt-module maintenance-mode <mgmt_no> -m <mnt_mode> [-F]
```

## Privilege

Chassis privilege

## Parameters

<mgmt\_no>

Management module number

You can specify either 1 or 2 as the value. You cannot specify multiple values.

-m <mnt\_mode>

Maintenance mode

- enable: Sets maintenance mode.
- disable: Cancels maintenance mode.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the maintenance mode for management module 1:

```
$ set mgmt-module maintenance-mode 1 -m enable
Confirm? (y/[n]):y
I0062 : <Management module 1> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## set mgmt-module mgmt-lan

Sets the management LAN for management modules.

### Syntax

```
set mgmt-module mgmt-lan [-i <ip_addr>] [-s <subnet_mask>] [-g
<default_gateway>] [-d0 <dns>] [-d1 <dns>] [-d2 <dns>] [-m <static
or dhcp>] [-dg <Default gateway from DHCP server>] [-dn <DNS server
from DHCP server>] [-do <Domain name from DHCP server>] [-dd <DDNS
enable or disable>] [-F]
```

### Privilege

Network privilege

### Parameters

- i <ip\_addr>  
IP address
- s <subnet\_mask>  
Subnet mask
- g <default\_gateway>  
Default gateway
- d0 <dns>  
DNS server address (1st)
- d1 <dns>  
DNS server address (2nd)
- d2 <dns>  
DNS server address (3rd)
- m <static or dhcp>  
IPv4 address assign mode
- dg <Default gateway from DHCP server>  
Whether to use DHCP supplied default gateway or not
- dn <DNS server from DHCP server>  
Whether to use DHCP supplied DNS server or not

- do <Domain name from DHCP server>  
Whether to use DHCP supplied domain name or not
- dd <DDNS enable or disable>  
Whether to use DDNS or not
- F  
Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the management LAN for management modules:

```
set mgmt-module mgmt-lan -i 192.168.0.20 -s 255.255.255.0 -g
192.168.0.70 -F
```

To use DHCP on the management LAN interface of management module, use DHCP supplied default gateway and enable DDNS:

```
set mgmt-module mgmt-lan -m dhcp -dg enable -dd enable -F
```

To disable DHCP on the management LAN interface of management module (parameters assigned via DHCP are preserved and used as static settings):

```
set mgmt-module mgmt-lan -m static -F
```

## Rules

- If you do not specify any parameters, configuration of the settings fails.
- To configure the DNS settings, use the command `set mgmt-module dns`.

## set mgmt-module mgmt-v6 address

Sets the management LAN (IPv6) for management modules.

You can set a static address. To set a static address, enter the following items:

- IP address (IPv6)
- Prefix length
- Whether to enable use of the default gateway
- Default gateway

## Syntax

```
set mgmt-module mgmt-v6 address -st <setting> [-i <ip_address>] [-p
<prefix_len>] [-gs <dgw_setting>] [-g <default_gateway>] [-F]
```

## Privilege

Network privilege

## Parameters

**-st <setting>**

Specify whether to enable use of a static address.

- enable: Enabled.
- disable: Disabled.

You cannot omit this parameter.

**-i <ip\_address>**

IP address (IPv6)

If you entered `-st enable`, this item is required. If you entered `-st disable`, omit this parameter.

**-p <prefix\_len>**

Prefix length

Specify a value from 1 to 128.

If you entered `-st enable`, this item is required. If you entered `-st disable`, omit this parameter.

**-gs <dgw\_setting>**

Specify whether to enable use of the default gateway (IPv6).

- enable: Enabled.
- disable: Disabled.

If you entered `-st enable`, this item is required. If you entered `-st disable`, omit this parameter.

If you want to specify the default gateway (`-g`), specify `enable`.

**-g <default\_gateway>**

Default gateway (IPv6)

If you entered `-st enable` or `-gs enable`, this item is required.

If you entered `-st disable` or `-gs disable`, or if you omitted `-gs`, omit this parameter.

**-F**

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set a static address in the management LAN settings (IPv6) for management modules:

```
set mgmt-module mgmt-v6 address -st enable -i
fe80::200:87ff:feb2:c24 -p 64 -gs enable -g fe80::200:87ff:feb2:c20
```

## Rules

- A duplication check is not performed for the specified address.

- For the default gateway, you can specify an address that is reachable from the address for management modules.
- You cannot set the loopback address (::1/128).

## set mgmt-module mgmt-v6 dad

Sets whether to suppress IPv6 communications if a repeat of a link local address is detected in the management LAN for management modules.

Any repeat of a link local address will be detected when a management module is started or switched.

### Syntax

```
set mgmt-module mgmt-v6 dad -s <setting> [-F]
```

### Privilege

Network privilege

### Parameters

-s <setting>

Specify whether to enable or disable the suppression of IPv6 communications when a repeat of a link local address is detected.

- enable: Suppresses IPv6 communications
- disable: Does not suppress IPv6 communications

-F

If you specify this parameter, the command executes but the confirmation dialog box does not appear. This parameter can be omitted.

### Execution example

To enable the suppression of IPv6 communications when a repeat of a link local address is detected:

```
$ set mgmt-module mgmt-v6 dad -s enable
Confirm? (y/[n]):y
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## set mgmt-module name

Change the hostname and domain name of management module.

### Syntax

```
set mgmt-module name [-h <hostname>] [-d <domain_name>] [-ih] [-id]
[-F]
```

## Privilege

Chassis privilege

## Parameters

-h <hostname>

Hostname

-d <domain name>

Domain Name

-ih

Initialize hostname

-id

Initialize domain name

-F

Specify this parameter to execute the command without displaying a confirmation dialog. You can omit this parameter.

## Execution example

To set the hostname and domain name of management module:

```
set mgmt-module name -h mm1 -d example.org
```

To initialize the hostname and domain name of management module:

```
set mgmt-module name -ih -id -F
```

## set mgmt-module int-lan

Sets the internal LAN for management modules.

## Syntax

```
set mgmt-module int-lan -i <ip_addr> [-F]
```

## Privilege

Network privilege

## Parameters

-i <ip\_addr>

IP address

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the internal LAN for management modules:

```
$ set mgmt-module int-lan -i 192.168.253.0
W0001 : If confirm, this connect is lost.
Confirm? (y/[n]):y
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

The subnet mask is fixed to 255.255.255.0.

After you set the internal LAN, the management modules are restarted and the sessions are closed.

## set mgmt-module serial-port

Changes the serial port settings for management modules.

### Syntax

```
set mgmt-module serial-port [-b <baud_rate>] [-F]
```

### Privilege

Chassis privilege

### Parameters

-b <baud\_rate>

Baud rate

Specify one of the following values: 9,600, 19,200, 38,400, 57,600, or 115,200. You can omit this parameter.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the baud rate for the management module serial port to 9,600 bps:

```
set mgmt-module serial-port -b 9600
```

## show mgmt-module firmware

Displays the management module firmware version.

### Syntax

```
show mgmt-module firmware
```



## Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the management module firmware version:

```
show mgmt-module firmware
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-68 Management module firmware**

| Displayed item | Description                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Management module number<br>This is a value 1 or 2.                                                                                          |
| Behavior       | System status of the management module <ul style="list-style-type: none"><li>active: Active system</li><li>standby: Standby system</li></ul> |

**Table 5-69 Solo bank firmware**

| Displayed item | Description                                         |
|----------------|-----------------------------------------------------|
| UEFI           | UEFI version<br>The maximum length is 8 characters. |
| FPGA           | FPGA version<br>The maximum length is 8 characters. |
| CPLD           | CPLD version<br>The maximum length is 8 characters. |

**Table 5-70 Dual bank firmware**

| Displayed item | Description                                                                                                         |
|----------------|---------------------------------------------------------------------------------------------------------------------|
| Bank           | Bank number<br>This is a value from 0 to 1.                                                                         |
| Status         | Bank status <ul style="list-style-type: none"><li>active: Bank in use</li><li>alternate: Alternative bank</li></ul> |

| Displayed item | Description                                              |
|----------------|----------------------------------------------------------|
| Revision       | Firmware version<br>The maximum length is 32 characters. |
| FW_A           | FW_A version<br>The maximum length is 8 characters.      |
| FW_B           | FW_B version<br>The maximum length is 8 characters.      |
| FW_C           | FW_C version<br>The maximum length is 8 characters.      |
| MIB            | MIB version<br>The maximum length is 5 characters.       |

**Table 5-71 Dictionary**

| Displayed item | Description                                               |
|----------------|-----------------------------------------------------------|
| Revision       | Dictionary version<br>The maximum length is 5 characters. |

## show mgmt-module hardware

Displays the information about the hardware of management modules.

- Hardware information  
Displayed if you specify the `-h` parameter.
- FRU information  
Displayed if you specify the `-f` parameter.
- Sensor information  
Displayed if you specify the `-s` parameter.

You need to specify at least one of the following parameters: `-h`, `-f`, and `-s`. If you omit all the parameters, the management module information is not displayed. You can specify all of the parameters. The information that you specify by using the parameters is displayed for each management module, in order of hardware information, FRU information, and sensor information.

You can specify multiple management module numbers. If you do not specify a number, the information of all management modules is displayed.

### Syntax

```
show mgmt-module hardware [<mgmt_no>] [-h] [-f] [-s]
```

### Privilege

Chassis privilege

## Parameters

<mgmt\_no>

Management module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all management modules.

-h

Displays the hardware information for the specified management modules.

-f

Displays the FRU information for the specified management modules.

-s

Displays the sensor information for the specified management modules.

## Execution example

To display the hardware information, FRU information, and sensor information for management module 1:

```
$ show mgmt-module hardware 1 -h -f -s
-- Management module hardware information --
Slot : 1
-- Management module --
Product name : Management Module
MAC address (Management LAN port) : 00:00:00:00:00:00
MAC address (Maintenance LAN port) : 00:00:00:00:00:01
-- Management module FRU information --
-- Board Information --
Manufacture : XXXX
Product name : XXXXXXXXX
Serial Number : XXXXXXXXX
-- Product Information --
Manufacture : HITACHI
Product name : Management Module
Product Version : XXXXXXXXX
-- MultiRecord Information --
Manufacture ID : 000074
Module Type 1 : 04
Module Type 2 : 00
Chassis Product Part/Model Number : XXXXXXXXX
Chassis Serial Number : XXXXXXXXX
Midplane ID : 00
Chassis Product Part/Model Number for Maintenance : XXXXXXXXX
Model ID : 00
Additional WWN : 2400000087000000
SVP Model Type for MUI : 00
SVP Model Type for Web-Console Logo : 00
SVP Model Type for Corporate Logo : 00
System Logo : XXXXXXXXX
OEM Type : 00
Part code system ID : 00
Additional MAC : 00:00:87:78:A8:00
LP Type : 00
```

```

-- Management module sensor information --
-- Temp --
Temperature : 23.00
-- Volt --
12.0V : 12.18
5.0V : 4.98
3.3V : 3.28
2.5V : 2.50
1.8V : 1.78
1.5V : 1.50
1.35V : 1.34
1.2V : 1.20
1.1V : 1.09
1.0V0 : 0.99
1.0V1 : 0.98
VCC : 0.82
VNN : 1.00
VDDQ : 1.32
VTT : 0.66
S0002 : Command succeeded.
S0000 : Command was finished.
$

```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

- Common displayed items (items displayed when `-h`, `-f`, or `-s` is specified)

**Table 5-72 Management module hardware information**

| Displayed item | Description                                         |
|----------------|-----------------------------------------------------|
| Slot           | Management module number<br>This is a value 1 or 2. |

- Hardware information displayed items (items displayed when `-h` is specified)

**Table 5-73 Management module**

| Displayed item                    | Description                                                                                                                              |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Product name                      | Name <ul style="list-style-type: none"> <li>-----: The management module is not installed.</li> </ul>                                    |
| MAC address(Management LAN port)  | MAC address of the management LAN port <ul style="list-style-type: none"> <li>-----: The management module is not installed.</li> </ul>  |
| MAC address(Maintenance LAN port) | MAC address of the maintenance LAN port <ul style="list-style-type: none"> <li>-----: The management module is not installed.</li> </ul> |

- FRU information displayed items (items displayed when `-f` is specified)  
This information is not displayed if the management module is not installed.

**Table 5-74 Board Information**

| Displayed item | Description       |
|----------------|-------------------|
| Manufacture    | Manufacturer code |
| Product name   | Product name      |
| Serial Number  | Serial number     |

**Table 5-75 Product Information**

| Displayed item  | Description       |
|-----------------|-------------------|
| Manufacture     | Manufacturer code |
| Product name    | Product name      |
| Product Version | Product version   |

**Table 5-76 MultiRecord Information**

| Displayed item                                    | Description                                                                                                               |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Manufacture ID                                    | Code for Hitachi                                                                                                          |
| Module Type 1                                     | Module type code 1                                                                                                        |
| Module Type 2                                     | Module type code 2                                                                                                        |
| Chassis Product Part/Model Number                 | Equipment model name                                                                                                      |
| Chassis Serial Number                             | Serial number of the chassis                                                                                              |
| Midplane ID                                       | Midplane type                                                                                                             |
| Chassis Product Part/Model Number for Maintenance | Maintenance component code                                                                                                |
| Model ID                                          | Chassis type                                                                                                              |
| Additional WWN                                    | Additional WWN                                                                                                            |
| SVP Model Type for MUI                            | System name after you log in to the SVP system console, and the system name displayed in the title bar of the Web console |
| SVP Model Type for Web-Console Logo               | Product logo displayed in the Web console                                                                                 |
| SVP Model Type for Corporate Logo                 | Corporate logo displayed in the Web console                                                                               |
| System Logo                                       | System logo                                                                                                               |
| OEM Type                                          | Type code related to the sales territory and channel                                                                      |
| Part code system ID                               | Component code (maintenance component model name) system                                                                  |
| Additional MAC                                    | Optional Physical MAC address                                                                                             |

| Displayed item | Description                                                            |
|----------------|------------------------------------------------------------------------|
| LP Type        | Code for distinguishing between the names for inside and outside Japan |

- Sensor information displayed items (items displayed when `-s` is specified)  
This information is not displayed if the management module is not installed.

**Table 5-77 Management module sensor information**

| Displayed item | Description                                                                |
|----------------|----------------------------------------------------------------------------|
| Temp           | Lists the thermal sensor names and sensor values for the management module |
| Volt           | Lists the voltage sensor names and sensor values for the management module |

## show mgmt-module int-lan

Displays the internal LAN settings of management modules.

### Syntax

```
show mgmt-module int-lan
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display the internal LAN settings of management modules:

```
$ show mgmt-module int-lan
-- Management module internal LAN setting --
IP address : 192.168.253.0
Subnetmask : 255.255.255.0
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-78 Management module internal LAN setting**

| Displayed item | Description |
|----------------|-------------|
| IP address     | IP address  |
| Subnetmask     | Subnet mask |

## **show mgmt-module maintenance-mode**

Displays whether maintenance work for the following modules is performed:

- Management modules
- Management LAN modules

The following information is displayed:

- Maintenance mode settings
- Remaining time for maintenance mode

### **Syntax**

```
show mgmt-module maintenance-mode [<mgmt_no>]
```

### **Privilege**

Chassis privilege

### **Parameters**

**<mgmt\_no>**

Management module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify **all** or omit this parameter, command processing is performed for all management modules.

### **Execution example**

To display the maintenance mode for management module 1:

```
$ show mgmt-module maintenance-mode 1
-- Management module maintenance mode --
Slot : 1
Maintenance mode : enable
Remaining time (min) : 115
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

### **Execution results**

The following table shows the items that are displayed as the execution results of this command.

**Table 5-79 Management module maintenance mode**

| Displayed item      | Description                                                                                                                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot                | Management module number<br>This is a value 1 or 2.                                                                                                                                                      |
| Maintenance mode    | Maintenance mode <ul style="list-style-type: none"><li>enable: Maintenance work is performed.</li><li>disable: Maintenance work is not performed.</li></ul>                                              |
| Remaining time(min) | Remaining time for maintenance mode (minutes) <ul style="list-style-type: none"><li>0-120: The remaining time for maintenance mode (minutes)</li><li>-----: Maintenance work is not performed.</li></ul> |

## show mgmt-module mgmt-lan

Displays the management LAN settings for management modules.

### Syntax

```
show mgmt-module mgmt-lan
```

### Privilege

Network privilege

### Parameters

None

### Execution example

To display the management LAN settings for management modules:

```
show mgmt-module mgmt-lan
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-80 Management module LAN interface setting**

| Displayed item | Description                                                                        |
|----------------|------------------------------------------------------------------------------------|
| Mode           | IPv4 address assign mode (Static or DHCP)                                          |
| DHCP server    | IP address of the DHCP server<br>(displayed when IPv4 address assign mode is DHCP) |
| IP address     | IP address                                                                         |



| Displayed item  | Description     |
|-----------------|-----------------|
| Subnetmask      | Subnet mask     |
| Default gateway | Default gateway |

**Table 5-81 Management module DNS setting**

| Displayed item | Description                                            |
|----------------|--------------------------------------------------------|
| DNS <number>   | DNS server address<br><number> is a value from 0 to 2. |

**Table 5-82 Management module DHCP setting**

| Displayed item             | Description                                                       |
|----------------------------|-------------------------------------------------------------------|
| Use DHCP supplied settings | Whether to use the following parameters supplied via DHCP or not. |
| Default gateway            | • Default gateway                                                 |
| DNS server                 | • DNS server                                                      |
| Domain name                | • Domain name                                                     |

**Table 5-83 Management module DDNS setting**

| Displayed item | Description                 |
|----------------|-----------------------------|
| DDNS           | Whether to use DDNS or not. |

## show mgmt-module mgmt-v6 setting

Displays the management LAN settings for management modules.

The following information is displayed:

- IPv6 address setting information for management modules
  - Static address (IPv6 address, prefix, and default gateway)
- DNS server address information
  - Information about whether to prioritize IPv4 DNS servers or IPv6 DNS servers
  - IPv4 DNS server addresses (a maximum of three addresses)
  - IPv6 DNS server addresses (a maximum of three addresses)
- Link local address (IPv6 address) of the active management module  
This is displayed when the `-ld` parameter is specified.
- Information about whether to enable or disable IPv6 communications when a repeat of a link local address is detected  
This is displayed when the `-ld` parameter is specified.

- IPv6 communication status of management modules

This is displayed when the `-ld` parameter is specified.

The `-ld` parameter can be specified if the management module firmware version is A0145 or later.

## Syntax

```
show mgmt-module mgmt-v6 setting [-ld]
```

## Privilege

Network privilege

## Parameters

`-ld`

Displays the following information:

- Link local address (IPv6 address) of the active management module
- Information about whether to enable or disable IPv6 communications when a repeat of a link local address is detected
- IPv6 communication status of management modules

## Execution example

To display the management LAN settings (IPv6) for management modules:

```
show mgmt-module mgmt-v6 setting
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-84 IPv6 address setting**

| Displayed item | Description                                                                                                                                                                                                                                                                                         |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allocation     | Address setting method<br>Displays the address allocation method. <ul style="list-style-type: none"> <li>• Static address: Static address</li> <li>• Link local address: Link local address of the active management module (displayed when the <code>-ld</code> parameter is specified)</li> </ul> |
| Status         | Status<br>Whether the address settings are enabled <ul style="list-style-type: none"> <li>• enable: Enabled.</li> <li>• disable: Disabled.</li> </ul>                                                                                                                                               |
| IP address     | IP address (IPv6)                                                                                                                                                                                                                                                                                   |

| Displayed item  | Description                                     |
|-----------------|-------------------------------------------------|
| Prefix len      | Prefix length<br>This is a value from 1 to 128. |
| Default gateway | Default gateway (IPv6)                          |

**Table 5-85 Link local address DAD setting**

| Displayed item   | Description                                                                                                                                                                                                                                                                                                                                                                             |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action DAD fails | Information about whether to enable or disable IPv6 communications when a repeat of a link local address is detected<br><br>This is displayed when the <code>-ld</code> parameter is specified. <ul style="list-style-type: none"> <li>disabling IPv6 operation: Suppresses IPv6 communications</li> <li>not disabling IPv6 operation: Does not suppress IPv6 communications</li> </ul> |

**Table 5-86 IPv6 Operation**

| Displayed item | Description                                                                                                                                                                                                                                                                                            |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IPv6 Operation | IPv6 communication status<br>This is displayed when the <code>-ld</code> parameter is specified. <ul style="list-style-type: none"> <li>enable: IPv6 communications are enabled.</li> <li>disable: IPv6 communications are suppressed because a repeat of a link local address is detected.</li> </ul> |

**Table 5-87 Management module DNS setting**

| Displayed item | Description                                                                                                                                                                                                                                             |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Priority       | Priority<br>Displays whether to access IPv4 DNS servers first or to access IPv6 DNS servers first. <ul style="list-style-type: none"> <li>IPv4: IPv4 DNS servers have higher priority.</li> <li>IPv6: IPv6 DNS servers have higher priority.</li> </ul> |

**Table 5-88 Management module DNS setting (IPv4)**

| Displayed item | Description                        |
|----------------|------------------------------------|
| DNS0           | IP address for DNS server 0 (IPv4) |
| DNS1           | IP address for DNS server 1 (IPv4) |
| DNS2           | IP address for DNS server 2 (IPv4) |

**Table 5-89 Management module DNS setting (IPv6)**

| Displayed item | Description                        |
|----------------|------------------------------------|
| DNS0           | IP address for DNS server 0 (IPv6) |
| DNS1           | IP address for DNS server 1 (IPv6) |
| DNS2           | IP address for DNS server 2 (IPv6) |

## show mgmt-module mnt-lan

Displays the maintenance LAN settings for management modules.

### Syntax

```
show mgmt-module mnt-lan
```

### Privilege

Network privilege

### Parameters

None

### Execution example

To display the maintenance LAN settings for management modules:

```
show mgmt-module mnt-lan
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-90 Management module maintenance LAN setting**

| Displayed item | Description                             |
|----------------|-----------------------------------------|
| IP address 1   | IP address for management module slot 1 |
| IP address 2   | IP address for management module slot 2 |
| Subnetmask     | Subnet mask                             |

**Table 5-91 Static route**

| Displayed item  | Description     |
|-----------------|-----------------|
| Network address | Network address |
| Subnetmask      | Subnet mask     |

| Displayed item    | Description         |
|-------------------|---------------------|
| Router IP address | Router's IP address |

## show mgmt-module name

Display the hostname and domain name of management module:

### Syntax

```
show mgmt-module name
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display the hostname and domain name of management module:

```
show mgmt-module name
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-92 Management module name setting**

| Displayed item | Description |
|----------------|-------------|
| Hostname       | Hostname    |
| Domain name    | Domain name |

## show mgmt-module serial-port

Displays the serial port settings for management modules.

Displays only the baud rate and does not display the connection destination.

### Syntax

```
show mgmt-module serial-port
```

### Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the serial port settings for management modules:

```
show mgmt-module serial-port
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-93 Serial console setting**

| Displayed item  | Description                         |
|-----------------|-------------------------------------|
| Baud rate (bps) | Baud rate<br>9600, 38400, or 115200 |

## show mgmt-module status

Displays the statuses of the management modules.

## Syntax

```
show mgmt-module status [<mgmt_no>]
```

## Privilege

Chassis privilege

## Parameters

<mgmt\_no>

Management module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all management modules.

## Execution example

To display the status of management module 1:

```
$ show mgmt-module status 1
-- Management module status --
Slot : 1
Install : installed
Behavior : active
Power : on
Fail : normal
Warning : normal
```

```

Condition : active
Mass(kg) : 20
-- LED status --
LED : Location Led
Light : on
S0002 : Command succeeded.
S0000 : Command was finished.
$

```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-94 Management module status**

| Displayed item | Description                                                                                                                                                                                                                             |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Management module number<br>This is a value 1 or 2.                                                                                                                                                                                     |
| Install        | Whether the module is installed <ul style="list-style-type: none"> <li>installed: The module is installed.</li> <li>not installed: The module is not installed.</li> </ul>                                                              |
| Behavior       | System status of the management module <ul style="list-style-type: none"> <li>active: Active system</li> <li>standby: Standby system</li> </ul>                                                                                         |
| Power          | Power supply status of the module <ul style="list-style-type: none"> <li>off: The module is powered off.</li> <li>on: The module is powered on.</li> </ul>                                                                              |
| Fail           | Failure status of the module <ul style="list-style-type: none"> <li>normal: The status of the module is normal.</li> <li>fail: A failure occurred on the module.</li> </ul>                                                             |
| Warning        | Warning status of the module <ul style="list-style-type: none"> <li>normal: The status of the module is normal.</li> <li>warning: A warning was issued for the module.</li> </ul>                                                       |
| Condition      | Status of the management module <ul style="list-style-type: none"> <li>normal: Normal</li> <li>booting: Booting</li> <li>shutting down: Shutting down</li> <li>boot disable: Boot disable</li> <li>FAIL: A failure occurred.</li> </ul> |
| Mass (kg)      | Weight of the module<br>The weight is given in kilograms (kg).                                                                                                                                                                          |

**Table 5-95 LED status**

| Displayed item | Description                                                                                                                                    |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| LED type       | LED indicator type<br>Location Led: Identification LED indicator                                                                               |
| Light          | LED indicator status <ul style="list-style-type: none"> <li>on: The LED indicator is lit.</li> <li>off: The LED indicator is unlit.</li> </ul> |

## shutdown mgmt-module

Shuts down management modules.

You can simultaneously specify the following parameters that specify the management modules to shut down: *<mgmt\_no>*, *-a*, and *-s*. If you omit all of these parameters, all management modules are shut down.

### Syntax

```
shutdown mgmt-module [<mgmt_no>] [-a] [-s] [-F]
```

### Privilege

Chassis privilege

### Parameters

*<mgmt\_no>*

Management module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify *all* or omit this parameter, command processing is performed for all management modules.

*-a*

Shuts down the active management module.

*-s*

Shuts down the standby management module.

*-F*

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To shut down management module 1:

```
$ shutdown mgmt-module 1
W0001 : If confirm, this connect is lost.
Confirm? (y/[n]):y
I0068 : <Management module 1> Shutdown was completed.
```



```
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

If you shut down the management module that you are connecting to, sessions with management modules are closed when the execution of this command finishes.

## switch mgmt-module behavior

Performs a failover between the active management module and the standby management module.

### Syntax

```
switch mgmt-module behavior [-e] [-F]
```

### Privilege

Chassis privilege

### Parameters

-e

Specify this parameter to try to recover the standby management module when the standby management module is in a failure state. If the standby management module can be recovered, it will be switched with the active management module. After the switchover, the original active management module (now the standby management module) will be in a failed state. You can omit this parameter.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To perform a failover between the active management module and the standby management module:

```
switch mgmt-module behavior
```

## Rules

When execution of this command finishes, sessions with management modules are closed.

You can specify the -e parameter only while the standby management module is in a failed state. Specify this parameter if failures occur at the same time in both the management network and the standby management module.

You can specify the `-e` parameter if the firmware version of the management modules is A0170 or later.

Note the following when specifying the `-e` parameter:

- If you cannot log in to the management modules from the management network, use a serial cable to connect the system console to the active management module, and then log in.
- Regardless of the recovery status of the failed management module, contact the maintenance personnel for your purchase location.

When you specify the `-e` parameter, the management modules enter the status that occurred when the standby management module failed. After the active and standby management modules are switched, perform the following operations:

- Respecify any settings that you specified after the standby management module failed.
- On a server blade on which LPAR manager is running, save the LPAR manager configuration information on the server blade.
- On a server blade on which the N+M cold standby functionality is enabled, perform pre-configuration.
- If HA monitor is configured on a running server blade, an error occurs for the reset path. Use the `monrp` command to verify that the reset path is normal in each system containing the HA monitor.

## sync mgmt-module firmware

Copies the management module firmware and dictionary of the active management module to the standby management module, and then updates the firmware of the standby management module. This operation restarts the standby management module.

You execute this command to match the firmware version of the standby management module to the firmware version of the active management module, after you replaced the management module in a maintenance operation. Do not use this command in usual operation.

### Syntax

```
sync mgmt-module firmware [-F]
```

### Privilege

Chassis privilege

### Parameters

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To synchronize the firmware of the active management module with the firmware of the standby management module:

```
sync mgmt-module firmware
```

## Rules

Under the following conditions, you cannot execute this command:

- Only one management module is installed.
- The standby management module is not placed in the BootDisable status.
- The management module firmware and dictionary are currently being updated.

## sync mgmt-module fru

Copies the equipment information that is recorded in the FRU of the active management module to the standby management module.

You execute this command to synchronize the FRU information of the standby management module with the FRU information of the active management module. Do not use this command in usual operation.

## Syntax

```
sync mgmt-module fru [-F]
```

## Privilege

Chassis privilege

## Parameters

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To synchronize the FRU settings of the active management module with the FRU settings of the standby management module:

```
sync mgmt-module fru
```

## Rules

Under the following conditions, you cannot execute this command:

- Only one management module is installed.
- Communication with the standby management module is impossible.

## sync mgmt-module int-lan

Synchronizes the internal LAN settings of the active management module with the internal LAN settings of the standby management module. This operation restarts the standby management module.

You need to execute this command to synchronize the internal network settings of the standby management module with the internal network settings of the active management module. Do not use this command in usual operation.

### Syntax

```
sync mgmt-module int-lan [-F]
```

### Privilege

Chassis privilege

### Parameters

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To synchronize the internal LAN settings of the active management module with the internal LAN settings of the standby management module:

```
sync mgmt-module int-lan
```

### Rules

Under the following conditions, you cannot execute this command:

- Only one management module is installed.
- The standby management module is not placed in the BootDisable status.
- The management module firmware and dictionary are currently being updated.

## update mgmt-module firmware

Updates the management module firmware.

### Syntax

```
update mgmt-module firmware [-F]
```

### Privilege

Chassis privilege

## Parameters

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To update the management module firmware:

```
update mgmt-module firmware
```

## Rules

You must send the firmware update file via FTP before executing this command. When execution of this command finishes, sessions with management modules are closed. Do not send the firmware update file while this command is updating the firmware.

If you do, the firmware update might fail. If the update fails, retry the update operation.

# Commands to manage management LAN modules

## set mgmt-lan-module led

Turns on or off the identification LED indicator for management LAN modules.

## Syntax

```
set mgmt-lan-module led [<mgmt_lan_no>] -l <led_type> -t
<led_on_off> [-F]
```

## Privilege

Chassis privilege

## Parameters

<mgmt\_lan\_no>

Management LAN module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all management LAN modules.

-l <led\_type>

LED indicator type

lid: Identification LED indicator

-t <led\_on\_off>

LED indicator status

- on: Turns the LED indicator on.
- off: Turns the LED indicator off.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To turn on the identification LED indicator of management module 1:

```
set mgmt-lan-module led 1 -l lid -t on
```

## show mgmt-lan-module hardware

Displays the following hardware information for management LAN modules:

- Hardware information
- FRU information
- Sensor information

### Syntax

```
show mgmt-lan-module hardware [<mgmt_lan_no>] [-h] [-f] [-s]
```

### Privilege

Chassis privilege

### Parameters

<mgmt\_lan\_no>

Management LAN module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all management LAN modules.

-h

Displays the hardware information for specified management LAN modules.

-f

Displays the FRU information for specified management LAN modules.

-s

Displays the sensor information for specified management LAN modules.

You must specify at least one of `-h`, `-f`, and `-s` parameters.

## Execution example

To display the hardware information, FRU information, sensor information for management LAN module 1:

```
show mgmt-lan-module hardware 1 -h -f -s
```

## Execution results

The following tables show the items that are displayed as the execution results of this command.

Common displayed items (items displayed when `-h`, `-f`, or `-s` is specified)

**Table 5-96 Management LAN module hardware information**

| Displayed item | Description                                             |
|----------------|---------------------------------------------------------|
| Slot           | Management LAN module number<br>This is a value 1 or 2. |

Hardware information displayed items (items displayed when `-h` is specified)

**Table 5-97 Management LAN module**

| Displayed item    | Description                         |
|-------------------|-------------------------------------|
| Module type       | Management LAN module is displayed. |
| Power consumption | Rated power consumption             |
| Weight [kg]       | Weight (kg)                         |

FRU information displayed items (items displayed when `-f` is specified)

**Table 5-98 Board Information**

| Displayed item | Description       |
|----------------|-------------------|
| Manufacture    | Manufacturer code |
| Product Name   | Product name      |
| Serial Number  | Serial number     |

**Table 5-99 Product Information**

| Displayed item | Description                                     |
|----------------|-------------------------------------------------|
| Product Name   | Product name<br>Displays Management LAN Module. |
| Manufacture    | Company name<br>Displays HITACHI.               |

**Table 5-100 MultiRecord Information**

| Displayed item                            | Description                |
|-------------------------------------------|----------------------------|
| Manufacture ID                            | Code for Hitachi           |
| Module Type1                              | Module type code 1         |
| Module Type2                              | Module type code 2         |
| Product Part/Model Number for Maintenance | Maintenance component code |

Sensor information displayed items (items displayed when `-s` is specified)

**Table 5-101 Management LAN module Sensor information**

| Displayed item | Description                                                                                                                                            |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Volt           | Lists the names of the voltage sensors of the management LAN modules and the values obtained from the sensors. The sensor name is either 3.3V or 1.2V. |

## show mgmt-lan-module status

Displays the statuses of management LAN modules.

The following information is displayed:

- Installation status
- Power supply status
- Operating status (failure or warning)
- LED status

### Syntax

```
show mgmt-lan-module status [<mgmt_lan_no>]
```

### Privilege

Chassis privilege

### Parameters

<mgmt\_lan\_no>

Management LAN module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all management LAN modules.



## Execution example

To display the status of management LAN module 1:

```
show mgmt-lan-module status 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-102 Management LAN module status**

| Displayed item | Description                                                                                                                                                                 |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Management LAN module number<br>This is a value 1 or 2.                                                                                                                     |
| Install        | Whether the module is installed <ul style="list-style-type: none"><li>installed: The module is installed.</li><li>not installed: The module is not installed.</li></ul>     |
| Power          | Power supply status of the module <ul style="list-style-type: none"><li>off: The module is powered off.</li><li>on: The module is powered on.</li></ul>                     |
| Fail           | Failure status of the module <ul style="list-style-type: none"><li>normal: The status of the module is normal.</li><li>fail: A failure occurred on the module.</li></ul>    |
| Warning        | Warning status of the module <ul style="list-style-type: none"><li>normal: The status of the module is normal.</li><li>fail: A warning was issued for the module.</li></ul> |

**Table 5-103 LED status**

| Displayed item | Description                                                                                                                                                                                                                                                      |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LED type       | LED indicator type <ul style="list-style-type: none"><li>PWR/WRN: Power supply/warning LED indicator</li><li>LID: Identification LED indicator</li></ul>                                                                                                         |
| Light          | LED indicator status <ul style="list-style-type: none"><li>on: The LED indicator is lit.</li><li>off: The LED indicator is unlit.</li><li>blink: The LED indicator is blinking.</li><li>unknown: The lightning status of the LED indicator is unknown.</li></ul> |
| Color          | LED indicator color <ul style="list-style-type: none"><li>blue: Blue</li><li>green: Green</li><li>yellow: Yellow</li></ul>                                                                                                                                       |

| Displayed item | Description                                                                                                                                                                                                                                                                                |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <ul style="list-style-type: none"> <li>unknown: Information about the color of the LED indicator could not be retrieved.</li> <li>-----: The LED indicator is unlit.</li> </ul> <p>The color for each LED indicator type is as follows: Green or yellow for PWR/WRN, and blue for LID.</p> |

## Commands to manage I/O adapters

### set iobd led

Turns the identification LED indicators of I/O adapters on or off.

#### Syntax

```
set iobd led -i <iobd_no> -l <led_type> -t <led_on_off> [-F]
```

#### Privilege

Chassis privilege

#### Parameters

-i <iobd\_no>

I/O adapter number

You can specify a value from 01A to 14A or from 01B to 14B. You can specify multiple values. You can not use a hyphen of multiple values specify. You cannot omit this parameter.

-l <led\_type >

LED indicator type

lid: Identification LED indicator

-t <led\_on\_off>

LED indicator status

- on: Turns the LED indicator on.
- off: Turns the LED indicator off.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

#### Execution example

To turn on the identification LED indicator of I/O adapter 01A:

```
set iobd led -i 01A -l lid -t on
```

## show iobd hardware

Displays the following hardware information for I/O adapters:

- Hardware information
- FRU information

### Syntax

```
show iobd hardware -i <iobd_no> [-h] [-f]
```

### Privilege

Chassis privilege

### Parameters

-i <iobd\_no>

I/O adapter number

You can specify a value from 01A to 14A or from 01B to 14B. You can specify multiple values. You can not use a hyphen of multiple values specify. You cannot omit this parameter.

-h

Displays the hardware information for the specified I/O adapters.

-f

Displays the FRU information for the specified I/O adapters.

You must specify either of the parameters -h and -f.

### Execution example

To display the FRU information for I/O adapter 01A:

```
$ show iobd hardware -i 01A -f
-- I/O board module hardware information --
Slot : 01A
-- I/O board module FRU information --
-- Board information --
Manufacture : XXXXXXXXX
Product Name : XXXXXXXXX
Serial Number : XXXXXXXXXXXXX
-- Product information --
Product Name : I/O Board Module
Manufacture : HITACHI
-- MultiRecord information --
Manufacture ID : 00000074
Module Type1 : XX
Module Type2 : XX
Product Part/Model Number for Maintenance : XXXXXXXXXXXX
Product ID : 0200
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

Common displayed items (items displayed when `-h` or `-f` is specified)

**Table 5-104 I/O adapter hardware information**

| Displayed item | Description                                                               |
|----------------|---------------------------------------------------------------------------|
| Slot           | I/O adapter number<br>This is a value from 01A to 14A or from 01B to 14B. |

Hardware information displayed items (items displayed when `-h` is specified)

**Table 5-105 I/O adapter**

| Displayed item | Description                                                                                                                                                                                           |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I/O board type | I/O adapter type<br>The type of the I/O adapter installed in the I/O adapter. <ul style="list-style-type: none"><li>unknown: Information about the I/O adapter type could not be retrieved.</li></ul> |

FRU information displayed items (items displayed when `-f` is specified)

**Table 5-106 Board information**

| Displayed item | Description       |
|----------------|-------------------|
| Manufacture    | Manufacturer code |
| Product Name   | Product name      |
| Serial Number  | Serial number     |

**Table 5-107 Product information**

| Displayed item | Description                                |
|----------------|--------------------------------------------|
| Product Name   | Product name<br>Displays I/O Board Module. |
| Manufacture    | Company name<br>Displays HITACHI.          |

**Table 5-108 MultiRecord information**

| Displayed item | Description      |
|----------------|------------------|
| Manufacture ID | Code for Hitachi |

| Displayed item                            | Description                |
|-------------------------------------------|----------------------------|
| Module Type1                              | Module type code 1         |
| Module Type2                              | Module type code 2         |
| Product Part/Model Number for Maintenance | Maintenance component code |

## show iobd status

Displays the statuses of the I/O adapters.

The following information is displayed:

- Installation status
- Power supply status
- Operating status (failure or warning)
- LED status
- Whether a card is installed

### Syntax

```
show iobd status -i <iobd_no>
```

### Privilege

Chassis privilege

### Parameters

-i <iobd\_no>

I/O adapter number

You can specify a value from 01A to 14A or from 01B to 14B. You can specify multiple values. You can not use a hyphen of multiple values specify. You cannot omit this parameter.

### Execution example

To display the status of I/O adapter 01A:

```
show iobd status -i 01A
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-109 I/O adapter status**

| Displayed item | Description                                                                                                                                                                    |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | I/O adapter slot number<br>This is a value from 01A to 14A or from 01B to 14B.                                                                                                 |
| Install        | Whether the module is installed <ul style="list-style-type: none"> <li>installed: The module is installed.</li> <li>not installed: The module is not installed.</li> </ul>     |
| Power          | Power supply status of the module <ul style="list-style-type: none"> <li>off: The module is powered off.</li> <li>on: The module is powered on.</li> </ul>                     |
| Fail           | Failure status of the module <ul style="list-style-type: none"> <li>normal: The status of the module is normal.</li> <li>fail: A failure occurred on the module.</li> </ul>    |
| Warning        | Warning status of the module <ul style="list-style-type: none"> <li>normal: The status of the module is normal.</li> <li>fail: A warning was issued for the module.</li> </ul> |

**Table 5-110 LED status**

| Displayed item | Description                                                                                                                                                                                                                                                                           |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LED type       | LED indicator type <ul style="list-style-type: none"> <li>POWER: Power/warning LED indicator, indicating that the module status is normal.</li> <li>ATTENTION: Attention LED indicator</li> <li>LID: Identification LED indicator</li> </ul>                                          |
| Light          | LED indicator status <ul style="list-style-type: none"> <li>on: The LED indicator is lit.</li> <li>off: The LED indicator is unlit.</li> <li>blink: The LED indicator is blinking.</li> </ul>                                                                                         |
| Color          | LED indicator color <ul style="list-style-type: none"> <li>blue: Blue</li> <li>green: Green</li> <li>red: Red</li> <li>amber: Amber</li> <li>unknown: Information about the color of the LED indicator could not be retrieved.</li> <li>-----: The LED indicator is unlit.</li> </ul> |

**Table 5-111 Card status**

| Displayed item | Description                                                                                                                                              |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Install        | Whether a card is installed <ul style="list-style-type: none"><li>installed: A card is installed.</li><li>not installed: No card is installed.</li></ul> |

## Commands to manage switch modules

This section describes the commands to confirm and change the switch module settings.

### poweroff sw-module

Powers off the switch module.

#### Syntax

```
poweroff sw-module [<sw_no>] [-F]
```

#### Privilege

Switch module privileges

#### Parameters

<sw\_no>

Switch module number

You can specify a value from 1 to 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all switch modules.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

#### Execution example

To power off the switch module 1:

```
$ poweroff sw-module 1
Confirm? (y/[n]):y
I0054 : <Switch module 1> Power off was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## poweron sw-module

Powers on the switch module. If you specify the diagnostic level, the switch module is powered on with the diagnosis.

The specified diagnostic level is enabled for both the 1/10 Gb LAN switch module and the DCB switch module.

### Syntax

```
poweron sw-module [<sw_no>] [-dl <diag_level>] [-F]
```

### Privilege

Switch module privileges

### Parameters

<sw\_no>

Switch module number

You can specify a value from 1 to 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all switch modules.

-dl <diag\_level>

Diagnostic level

- o standard: Standard
- o full: Full

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To power on the switch module 1:

```
$ poweron sw-module 1
Confirm? (y/[n]):y
I0053 : <Switch module 1> Power on was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## set sw-module led

Turns the LID lamps of switch modules on or off.

### Syntax

```
set sw-module led [<sw_no>] -l <led_type> -t <led_on_off> [-F]
```



## Privilege

Switch module privilege

## Parameters

`<sw_no>`

Switch module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all switch modules.

`-l <led_type>`

LED indicator type

lid: Identification LED indicator

`-t <led_on_off>`

LED indicator status

- `on`: Turns the LED indicator on.
- `off`: Turns the LED indicator off.

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To turn on the LID lamp for switch module 1:

```
set sw-module led 1 -l lid -t on
```

To turn off the LID lamp for switch module 1:

```
set sw-module led 1 -l lid -t off
```

## set sw-module maintenance-mode

Sets maintenance mode of the chassis when maintenance work for the switch module is performed. Do not use this command for usual operation because this command is used for maintenance work. If you set maintenance mode, the remaining time for maintenance mode is set to 120 minutes.

## Syntax

```
set sw-module maintenance-mode <sw_no> -m <mnt_mode> [-F]
```

## Privilege

Switch module privileges

## Parameters

`<sw_no>`

Switch module number

You can specify a value from 1 to 2. You cannot specify multiple values.

**-m** *<mnt\_mode>*

Maintenance mode

- enable: Sets maintenance mode.
- disable: Cancels maintenance mode.

**-F**

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set maintenance mode for switch module 1:

```
$ set sw-module maintenance-mode 1 -m enable
Confirm? (y/[n]):y
I0052 : <Switch module 1> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## set sw-module mgmt-lan

Changes the management LAN settings for a switch module.

### Syntax

```
set sw-module mgmt-lan <sw_no> [-i <ip_addr>] [-s <subnet_mask>] [-g
<default_gateway>] [-F]
```

### Privilege

Network privilege

### Parameters

*<sw\_no>*

Switch module number

You can specify a value 1 or 2. You cannot specify multiple values.

**-i** *<ip\_addr>*

IP address

**-s** *<subnet\_mask>*

Subnet mask

**-g** *<default\_gateway>*

Default gateway

**-F**

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To connect switch module 1 to the management LAN network:

```
set sw-module mgmt-lan 1 -i 192.168.0.10 -s 255.255.255.0 -g
192.168.0.1
```

## set sw-module mgmt-v6 address

Sets the management LAN settings (IPv6) for a switch module.

You can set a static address. To set a static address, enter the following items:

- IP address (IPv6)
- Prefix length
- Whether to enable use of the default gateway
- Default gateway

### Syntax

```
set sw-module mgmt-v6 address <sw_no> -st <setting> [-i
<ip_address>] [-p <prefix_len>] [-gs <dgw_setting>] [-g
<default_gateway>] [-F]
```

### Privilege

Network privilege

### Parameters

<sw\_no>

Switch module number

You can specify a value 1 or 2. You cannot specify multiple values.

-st <setting>

Specify whether to enable use of a static address.

- enable: Enabled.
- disable: Disabled.

You cannot omit this parameter.

-i <ip\_address>

IP address (IPv6)

If you entered -st enable, this item is required. If you entered -st disable, omit this parameter.

-p <prefix\_len>

Prefix length

Specify a value from 1 to 128.

If you entered `-st enable`, this item is required. If you entered `-st disable`, omit this parameter.

`-gs <dgw_setting>`

Specify whether to enable use of the default gateway (IPv6).

- enable: Enabled.
- disable: Disabled.

If you entered `-st enable`, this item is required. If you entered `-st disable`, omit this parameter.

If you want to specify the default gateway (`-g`), specify `enable`.

`-g <default_gateway>`

Default gateway (IPv6)

If you entered `-st enable` or `-gs enable`, this item is required.

If you entered `-st disable` or `-gs disable`, or if you omitted `-gs`, omit this parameter.

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the static address for switch module management LAN 1 (IPv6) and enable use of the default gateway:

```
set sw-module mgmt-v6 address 1 -st enable -i
fe80::200:87ff:feb2:c24 -p 64 -gs enable -g fe80::200:87ff:feb2:c20
```

## Rules

- A duplication check is not performed for the specified address.
- For the default gateway, you can specify an address that is reachable from the address for switch modules.
- You cannot set the loopback address (`::1/128`).

## show sw-module firmware

Displays the firmware versions of switch modules.

### Syntax

```
show sw-module firmware [<sw_no>]
```

### Privilege

Switch module privilege

## Parameters

<sw\_no>

Switch module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all switch modules.

## Execution example

To display the firmware version of switch module 1:

```
show sw-module firmware 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-112 Switch module firmware version**

| Displayed item   | Description                                                             |
|------------------|-------------------------------------------------------------------------|
| Slot             | Switch module number<br>This is a value 1 or 2.                         |
| Firmware version | Firmware version<br>Displays the firmware version of the switch module. |

## show sw-module hardware

Displays the following hardware information for switch modules:

- Hardware information
- FRU information
- Sensor information

## Syntax

```
show sw-module hardware [<sw_no>] [-h] [-f] [-s]
```

## Privilege

Switch module privilege

## Parameters

<sw\_no>

Switch module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all switch modules.

- h  
Hardware information for the specified switch modules.
  - f  
FRU information for the specified switch modules.
  - s  
Sensor information for the specified switch modules.
- You must specify at least one of -h, -f, and -s parameters.

### Execution example

To display the firmware information for switch module 1:

```
show sw-module hardware 1 -h
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

Common displayed items (items displayed when -h, -f, or -s is specified)

**Table 5-113 Switch module hardware information**

| Displayed item | Description                                                                                                                                                          |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Switch module number<br>This is a value 1 or 2.<br>Regardless of the specified parameter (-h, -s, or -f), the slot number for each switch module is displayed first. |

Hardware information displayed items (items displayed when -h is specified)

**Table 5-114 Switch module**

| Displayed item      | Description     |
|---------------------|-----------------|
| Product name        | Product name    |
| Model name          | Model name      |
| Serial number       | Serial number   |
| Nameplate power [W] | Rated power (W) |

FRU information displayed items (items displayed when -f is specified)

**Table 5-115 Board Information**

| Displayed item | Description   |
|----------------|---------------|
| Serial number  | Serial number |

**Table 5-116 Product Information**

| Displayed item    | Description  |
|-------------------|--------------|
| Product Name      | Product name |
| Part/Model Number | Model name   |

**Table 5-117 MultiRecord Information**

| Displayed item                            | Description                         |
|-------------------------------------------|-------------------------------------|
| Manufacture ID                            | Code for Hitachi                    |
| Module Type 1                             | Module type code 1                  |
| Module Type 2                             | Module type code 2                  |
| Product Part/Model Number for Maintenance | Maintenance component code          |
| Product ID                                | IANA Product ID                     |
| Hardware Address                          | MAC address for the hardware device |

Sensor information displayed items (items displayed when `-s` is specified)

**Table 5-118 Switch module sensor information**

| Displayed item | Description                                                |
|----------------|------------------------------------------------------------|
| Temp           | Name and value of the thermal sensor for the switch module |

## show sw-module maintenance-mode

Displays whether the switch module is performing maintenance work.

The following information is displayed:

- Maintenance mode setting
- Remaining time for maintenance mode
- Maintenance LAN's IP address

### Syntax

```
show sw-module maintenance-mode [<sw_no>]
```

### Privilege

Chassis privilege

## Parameters

<sw\_no>

Switch module number

You can specify a value from 1 to 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all switch modules.

## Execution example

To display maintenance mode for switch module 1:

```
$ show sw-module maintenance-mode 1
-- Switch module maintenance mode --
Slot : 1
Maintenance mode : on
Remaining time (min) : 120
IP address : 192.168.254.10
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-119 Switch module maintenance mode**

| Displayed item       | Description                                                                                                                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot                 | Switch module number<br>This is a value 1 or 2.                                                                                                                                                          |
| Maintenance mode     | Maintenance mode <ul style="list-style-type: none"><li>enable: Maintenance work is performed.</li><li>disable: Maintenance work is not performed.</li></ul>                                              |
| Remaining time (min) | Remaining time for maintenance mode (minutes) <ul style="list-style-type: none"><li>0-120: The remaining time for maintenance mode (minutes)</li><li>-----: Maintenance work is not performed.</li></ul> |
| IP address           | Maintenance LAN's IP address <ul style="list-style-type: none"><li>-----: Not set</li></ul>                                                                                                              |

## show sw-module mgmt-lan

Displays the management LAN settings for switch modules.

### Syntax

```
show sw-module mgmt-lan [<sw_no>]
```



## Privilege

Network privilege

## Parameters

`<sw_no>`

Switch module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all switch modules.

## Execution example

To display management LAN settings for switch module 1:

```
show sw-module mgmt-lan 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-120 Switch module management LAN setting**

| Displayed item  | Description                                     |
|-----------------|-------------------------------------------------|
| Slot            | Switch module number<br>This is a value 1 or 2. |
| IP address      | IP address                                      |
| Subnetmask      | Subnet mask                                     |
| Default gateway | Default gateway                                 |

## show sw-module mgmt-v6 setting

Displays the management LAN settings for switch modules.

The following information is displayed:

- IPv6 address setting information of switch modules
- Static addresses for switch modules

## Syntax

```
show sw-module mgmt-v6 setting [<sw_no>]
```

## Privilege

Network privilege

## Parameters

<sw\_no>

Switch module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all switch modules.

## Execution example

To display management LAN settings (IPv6) for switch module 1:

```
show sw-module mgmt-v6 setting 1
```

## Execution results

**Table 5-121 Switch module management LAN setting (IPv6)**

| Displayed item | Description                                     |
|----------------|-------------------------------------------------|
| Slot           | Switch module number<br>This is a value 1 or 2. |

**Table 5-122 IPv6 address setting**

| Displayed item  | Description                                                                                                                                    |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Allocation      | Address setting method<br>Displays the address allocation method.<br>Static address: Static address                                            |
| Status          | Status<br>Whether the address settings are enabled <ul style="list-style-type: none"><li>enable: Enabled.</li><li>disable: Disabled.</li></ul> |
| IP address      | IP address (IPv6)                                                                                                                              |
| Prefix len      | Prefix length<br>This is a value from 1 to 128.                                                                                                |
| Default gateway | Default gateway (IPv6)                                                                                                                         |

## show sw-module status

Displays the following items that indicate the statuses of switch modules:

- Installation status
- Power supply status
- Operating status (booting, failure, or warning)
- LID lamp status

## Syntax

```
show sw-module status [<sw_no>]
```

## Privilege

Switch module privilege

## Parameters

<sw\_no>

Switch module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all switch modules.

## Execution example

To display the status of switch module 1:

```
show sw-module status 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-123 Switch module status**

| Displayed item | Description                                                                                                                                                                                                                                                                                            |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Switch module number<br>This is a value 1 or 2.                                                                                                                                                                                                                                                        |
| Install        | Whether the module is installed<br>Displays the installation status of the switch module. <ul style="list-style-type: none"><li>installed: The switch module is installed.</li><li>not installed: The switch module is not installed.</li></ul>                                                        |
| Power          | Power supply status<br>Displays the power supply status. <ul style="list-style-type: none"><li>on: The switch module is powered on.</li><li>off: The switch module is powered off.</li><li>-----: The switch module is not installed.</li></ul>                                                        |
| Booting        | Booting status<br>Displays whether the switch module is currently being initialized. <ul style="list-style-type: none"><li>on: The switch module is currently being initialized.</li><li>off: The switch module is not being initialized.</li><li>-----: The switch module is not installed.</li></ul> |

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fail           | <p>Failure status</p> <p>Displays whether a failure occurred on the switch module.</p> <ul style="list-style-type: none"> <li>normal: The status of the switch module is normal.</li> <li>fail: A failure occurred on the switch module. Check the details of the failure in the system event log.</li> <li>-----: The switch module is not installed.</li> </ul>          |
| Warning        | <p>Warning status</p> <p>Displays whether a warning was issued for the switch module.</p> <ul style="list-style-type: none"> <li>normal: The status of the switch module is normal.</li> <li>warning: A warning was issued for the switch module. Check the details of the warning in the system event log.</li> <li>-----: The switch module is not installed.</li> </ul> |

**Table 5-124 LED status**

| Displayed item | Description                                                                                                                                                                                               |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LED type       | <p>LED indicator type</p> <ul style="list-style-type: none"> <li>Location Led: LID lamp (identification LED indicator)</li> <li>-----: The switch module is not installed.</li> </ul>                     |
| Light          | <p>LED indicator status</p> <ul style="list-style-type: none"> <li>on: The LED indicator is lit.</li> <li>off: The LED indicator is unlit.</li> <li>-----: The switch module is not installed.</li> </ul> |

## sub-power-cycle sw-module

Turns the sub power supply of a switch module off, after the sub power supply of a switch module on.

This must be executed when the power supply to the switch module is turned off.

### Syntax

```
sub-power-cycle sw-module [<sw_no>] [-F]
```

### Privilege

Switch module privilege

## Parameters

<sw\_no>

You can specify a value 1 or 2. You can specify multiple values.  
If you specify `all` or omit this parameter, command processing is performed for all switch modules.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To turn the sub power supply of switch module 1 on or off:

```
$ sub-power-cycle sw-module 1
Confirm? (y/[n]):y
I0057 : <Switch module 1> Switch module sub power cycle was
completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

# Commands for power supply management

This section describes the commands to confirm and change the power supply settings for the system unit.

## set power blade poweroff order

Sets the order in which server blades are to be powered off when power consumption exceeds the power capacity. Specify all server blade slot numbers from 1 to 15.

In an SMP configuration, this command sets the order in which primary server blades are to be powered off. The order in which non-primary server blades are to be powered off does not affect the behavior of the non-primary server blades but specify all server blade slot numbers in the `-o` parameter.

## Syntax

```
set power blade poweroff order -o <blade_off_order> [-F]
```

## Privilege

Chassis privilege

## Parameters

-o <blade\_off\_order>

The order in which server blades are to be powered off when power consumption exceeds the power capacity

Specify server blade slot numbers separated by commas. Specify slot numbers in the order in which they are to be powered off, starting with the first slot to be powered off.

You must enter all fifteen slot numbers from 1 to 15, and you cannot specify a number twice.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To set the order in which server blades are to be powered off to 15, 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1:

```
set power blade poweroff order -o
15,14,13,12,11,10,9,8,7,6,5,4,3,2,1 -F
```

## set power capping

Changes the APC setting items for server blades.

In an SMP configuration, if you specify a primary server blade, the APC setting items for all server blades constituting the SMP configuration are changed. If you specify a non-primary server blade, the APC setting items are changed but this setting change does not affect the behavior of the non-primary server blade.

### Syntax

```
set power capping -b <blade_no> [-a <blade_power_apc>] [-F]
```

### Privilege

Chassis privilege

### Parameters

-b <blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

-a <blade\_power\_apc>

APC

- `enable`: Limits the power consumption by using APC.
- `disable`: Does not limit the power consumption by using APC.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To limit the power consumption of server blade 1, by using APC:

```
set power capping -b 1 -a enable
```

## Rules

- If you specify a non-primary server blade, the following warning message appears and the setting values do not affect the behavior of the non-primary server blade.  
W0031 : <Blade X> Set data is not used. Specified blade is not the primary blade of SMP. (X indicates the specified server blade number.)
- You cannot execute this command for DCMI mode.

## set power dcmi-mode

Sets DCMI mode for the entire server chassis.

DCMI mode is applied for server blades in the server chassis.

If you set DCMI mode, the upper limit for electric power consumption of server blades is specified by the DCMI commands. If a server blade does not support DCMI commands, the server blade will consume the rated power consumption.

## Syntax

```
set power dcmi-mode -m <dcmi_mode> [-F]
```

## Privilege

Chassis privilege

## Parameters

-m <dcmi\_mode>

Setting to enable or disable DCMI mode

- enable: Enable (change to DCMI mode)
- disable: Disable (change to APC mode)

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To enable DCMI mode

```
$ set power dcmi-mode -m enable -F
I0001 : Setting was completed.
S0002 : Command succeeded.
```

```
S0000 : Command was finished.
$
```

## set power power-expansion

Changes the settings for expanding the power capacity.

### Syntax

```
set power power-expansion -e <expansion> [-F]
```

### Privilege

Chassis privilege

### Parameters

-e <expansion>

Power capacity expansion settings

- enable: Enables the power capacity expansion feature.
- disable: Disables the power capacity expansion feature.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To enable the power capacity expansion feature:

```
set power power-expansion -e enable
```

## set power ps-module

Changes the power settings.

### Syntax

```
set power ps-module [-r <redundancy>] [-a1 <power_ac_recovery>] [-a2
<power_ac_recovery>] [-a3 <power_ac_recovery>] [-a4
<power_ac_recovery>] [-a5 <power_ac_recovery>] [-a6
<power_ac_recovery>] [-F]
```

### Privilege

Chassis privilege

### Parameters

-r <redundancy>

Power supply module redundancy

- n+n: N + N



- $n+1: N + 1$
- a1 <power\_ac\_recovery>  
Power supply linkage settings for the power supply module
  - enable: Links with the power supply for the power supply module.
  - disable: Does not link with the power supply for the power supply module.
- a2 <power\_ac\_recovery>  
Power supply linkage settings for the power supply module
  - enable: Links with the power supply for the power supply module.
  - disable: Does not link with the power supply for the power supply module.
- a3 <power\_ac\_recovery>  
Power supply linkage settings for the power supply module
  - enable: Links with the power supply for the power supply module.
  - disable: Does not link with the power supply for the power supply module.
- a4 <power\_ac\_recovery>  
Power supply linkage settings for the power supply module
  - enable: Links with the power supply for the power supply module.
  - disable: Does not link with the power supply for the power supply module.
- a5 <power\_ac\_recovery>  
Power supply linkage settings for the power supply module
  - enable: Links with the power supply for the power supply module.
  - disable: Does not link with the power supply for the power supply module.
- a6 <power\_ac\_recovery>  
Power supply linkage settings for the power supply module
  - enable: Links with the power supply for the power supply module.
  - disable: Does not link with the power supply for the power supply module.
- F  
Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the power supply module redundancy to N+N:

```
set power ps-module -r n+n
```

To disable the server blade power supply restoration operation even if power is supplied to power supply module 1:

```
set power ps-module -a1 disable
```

## show power ps-module

Displays the power settings.

### Syntax

```
show power ps-module
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display the power settings:

```
show power ps-module
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-125 Power supply setting**

| Displayed item | Description                                                                                                  |
|----------------|--------------------------------------------------------------------------------------------------------------|
| Redundancy     | Power supply module redundancy <ul style="list-style-type: none"><li>n+n: N + N</li><li>n+1: N + 1</li></ul> |

**Table 5-126 Power supply AC recovery setting**

| Displayed item | Description                                                                                                                                                                                                                                                                     |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Power supply module number<br>This is a value from 1 to 6.                                                                                                                                                                                                                      |
| AC recovery    | Power supply linkage settings for the power supply module <ul style="list-style-type: none"><li>enable: Linkage with the power supply for the power supply module is enabled.</li><li>disable: Linkage with the power supply for the power supply module is disabled.</li></ul> |

## show power setting

Displays the power capacity expansion settings and power-capping settings for the server blade, as shown below.

- Power capacity expansion settings
- DCMI mode
- APC mode
- The order in which server blades are to be powered off when power consumption exceeds the power capacity

In an SMP configuration, the settings of Power Capping that runs on all server blades constituting the SMP configuration are displayed for primary server blades. For non-primary server blades, the setting values are shown in parentheses. The values enclosed with parentheses do not affect the behavior of the non-primary server blades.

### Syntax

```
show power setting
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display the power capacity expansion settings and power-capping settings for the server blade:

```
$ show power setting
-- Power setting --
Power capacity expansion : enable
DCMI mode : disable
C13 PDU support feature : disable
-- Blade power setting --
Slot : 1
Accurate power control (APC) : enable
-- Blade power setting --
Slot : 2
Accurate power control (APC) : enable
(omitted)
-- Blade power setting --
Slot : 15
Accurate power control (APC) : enable
-- Order of blade to power off --
Slot : 1
Order : 1
-- Order of blade to power off --
Slot : 2
Order : 4
(omitted)
```

```
-- Order of blade to power off --
Slot : 15
Order : 5
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-127 Power setting**

| Displayed item           | Description                                                                                                                                                                                                                                                                                         |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power capacity expansion | Power capacity expansion settings <ul style="list-style-type: none"> <li>enable: The power capacity expansion feature is enabled.</li> <li>disable: The power capacity expansion feature is disabled.</li> </ul>                                                                                    |
| DCMI mode                | DCMI mode <ul style="list-style-type: none"> <li>enable: Indicates DCMI mode.</li> <li>disable: Indicates APC mode.</li> </ul>                                                                                                                                                                      |
| C13 PDU support feature  | C13 PDU support settings <ul style="list-style-type: none"> <li>enable: The connectivity with C13 type PDU is supported.</li> <li>disable: The connectivity with C13 type PDU is not supported.</li> </ul> <p>This item is displayed for the management module firmware version A0145 or later.</p> |

**Table 5-128 Blade power setting**

| Displayed item               | Description                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot                         | Server blade number<br>This is a value from 1 to 15.                                                                                                                                                                                                                                                                                                                                  |
| Accurate power control (APC) | APC <ul style="list-style-type: none"> <li>enable: Power consumption limitation by APC is enabled.</li> <li>disable: Power consumption limitation by APC is disabled.</li> </ul> <p>In an SMP configuration, the values for non-primary server blades are shown in parentheses. The values enclosed with parentheses do not affect the behavior of the non-primary server blades.</p> |



**Tip:** These items are displayed only for APC mode.

**Table 5-129 Order of blade to power off**

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15.                                                                                                                                                                                                                                                                                                                                                                |
| Order          | The order in which server blades are to be powered off when power consumption exceeds the power capacity<br>Displays the order in which server blades are to be powered off. You can specify a value from 1 to 15.<br>In an SMP configuration, the values for non-primary server blades are shown in parentheses. The values enclosed with parentheses do not affect the behavior of the non-primary server blades. |

## show ps-module hardware

Displays the information about the hardware of power supply modules.

- Hardware information  
Displayed if you specify the `-h` parameter.
- FRU information  
Displayed if you specify the `-f` parameter.
- Sensor information  
Displayed if you specify the `-s` parameter.

You need to specify at least one of the following parameters: `-h`, `-f`, and `-s`. If you omit all the parameters, the power supply module information is not displayed. You can specify all of the parameters. The information that you specify by using the parameters is displayed for each power supply module, in order of hardware information, FRU information, and sensor information.

You can specify multiple power supply module numbers. If you do not specify a number, the information of all power supply modules is displayed.

### Syntax

```
show ps-module hardware [<ps-module_no>] [-h] [-f] [-s]
```

### Privilege

Chassis privilege

### Parameters

<ps-module\_no>

Power supply module number

You can specify a value from 1 to 6. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all power supply modules.

`-h`

Displays the hardware information for the specified power supply modules.

`-f`

Displays the FRU information for the specified power supply modules.

`-s`

Displays the sensor information for the specified power supply modules.

## Execution example

To display the hardware information for power supply module 1:

```
$ show ps-module hardware 1 -h -f -s
-- Power supply module hardware information --
Slot : 1
-- Power supply module --
Nameplate power [W] : XXX
-- Power supply module FRU information --
-- Board Information --
Manufacture : XXXX
Product Name : XXXXXXXXX
Serial Number : XXXXXXXXX
-- Product Information --
Product Name : XXXXXXXXX
Manufacture : XXXX
Product Version : XXXXXXXXX
-- MultiRecord Information --
Manufacture ID : XXXXXXXXX
Module Type 1 : XX
Module Type 2 : XX
Product Part/Model Number for Maintenance : XXXXXXXXX
-- Power supply module sensor information --
-- Temp --
Inlet : XXXXXXXXX
Outlet : XXXXXXXXX
-- Tachometer --
FAN : XXXXXXXXX
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

- Common displayed items (items displayed when `-h`, `-f`, or `-s` is specified)

**Table 5-130 Power supply module hardware information**

| Displayed item | Description                                                |
|----------------|------------------------------------------------------------|
| Slot           | Power supply module number<br>This is a value from 1 to 6. |

- Hardware information displayed items (items displayed when `-h` is specified)

**Table 5-131 Power supply module**

| Displayed item  | Description                                                                                                              |
|-----------------|--------------------------------------------------------------------------------------------------------------------------|
| Nameplate power | Rated power (W)<br><ul style="list-style-type: none"> <li>• ----- : The power supply module is not installed.</li> </ul> |

- FRU information displayed items (items displayed when `-f` is specified)

**Table 5-132 Board Information**

| Displayed item | Description       |
|----------------|-------------------|
| Manufacture    | Manufacturer code |
| Product Name   | Product name      |
| Serial Number  | Serial number     |

**Table 5-133 Product Information**

| Displayed item  | Description       |
|-----------------|-------------------|
| Product Name    | Product name      |
| Manufacture     | Manufacturer code |
| Product Version | Product version   |

**Table 5-134 MultiRecord Information**

| Displayed item                            | Description                |
|-------------------------------------------|----------------------------|
| Manufacture ID                            | Code for Hitachi           |
| Module Type 1                             | Module type code 1         |
| Module Type 2                             | Module type code 2         |
| Product Part/Model Number for Maintenance | Maintenance component code |

- Sensor information displayed items (items displayed when `-s` is specified)

**Table 5-135 Power supply module sensor information**

| Displayed item | Description                                                                         |
|----------------|-------------------------------------------------------------------------------------|
| Temp           | Lists the thermal sensor names and sensor values for the power supply module        |
| Tachometer     | Lists the rotation speed sensor names and sensor values for the power supply module |

## show ps-module status

Displays the statuses of power supply modules.

### Syntax

```
show ps-module status [<ps-module_no>]
```

### Privilege

Chassis privilege

### Parameters

<ps-module\_no>

Power supply module number

You can specify a value from 1 to 6. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all power supply modules.

### Execution example

To display the status of power supply module 1:

```
$ show ps-module status 1
-- Power supply module status --
Slot : 1
Install : installed
Power : On
Fail : Normal
Warning : Normal
AC Input : 200[V]
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.



**Table 5-136 Power supply module status**

| Displayed item | Description                                                                                                                                                                                                                 |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Power supply module number<br>This is a value from 1 to 6.                                                                                                                                                                  |
| Install        | Whether the power supply module is installed <ul style="list-style-type: none"><li>installed: The power supply module is installed.</li><li>not installed: The power supply module is not installed.</li></ul>              |
| Power          | Power supply status of the module <ul style="list-style-type: none"><li>Off : The module is powered off.</li><li>On : The module is powered on.</li><li>-----: The module is not installed.</li></ul>                       |
| Fail           | Failure status of the module <ul style="list-style-type: none"><li>Normal : The status of the module is normal.</li><li>FAIL : A failure occurred on the module.</li><li>-----: The module is not installed.</li></ul>      |
| Warning        | Warning status of the module <ul style="list-style-type: none"><li>Normal : The status of the module is normal.</li><li>WARNING: A warning was issued for the module.</li><li>-----: The module is not installed.</li></ul> |
| AC Input       | AC input <ul style="list-style-type: none"><li>Unknown: The voltage is unknown.</li><li>200 (V): The voltage is 200 (V).</li><li>None: There is no input.</li><li>-----: The module is not installed.</li></ul>             |

## Commands to manage fan modules

This section describes the commands to confirm the fan module settings.

### show fan-module status

Displays the statuses of fan modules.

#### Syntax

```
show fan-module status [<fan_no>]
```

#### Privilege

Chassis privilege

## Parameters

<fan\_no>

Fan module number

You can specify a value from 1 to 10. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all fan modules.

## Execution example

To display the status of fan module 1:

```
show fan-module status 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-137 Fan module status**

| Displayed item   | Description                                                                                                                                                              |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot             | Fan module number<br>This is a value from 1 to 10.                                                                                                                       |
| Install          | Whether the module is installed <ul style="list-style-type: none"><li>installed: The module is installed.</li><li>not installed: The module is not installed.</li></ul>  |
| Power            | Power supply status of the module <ul style="list-style-type: none"><li>off: The module is powered off.</li><li>on: The module is powered on.</li></ul>                  |
| Fail             | Failure status of the module <ul style="list-style-type: none"><li>normal: The status of the module is normal.</li><li>fail: A failure occurred on the module.</li></ul> |
| Tachometer (rpm) | Rotation speed of the fan                                                                                                                                                |

## Commands for cooling fan control module management

This section describes the commands to confirm and change the cooling fan control module settings.

### show fan-control-module hardware

Displays the hardware information for cooling fan control modules.

The following information is displayed:

- FRU information

## Syntax

```
show fan-control-module hardware [<fan_control_no>] [-f]
```

## Privilege

Chassis privilege

## Parameters

<fan\_control\_no>

Fan control module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all cooling fan control modules.

-f

FRU information for the specified cooling fan control modules.

## Execution example

To display the FRU information for a cooling fan control module:

```
show fan-control-module hardware 1 -f
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-138 Fan control module hardware information**

| Displayed item | Description                                          |
|----------------|------------------------------------------------------|
| Slot           | Fan control module number<br>This is a value 1 or 2. |

**Table 5-139 Board Information**

| Displayed item | Description       |
|----------------|-------------------|
| Manufacture    | Manufacturer code |
| Product Name   | Product name      |
| Serial Number  | Serial number     |

**Table 5-140 Product Information**

| Displayed item | Description       |
|----------------|-------------------|
| Product Name   | Product name      |
| Manufacture    | Manufacturer code |

| Displayed item  | Description     |
|-----------------|-----------------|
| Product Version | Product version |

**Table 5-141 MultiRecord Information**

| Displayed item                            | Description                |
|-------------------------------------------|----------------------------|
| Manufacture ID                            | Code for Hitachi           |
| Module Type 1                             | Module type code 1         |
| Module Type 2                             | Module type code 2         |
| Product Part/Model Number for Maintenance | Maintenance component code |

## show fan-control-module status

Displays the statuses of cooling fan control modules.

The following information is displayed:

- Installation status
- Power supply status
- Operating status (failure or warning)
- LED status

### Syntax

```
show fan-control-module status [<fan_control_no>]
```

### Privilege

Chassis privilege

### Parameters

<fan\_control\_no>

Fan control module number

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all cooling fan control modules.

### Execution example

To display the status of cooling fan control module 1:

```
show fan-control-module status 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-142 Fan control module status**

| Displayed item | Description                                                                                                                                                                 |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Fan control module number<br>This is a value 1 or 2.                                                                                                                        |
| Install        | Whether the module is installed <ul style="list-style-type: none"><li>installed: The module is installed.</li><li>not installed: The module is not installed.</li></ul>     |
| Power          | Power supply status of the module <ul style="list-style-type: none"><li>off: The module is powered off.</li><li>on: The module is powered on.</li></ul>                     |
| Fail           | Failure status of the module <ul style="list-style-type: none"><li>normal: The status of the module is normal.</li><li>fail: A failure occurred on the module.</li></ul>    |
| Warning        | Warning status of the module <ul style="list-style-type: none"><li>normal: The status of the module is normal.</li><li>fail: A warning was issued for the module.</li></ul> |

**Table 5-143 LED status**

| Displayed item | Description                                                                                                                                                                                                                                |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LED type       | LED indicator type <ul style="list-style-type: none"><li>PWR: Power LED indicator</li><li>ALM: Alarm LED indicator</li></ul>                                                                                                               |
| Light          | LED indicator status <ul style="list-style-type: none"><li>on: The LED indicator is lit.</li><li>off: The LED indicator is unlit.</li><li>blink: The LED indicator is blinking.</li></ul>                                                  |
| Color          | LED indicator color <ul style="list-style-type: none"><li>green: Green</li><li>amber: Amber</li><li>unknown: Information about the color of the LED indicator could not be retrieved.</li><li>-----: The LED indicator is unlit.</li></ul> |

## Commands to manage the LCD touch console

This section describes the commands to confirm and change the LCD touch console settings.

### clear lcd password

Initializes the LCD touch console password.

#### Syntax

```
clear lcd password [-F]
```

#### Privilege

Account privilege

#### Parameters

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

#### Execution example

To initialize the LCD touch console password:

```
$ clear lcd password
Confirm? (y/[n]):y
I0210 : Initializing a PIN for the LCD touch console was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

### set lcd validity

Enables or disables the LCD touch console.

#### Syntax

```
set lcd validity -v <tc_valid> [-F]
```

#### Privilege

Chassis privilege

#### Parameters

-v <tc\_valid>

Enables or disables the LCD touch console.

- enable: Enabled.
- disable: Disabled.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To enable the LCD touch console:

```
set lcd validity -v enable
```

## show lcd setting

Displays information about the LCD touch console settings.

### Syntax

```
show lcd setting
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display information about the LCD touch console settings:

```
show lcd setting
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-144 LCD touch console setting**

| Displayed item | Description                                                                                                                          |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Validity       | Whether the LCD touch console is enabled <ul style="list-style-type: none"><li>enable: Enabled.</li><li>disable: Disabled.</li></ul> |

## Commands for user management

This section describes the commands to confirm and change information for user management.

## add user account

Adds an account.

Specify an unregistered account name. You cannot specify an account name that is already registered. Before creating an account, create a role to be used. If you do not specify a password, you will be asked to enter a password. (See the execution example below.)

### Syntax

```
add user account -i <user_id> [-s <status>] -r <role_id> [-l
<language>] [-c <cli_prompt>] [-t <logout_time>] [-p <password>] [-F]
```

### Privilege

Account privilege

### Parameters

**-i <user\_id>**

Account name

Specify an account name. You can use a maximum of 31 alphanumeric characters, hyphens (-), periods (.), and underscores (\_). You can specify only an alphanumeric character for the first character. You cannot omit this parameter.

**-s <status>**

Status

Specifies whether to enable the account. If you enable the account, the account can be used to log in. If you disable the account, the account cannot be used to log in.

- enable: Enabled.
- disable: Disabled.

If you omit this parameter, the account is enabled.

**-r <role\_id>**

Role name

Sets the name of the role to be assigned to the account.

You can use a maximum of 31 alphanumeric characters. Specify an alphabetic character for the first character. You cannot omit this parameter.

**-l <language>**

Language.

Specify the language to be used when a user logs in with this account. You can select Japanese, English, or the language specified by the system settings. If you select Japanese or English, the selected language will be used regardless of the system settings. If you select the language specified by the system settings, the system language set by using the command `set language system` will be used.



- `japanese`: Japanese
- `english`: English
- `system`: Uses the language specified by the system settings  
If you omit this parameter, the language specified by the system settings is set.

`-c <cli_prompt>`

CLI console prompt

Specify the display format of the CLI console prompt. You can select to display either "\$" (fixed) or "chassis-ID(management-module-slot-number)\$".

If you are using the CLI to manage multiple systems units, by displaying the chassis ID in the prompt, you can identify the system unit on which you are operating.

- `$`: "\$" fixed
- `chassis-ID(slot-number)$`: "chassis-ID(management-module-slot-number)\$"

If you omit this parameter, "chassis-ID(management-module-slot-number)\$" is set as the display format.

`-t <logout_time>`

Session timeout period (in minutes).

Specify the maximum period of inactivity after which the user will be automatically logged out of the CLI console. You can specify a value from 0 to 1,440 minutes for the session timeout period. If you specify 0 minutes, automatic logout is not performed. For the Web console, sessions are automatically closed after 30 minutes regardless of the value of this setting.

- 0: Automatic logout is not performed.
- 1 to 1440: Maximum period of inactivity (in minutes) after which automatic logout is performed.

If you omit this parameter, the session timeout period is set to 5 minutes.

`-p <password>`

Password

Specify the password to be used in login. The value of this setting is not displayed in the account information. For this reason, store this password in a safe place. You can specify a maximum of 31 characters.

However, you cannot use space characters.

If you do not specify a password, you will be asked to enter a password.

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To add the account name `accountname` with a password specified in the command line:

```
$ add user account -i accountname -s enable -r chassis -l japanese -
c $ -t 10 -p password
Confirm? (y/[n]):y
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

To add the account name `accountname` without specifying a password in the command line:

```
$ add user account -i accountname -s enable -r chassis -l japanese -
c $ -t 10
Confirm? (y/[n]):y
Password : ... Enter the password. The entered characters are
not displayed.
Retype password : ... Re-enter the password. The entered characters
are not displayed.
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

To assign the privileges for the server blades constituting an SMP configuration to the account, specify the role to which the privileges for all server blades constituting the SMP configuration are assigned.

## add user role

Adds a role.

Specify an unregistered role name. You cannot specify a name that is already registered. Specify all privileges to be assigned.

## Syntax

```
add user role -i <role_id> [-b <blade_no>] [-s <switch_no>] [-n] [-
c] [-a] [-r] [-k] [-F]
```

## Privilege

Account privilege

## Parameters

`-i <role_id>`

Role name

Specify the role name to be added. You can use a maximum of 31 alphanumeric characters. Specify an alphabetic character for the first character. You cannot omit this parameter.

-b <blade\_no>

Server blade privileges

Specify the server blade privileges to be assigned to the role. Specify the number of the server blade for which privileges are to be assigned to the role.

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all`, privileges for all server blades are assigned to the role.

If you specify the `-b` parameter, you must either specify a number or `all` after it. If you omit the `-b` parameter, the role is not assigned privileges for any of the server blades.

-s <switch\_no>

Switch module privileges.

Specify the switch module privileges to be assigned to the role. Specify the number of the switch module for which the privileges are to be assigned to the role.

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all`, privileges for all switch modules are assigned to the role. If you specify the `-s` parameter, you must specify a number or `all` after it. If you omit the `-s` parameter, the role is not assigned privileges for any of the switch modules.

-n

Network privilege

Specify whether to assign the network privilege to the role. If you specify this parameter, the network privilege is assigned to the role. If you omit this parameter, the network privilege is not assigned to the role.

-c

Server chassis privilege

Specify whether to assign the server chassis privilege to the role. If you specify this parameter, the server chassis privilege is assigned to the role. If you omit this parameter, the server chassis privilege is not assigned to the role.

-a

Account privilege

Specify whether to assign the account privilege to the role. If you specify this parameter, the account privilege is assigned to the role. If you omit this parameter, the account privilege is not assigned to the role.

-r

Read privilege only.

If you specify this parameter, only the read privilege is assigned to the role. If you omit this parameter, read, setting, and operation privileges are assigned to the role.

-k

Denies permission to execute remote consoles and OS consoles.

Specify this parameter to deny permission to execute remote consoles and OS consoles. If you specify this parameter, the role is not allowed to execute the remote consoles and OS consoles of server blades even if the role has the server blade privileges for the server blades. If you omit this parameter, the role is allowed to execute the remote consoles and OS consoles of the server blades for which server blade privileges are assigned to the role.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To create the role `bladeandchassis` and assign it reading, setting, and operation privileges for all server blades and for the server chassis:

```
$ add user role -i bladeandchassis -b all -c
Confirm? (y/[n]):y
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

To create the role `bladereadonly` and assign it only read privileges for server blades 1 to 3:

```
$ add user role -i bladereadonly -b 1-3 -r
Confirm? (y/[n]):y
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

When server blades are in an SMP configuration, assign the privileges for all server blades constituting the SMP configuration to the role.

## change-password user account

Changes the password for an account.

Specify an account name that is already registered. Change the password for the specified account. If you do not enter a password, you will be asked to enter a password. (See the execution example below.)

## Syntax

```
change-password user account -i <user_id> [-p <password>] [-F]
```

## Privilege

Account privilege

Users who do not have the account privilege can change the password for their own account only.

## Parameters

**-i** *<user\_id>*

Account name

Specify the name of the account whose password is to be changed. You can use a maximum of 31 alphanumeric characters, hyphens (-), periods (.), and underscores (\_). You can specify only an alphanumeric character for the first character. You cannot omit this parameter.

**-p** *<password>*

Password

Specify the password to be used for login. The value of this setting is not displayed in the account information. For this reason, store this password in a safe place. You can specify a maximum of 31 characters.

If you do not specify a password, you will be asked to enter a password.

**-F**

Specify this parameter to execute the command without displaying a confirmation dialog box. If you do not enter a password, you will be asked to enter a password even if you specify **-F**.

## Execution example

To change the password for the account `accountname` with a password specified in the command line:

```
$ change-password user account -i accountname -p password
Confirm? (y/[n]):y
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

To change the password for an account `accountname` without specifying a password in the command line:

```
$ change-password user account -i accountname
Confirm? (y/[n]):y
Old password : ... Enter the old password. The entered characters
are not displayed.
New Password : ... Enter a new password. The entered characters
are not displayed.
Retype password : ... Re-enter the new password. The entered
characters are not displayed.
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## clear user ldap

Initializes the LDAP settings. Initializes all LDAP server, LDAP directory search, and LDAP group authentication settings.

### Syntax

```
clear user ldap [-F]
```

### Privilege

Account privilege

### Parameters

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To initialize the LDAP settings:

```
clear user ldap
```

## delete user account

Deletes an account created by the user. You cannot delete an account that is predefined by the system.

Specify a user name that is already registered. Delete the specified account.

### Syntax

```
delete user account -i <user_id> [-F]
```

### Privilege

Account privilege

### Parameters

-i <user\_id>

Account name

Specify the name of the account to be deleted. You can use a maximum of 31 alphanumeric characters, hyphens (-), periods (.), and underscores (\_). You can specify only an alphanumeric character for the first character. You cannot omit this parameter.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To delete the account `accountname`:

```
$ delete user account -i accountname
Confirm? (y/[n]):y
I0027 : Deleting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## delete user role

Deletes a role.

Specify a role name that is already registered. Delete the specified role. You cannot delete a role that is used by an account.

### Syntax

```
delete user role -i <role_id> [-F]
```

### Privilege

Account privilege

### Parameters

`-i <role_id>`

Role name

Specify the name of the role to be deleted. You can use a maximum of 31 alphanumeric characters. Specify an alphabetic character for the first character. You cannot omit this parameter.

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To delete the role `rolename`:

```
$ delete user role -i rolename
Confirm? (y/[n]):y
I0027 : Deleting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## disconnect user session

Closes a session established by a user logged in to the management module.

### Syntax

```
disconnect user session -i <user_ses_id> [-F]
```

## Privilege

Account privilege

## Parameters

`-i <user_ses_id>`

Session ID.

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To close the user session whose session ID is 107170000:

```
disconnect user session -i 107170000
```

## modify user account

Changes the settings for an account.

Specify an account name that is already registered. Change the settings for the specified account. When you change settings, changes to the settings for language and CLI console prompt, are applied to the CLI console to which the user is currently logged in. When using the Web console, to apply the changed language settings, you need to log out. You can use the changed password and session timeout period the next time you log in. You cannot change the status or role of an account that is currently logged in. You cannot change the status or role name for your own account.

## Syntax

```
modify user account -i <user_id> [-s <status>] [-r <role_id>] [-l
<language>] [-c <cli_prompt>] [-t <logout_time>] [-p <password>] [-e
<expired_login>] [-F]
```

## Privilege

Account privilege

Users who do not have the account privilege can change the password for their own account only.

## Parameters

`-i <user_id>`

Account name

Specify the name of the account whose password is to be changed. You can use a maximum of 31 alphanumeric characters, hyphens (-), periods (.), and underscores (\_). You can specify only an alphanumeric character for the first character. You cannot omit this parameter.



-s <status>

Status

Specify whether to enable the account. If you enable the account, the account can be used to log in. If you disable the account, the account cannot be used to log in. If you disable the account, you can temporarily terminate the account and do not need to delete the account.

- enable: Enabled.
- disable: Disabled.

If you omit this parameter, the status is not changed. You cannot change the status of your own account.

-r <role\_id>

Role name

You can use a maximum of 31 alphanumeric characters. Specify an alphabetic character for the first character. If you omit this parameter, the role name is not changed. You cannot change the role name for your own account.

-l <language>

Language.

Displays the language used when a user logs in with this account. You can select Japanese, English, or the language specified by the system settings. If you select Japanese or English, the selected language is used regardless of the system settings. If you select the language specified by the system settings, the system language set by using the command `set language system` will be used.

- japanese: Japanese
- english: English
- system: Uses the language specified by the system settings

If you omit this parameter, the language is not changed.

-c <cli\_prompt>

CLI console prompt

Specify the display format of the CLI console prompt. The prompt displays in either of the following formats: "\$" (fixed) and "chassis-ID(management-module-slot-number)\$".

If you are using the CLI to manage multiple systems units, by displaying the chassis ID in the prompt, you can identify the system unit on which you are operating.

- \$: "\$" fixed
- chassis-ID(slot-number)\$: "chassis-ID(management-module-slot-number)\$"

The actual chassis ID and slot number will be displayed in the prompt. The space character at the end of the chassis ID will not be displayed in the prompt.

If you omit this parameter, the display format of the CLI console prompt will not be changed.

**-t <logout\_time>**

Session timeout period (in minutes).

Specify the maximum period of inactivity after which the user will be automatically logged out of the CLI console. You can specify a value from 0 to 1,440 minutes for the session timeout period. If you specify 0 minutes, automatic logout is not performed. For the Web console, sessions are automatically closed after 30 minutes regardless of the value of this setting.

- 0: Automatic logout is not performed.
- 1 to 1440: Maximum period of inactivity (in minutes) after which automatic logout is performed.

If you omit this parameter, the session timeout period is set to 5 minutes.

**-e <expired\_login>**

Change of the expired password

Set the operation when the password expires. You can enable this parameter regardless of whether the password has expired.

- enable: Can change the expired password to log in.
- disable: Cannot log in.

**-p <password>**

Password

Specify the password to be used for login. The value of this setting is not displayed in the account information. For this reason, store this password in a safe place. You can specify a maximum of 31 characters.

If you omit this parameter, the password is not changed.

**-F**

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To make the account `accountname` temporarily unavailable:

```
$ modify user account -i accountname -s disable
Confirm? (y/[n]):y
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

To change the CLI prompt to "chassis-ID(management-module-slot-number)\$" and disable automatic logout during periods of inactivity:

```
$ modify user account -i accountname -c chassis -t 0
Confirm? (y/[n]):y
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

- To assign the privileges for the server blades constituting an SMP configuration to the account, specify the role to which the privileges for all server blades constituting the SMP configuration are assigned.

## modify user role

Changes the settings for a role.

Specify a role name that is already registered. Change the settings for the specified role. Specify all privileges to be assigned to the role after the changing the settings. You cannot change a role that is used by an account.

## Syntax

```
modify user role -i <role_id> [-b <blade_no>] [-s <switch_no>] [-n]
[-c] [-a] [-r] [-k] [-F]
```

## Privilege

Account privilege

## Parameters

-i <role\_id>

Role name

Specify the name of the role to be changed. You can use a maximum of 31 alphanumeric characters. Specify an alphabetic character for the first character. You cannot omit this parameter.

-b <blade\_no>

Server blade privileges

Specify the server blade privileges to be assigned to the role. Specify the number of the server blade for which privileges are to be assigned to the role.

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all`, privileges for all server blades are assigned to the role.

If you specify the `-b` parameter, you must either specify a number or `all` after it. If you omit the `-b` parameter, the role is not assigned privileges for any of the server blades.

-s <switch\_no>

Switch module privileges

Specify the switch module privileges to be assigned to the role. Specify the number of the switch module for which the privileges are to be assigned to the role.

You can specify a value 1 or 2. You can specify multiple values.

If you specify `all`, privileges for all switch modules are assigned to the role. If you specify the `-s` parameter, you must specify a number or `all`

after it. If you omit the `-s` parameter, the role is not assigned privileges for any of the switch modules.

`-n`

Network privilege

Specify whether to assign the network privilege to the role. If you specify this parameter, the network privilege is assigned to the role. If you omit this parameter, the network privilege is not assigned to the role.

`-c`

Server chassis privilege

Specify whether to assign the server chassis privilege to the role. If you specify this parameter, the server chassis privilege is assigned to the role. If you omit this parameter, the server chassis privilege is not assigned to the role.

`-a`

Account privilege

Specify whether to assign the account privilege to the role. If you specify this parameter, the account privilege is assigned to the role. If you omit this parameter, the account privilege is not assigned to the role.

`-r`

Read privilege only.

If you specify this parameter, only the read privilege is assigned to the role. If you omit this parameter, read, setting, and operation privileges are assigned to the role.

`-k`

Denies permission to execute remote consoles and OS consoles.

Specify this parameter to deny permission to execute remote consoles and OS consoles. If you specify this parameter, the role is not allowed to execute the remote consoles and OS consoles of server blades even if the role has the server blade privileges for the server blades. If you omit this parameter, the role is allowed to execute the remote consoles and OS consoles of the server blades for which server blade privileges are assigned to the role.

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To assign the operation privilege for all server blades and for the server chassis to the role `bladeandchassis`:

```
$ modify user role -i bladeandchassis -b all -c
Confirm? (y/[n]):y
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

When server blades are in an SMP configuration, assign the privileges for all server blades constituting the SMP configuration to the role.

## set user ldap group

Sets up the LDAP group authentication. This command does not change the settings for parameters that are not specified.

### Syntax

```
set user ldap group [-a <group_auth>] [-m <ldap_member_attr>] [-g0 <ldap_group_dn>] [-r0 <group_role>] [-g1 <ldap_group_dn>] [-r1 <group_role>] [-g2 <ldap_group_dn>] [-r2 <group_role>] [-g3 <ldap_group_dn>] [-r3 <group_role>] [-g4 <ldap_group_dn>] [-r4 <group_role>] [-dg <dynamic_dn>] [-df <dynamic_filter>] [-dr <dynamic_role>] [-F]
```

### Privilege

Account privilege

### Parameters

-a <group\_auth>

Authentication method.

- none: Group authentication is not performed.
- static: Static group
- dynamic: Dynamic group

-m <ldap\_member\_attr>

Group member attribute.

You can use from 1 to 64 ASCII characters. You cannot use a space character for the first and last characters. You can use alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9). Note, however, that the first character must be an alphabetic character.

If you specify only space characters, an empty string is set.

You can use this parameter if static group authentication is specified as the group authentication method.

-g0 <ldap\_group\_dn>

DN of the group whose login is to be permitted (1st).

You can use from 1 to 256 ASCII characters.<sup>1</sup> You cannot use a space character for the first and last characters.

If you specify only space characters, the DN of the applicable group will be deleted.

You can use this parameter if static group authentication is specified as the group authentication method.

-r0 <group\_role>

Role of the group DN (1st).

- user-entry: Uses the user entry role.
- role-name: Uses a role that is registered in the management module. (Specify one role name.)

You can use this parameter if static group authentication is specified as the group authentication method.

**-g1 <ldap\_group\_dn>**

DN of the group whose login is to be permitted (2nd).

You can use from 1 to 256 ASCII characters.<sup>1</sup> You cannot use a space character for the first and last characters.

If you specify only space characters, the DN of the applicable group will be deleted.

You can use this parameter if static group authentication is specified as the group authentication method.

**-r1 <group\_role>**

Role of the group DN (2nd).

- user-entry: Uses the user entry role.
- role-name: Uses a role that is registered in the management module. (Specify one role name.)

You can use this parameter if static group authentication is specified as the group authentication method.

**-g2 <ldap\_group\_dn>**

DN of the group whose login is to be permitted (3rd).

You can use from 1 to 256 ASCII characters.<sup>1</sup> You cannot use a space character for the first and last characters.

If you specify only space characters, the DN of the applicable group will be deleted.

You can use this parameter if static group authentication is specified as the group authentication method.

**-r2 <group\_role>**

Role of the group DN (3rd).

- user-entry: Uses the user entry role.
- role-name: Uses a role that is registered in the management module. (Specify one role name.)

You can use this parameter if static group authentication is specified as the group authentication method.

**-g3 <ldap\_group\_dn>**

DN of the group whose login is to be permitted (4th).

You can use from 1 to 256 ASCII characters.<sup>1</sup> You cannot use a space character for the first and last characters.

If you specify only space characters, the DN of the applicable group will be deleted.

You can use this parameter if static group authentication is specified as the group authentication method.

**-r3 <group\_role>**

Role of the group DN (4th).

- user-entry: Uses the user entry role.
- role-name: Uses a role that is registered in the management module. (Specify one role name.)

You can use this parameter if static group authentication is specified as the group authentication method.

**-g4 <ldap\_group\_dn>**

DN of the group whose login is to be permitted (5th).

You can use from 1 to 256 ASCII characters.<sup>1</sup> You cannot use a space character for the first and last characters.

If you specify only space characters, the DN of the applicable group will be deleted.

You can use this parameter if static group authentication is specified as the group authentication method.

**-r4 <group\_role>**

Role of the group DN (5th).

- user-entry: Uses the user entry role.
- role-name: Uses a role that is registered in the management module. (Specify one role name.)

You can use this parameter if static group authentication is specified as the group authentication method.

**-dg <dynamic\_dn>**

Search DN for the dynamic group.

You can use from 1 to 256 ASCII characters. You cannot use a space character for the first and last characters.

If you specify only space characters, an empty string is set to the search DN for the dynamic group.

You can use this parameter if dynamic group authentication is specified as the group authentication method.

**-df <dynamic\_filter>**

Search filter for the dynamic group.

You can use from 1 to 256 ASCII characters. You cannot use a space character for the first and last characters.

If you specify only space characters, an empty string is set to the search filter for the dynamic group.

You can use this parameter if dynamic group authentication is specified as the group authentication method.

**-dr <dynamic\_role>**

Role of the dynamic group.

- user-entry: Uses the user entry role.
- role-name: Uses a role that is registered in the management module. (Specify one role name.)

You can use this parameter if dynamic group authentication is specified as the group authentication method.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

Notes:

1. For management module firmware versions earlier than A0190, set the DN length within 74 characters. Also, space characters cannot be used at all positions.

## Execution example

To set up the LDAP group authentication:

```
set user ldap group -m xxxxx -g0 xxxxx
```

## set user ldap search

Sets up the functionality for searching the LDAP directory. This command does not change the settings for parameters that are not specified.

### Syntax

```
set user ldap search [-b <ldap_base_dn>] [-l <ldap_login_attr>] [-r <ldap_role_attr>] [-f <referral>] [-F]
```

### Privilege

Account privilege

### Parameters

-b <ldap\_base\_dn>

Base DN.

You can use from 1 to 256 ASCII characters.<sup>1</sup> You cannot use a space character for the first and last characters.

If you specify only space characters, an empty string is set.

-l <ldap\_login\_attr>

Login ID attribute.

You can use from 1 to 64 ASCII characters. You cannot use a space character for the first and last characters. You can use alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9). Note, however, that the first character must be an alphabetic character.

If you specify only space characters, an empty string is set.



-r <ldap\_role\_attr>

Role attribute.

You can use from 1 to 64 ASCII characters. You cannot use a space character for the first and last characters. You can use alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9). Note, however, that the first character must be an alphabetic character.

If you specify only space characters, an empty string is set.

-f <referral>

Number of referrals.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

Notes:

1. For management module firmware versions earlier than A0190, set the DN length within 74 characters. Also, space characters cannot be used at all positions.

## Execution example

To set up the functionality for searching the LDAP directory:

```
set user ldap search -b basedn -l loginattr -r roleattr
```

## set user ldap server

Sets up the LDAP server connection information. This command does not change the settings for parameters that are not specified.

### Syntax

```
set user ldap server [-v <ldap_valid>] [-u <user_auth>] [-h0 <ldap_hostname>] [-h1 <ldap_hostname>] [-h2 <ldap_hostname>] [-p <ldap_port>] [-b <ldap_bind_dn>] [-w <ldap_password>] [-F]
```

### Privilege

Account privilege

### Parameters

-v <ldap\_valid>

Enables or disables use of LDAP.

- enable: Enables use of LDAP.
- disable : Disables use of LDAP.

-u <user\_auth>

User authentication method.

- o ldap: Uses only the LDAP server for authentication.
- o local: Local and LDAP servers are used for authentication.

**-h0 <ldap\_hostname>**

IP address for the LDAP server (1st).

This item is an FQDN, IPv4 address, or IPv6 address (a maximum of 127 characters).

A space character cannot be used for the first or last characters. For FQDN, this item consists of alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9), hyphens (-), periods (.), and colons (:).

If you specify only space characters, the IP address of the applicable server will be deleted.

**-h1 <ldap\_hostname>**

IP address for the LDAP server (2nd).

This item is an FQDN, IPv4 address, or IPv6 address (a maximum of 127 characters).

A space character cannot be used for the first or last characters. For FQDN, this item consists of alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9), hyphens (-), periods (.), and colons (:).

If you specify only space characters, the IP address of the applicable server will be deleted.

**-h2 <ldap\_hostname>**

IP address for the LDAP server (3rd).

This item is an FQDN, IPv4 address, or IPv6 address (a maximum of 127 characters).

A space character cannot be used for the first or last characters. For FQDN, this item consists of alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9), hyphens (-), periods (.), and colons (:).

If you specify only space characters, the IP address of the applicable server will be deleted.

**-p <ldap\_port>**

Port number for the LDAP server.

Specify a value from 1 to 65535.

**-b <ldap\_bind\_dn>**

Bind DN for the LDAP server.

You can use from 1 to 256 ASCII characters.<sup>1</sup> You cannot use a space character for the first and last characters.

If you specify only space characters, anonymous binding is enabled. If you specify a character string, anonymous binding is disabled.

**-w <ldap\_password>**

Bind password.

You can use from 1 to 32 ASCII characters. You can use space characters.

If you do not specify a password after -w, data is registered without using a bind password.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

Notes:

1. For management module firmware versions earlier than A0190, set the DN length within 74 characters. Also, space characters cannot be used at all positions.

## Execution example

To set an LDAP server (0th):

```
set user ldap server -v enable -h0 xxx.xxx.xxx.xxx -p 20001 -b
xxxxxxxx -w pass
```

To disable use of the LDAP server:

```
set user ldap server -v disable
```

## set user password policy

Sets the password policy.

Set the following items:

- Management of password expiration dates
- Password expiry period (day)
- Operation when the password expires.

The operation when the password expires is either of the following two types:

- (1) A user cannot log in

The management module disconnects the console without allowing login.

Note that a user who has the account privilege can change the password to log in.

- (2) A user can change the expired password to log in.

When a user attempts to log in, a window for changing the password appears. After changing the password, the user can log in.

## Syntax

```
set user password policy [-m <management>] [-p <expiry_period>] [-e
<expired_login>] [-F]
```

## Privilege

Account privilege

## Parameters

-m <management>

Management of password expiration dates

Whether to set the expiration date for a password to control availability of login or to enable login without any conditions is displayed.

- enable: Sets the expiration date for a password to control availability of login.
  - disable: Enables login without any conditions.
- If you omit this parameter, the setting value is not changed.

**-p <expiry\_period>**

Password expiry period (day)

Specify a value from 1 to 365.

- 1-365: Password expiry period (day)  
If you enable management of password expiration dates, you cannot omit this parameter.  
If you disable management of password expiration dates, the specified value is not applied even if you specify a value.  
If management of password expiration dates is enabled, the setting value is not changed if you omit this parameter.

**-e <expired\_login>**

Operation when the password expires.

- enable: Can change the expired password to log in.
- disable: Cannot log in.

You can omit this parameter regardless of whether management of password expiration dates is enabled or disabled.

If management of password expiration dates is disabled, the specified value is not applied even if you specify a value.

If management of password expiration dates is enabled, the setting value is not changed if you omit this parameter.

**-F**

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the password expiry period to 60 days and to specify the setting so that the password is changed during login when the password expires:

```
$ set user password policy -m enable -p 60 -e enable
Confirm? (y/[n]):y
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

If you enable management of password expiration dates, the expiration date of each account is set as follows: from the time when the password is set for the account to the number of days set for the password expiry period.

If you change the value of the password expiry period (day), the expiration date of each account is set as follows: from the time when the password is set for the account to the number of days set for the password expiry period.

Even if login is disabled when the password expires, a user who has the account privilege can log in by changing the password during login.

For users whose last updated time of the password is not set, the time when management of password expiration dates is enabled is set as the last updated time of the password.

## show user account

Displays the configuration information for the specified account. If you do not specify an account name, configuration information for all accounts will be displayed.

### Syntax

```
show user account [-i <user_id>]
```

### Privilege

Account privilege

Users who do not have the account privilege can view information for their own account only.

### Parameters

`-i < user_id >`

Account name

Specify the name of the account whose configuration information is to be displayed. If you do not specify an account name, configuration information for all accounts will be displayed. Users who do not have the account privilege can view information for their own account only.

You can use a maximum of 31 alphanumeric characters, hyphens (-), periods (.), and underscores (\_). You can specify only an alphanumeric character for the first character.

### Execution example

To view information about the account `abcd`:

```
$ show user account -i abcd
-- User account --
User ID : abcd (Account name: abcd)
Status : enable (Status: Enable)
```

```

Role : rolename (Role name: rolename)
Language : japanese (Language: Japanese)
CLI prompt : $ (CLI prompt: Fixed to "$")
CLI Inactive Time (min) : 10
-- Password information --
Password remaining days : 10 (10 days remain until the
password expiration date.)
Change expired password : disable (Login is disabled when the
password expires.)
S0002 : Command succeeded.
S0000 : Command was finished.
$

```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-145 User account**

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| User ID        | <p>Account name</p> <p>Displays the account name. This item consists of a maximum of 31 alphanumeric characters, hyphens (-), periods (.), and underscores (_). Only an alphanumeric character can be specified for the first character.</p>                                                                                                                                                                                                                                                                                                                                                                                      |
| Status         | <p>Status</p> <p>Whether the account is enabled If the account is enabled, it can be used to log in. If the account is disabled, it cannot be used to log in.</p> <ul style="list-style-type: none"> <li>enable: Enabled.</li> <li>disable: Disabled.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                  |
| Role           | <p>Role name</p> <p>Displays the name of the role assigned to the account. The maximum length is 31 alphanumeric characters.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Language       | <p>Language</p> <p>Displays the language used when a user logs in with this account. You can select Japanese, English, or the language specified by the system settings. If you select Japanese or English, the selected language is used regardless of the system settings. If you select the language specified by the system settings, the system language set by using the command <code>set language system</code> will be used.</p> <ul style="list-style-type: none"> <li>japanese: Japanese</li> <li>english: English</li> <li>Follows the system settings: Uses the language specified by the system settings</li> </ul> |
| CLI prompt     | <p>CLI console prompt</p> <p>Specify the display format of the CLI console prompt. The prompt displays in either of the following formats:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Displayed item          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | <p>"\$" (fixed) and "chassis-ID(management-module-slot-number)\$".</p> <ul style="list-style-type: none"> <li>\$: "\$" fixed</li> <li>chassis-ID(slot-number)\$: "chassis-ID(management-module-slot-number)\$"</li> </ul> <p>The actual chassis ID and slot number will be displayed in the prompt. The space character at the end of the chassis ID will not be displayed in the prompt.</p>                                                                                                                                                                                                                       |
| CLI Inactive Time (min) | <p>Session timeout period (in minutes)</p> <p>Specify the maximum period of inactivity after which the user will be automatically logged out of the CLI console. The session timeout period is a value from 0 to 1440 minutes. If 0 minutes are specified, automatic logout is not performed. For the Web console, sessions are automatically closed after 30 minutes regardless of the value of this setting.</p> <ul style="list-style-type: none"> <li>0: Automatic logout is not performed.</li> <li>1 to 1440: Maximum period of inactivity (in minutes) after which automatic logout is performed.</li> </ul> |

**Table 5-146 Password information**

| Displayed item          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Password remaining days | <p>Password expiry period (remaining days)</p> <p>The number of days until the last day on which you can use the current password to log in is displayed.</p> <ul style="list-style-type: none"> <li>0-365: The number of days until the password expiration date (0 is displayed if the password expires at 24:00 on that day.)</li> <li>expired: The password has expired.</li> <li>infinite: The password can be used for infinite time.</li> <li>-----: The account status is invalid.</li> </ul> |
| Change expired password | <p>Change of the expired password</p> <p>The operation for login when the password expires is displayed. You can enable this parameter regardless of whether the password has expired.</p> <ul style="list-style-type: none"> <li>enable: Can change the expired password to log in.</li> <li>disable: Cannot log in.</li> <li>-----: The account status is invalid.</li> </ul>                                                                                                                       |

## show user ldap

Displays LDAP settings.

## Syntax

`show user ldap`

## Privilege

Account privilege

## Parameters

None

## Execution example

To display LDAP settings:

```
show user ldap
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-147 Connection setting**

| Displayed item | Description                                                                                                                                                                                          |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LDAP           | Whether LDAP is enabled <ul style="list-style-type: none"><li>enable: Enables use of LDAP.</li><li>disable: Disables use of LDAP.</li></ul>                                                          |
| Authentication | User authentication method <ul style="list-style-type: none"><li>ldap: Only the LDAP server is used for authentication.</li><li>local: Local and LDAP servers are used for authentication.</li></ul> |
| LDAP server    | IP address for the LDAP server<br>A maximum of three IP addresses can be registered.<br>This item is an FQDN, IPv4 address, or IPv6 address (a maximum of 127 characters).                           |
| Port number    | Port number for the LDAP server<br>Specify a value from 1 to 65535.                                                                                                                                  |
| Bind DN        | Bind DN for the LDAP server<br>If space characters are displayed, anonymous binding is enabled. If a character string is displayed, anonymous binding is disabled.                                   |

**Table 5-148 Directory search setting**

| Displayed item | Description |
|----------------|-------------|
| Base DN        | Base DN     |



| Displayed item  | Description                                                       |
|-----------------|-------------------------------------------------------------------|
| Login attribute | Login ID attribute                                                |
| Role attribute  | Role attribute<br>You can use from 1 to 64 ASCII characters.      |
| Timeout [sec]   | Search timeout period (in seconds)<br>This item is not supported. |
| Referral        | Number of referrals                                               |

**Table 5-149 Group authentication setting**

| Displayed item       | Description                                                                                                                                                                                                                                                                                                                                  |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Group authentication | Authentication method <ul style="list-style-type: none"> <li>• none: Group authentication is not performed.</li> <li>• static: Static group</li> <li>• dynamic: Dynamic group</li> </ul>                                                                                                                                                     |
| Member attribute     | Group member attribute<br>You can use from 1 to 64 ASCII characters.<br>This item is displayed if the group authentication is the static group authentication.                                                                                                                                                                               |
| Group DN             | DN of the groups whose login is to be permitted<br>A maximum of five DNs can be registered.<br>This item is displayed if the group authentication is the static group authentication.                                                                                                                                                        |
| Group role           | Role of the group DN<br>A maximum of five DNs can be registered. <ul style="list-style-type: none"> <li>• user-entry: The user entry role is used.</li> <li>• role-name: A role whose name is registered in the management module is used.</li> </ul> This item is displayed if the group authentication is the static group authentication. |
| Dynamic group DN     | Search DN for the dynamic group<br>This item is displayed if the group authentication is the dynamic group authentication.                                                                                                                                                                                                                   |
| Dynamic group filter | Search filter for the dynamic group<br>This item consists of 1 to 256 ASCII characters.<br>This item is displayed if the group authentication is the dynamic group authentication.                                                                                                                                                           |
| Dynamic group role   | Role of the dynamic group <ul style="list-style-type: none"> <li>• user-entry: The user entry role is used.</li> <li>• role-name: A role whose name is registered in the management module is used.</li> </ul> This item is displayed if the group authentication is the dynamic group authentication.                                       |

## show user password policy

Displays the password policy.

The following items are displayed:

- Management of password expiration dates
- Password expiry period (day)
- Operation when the password expires.

The operation when the password expires is either of the following two types:

(1) A user cannot log in

The management module disconnects the console without allowing login. Note that a user who has the account privilege can change the password to log in.

(2) A user can change the expired password to log in.

When a user attempts to log in, a window for changing the password appears. After changing the password, the user can log in.

### Syntax

```
show user password policy
```

### Privilege

Account privilege

### Parameters

None

### Execution example

To display the password policy:

```
$ show user password policy
-- Password policy --
Management of password expiration : enable
Password expiry period : 30
Change expired password : enable
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-150 Password policy**

| Displayed item                    | Description                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Management of password expiration | <p>Management of password expiration dates</p> <p>Whether to set the expiration date for a password to control availability of login or to enable login without any conditions is displayed.</p> <ul style="list-style-type: none"> <li>enable: Sets the expiration date for a password to control availability of login.</li> <li>disable: Enables login without any conditions.</li> </ul> |
| Password expiry period            | <p>Password expiry period (day)</p> <p>Specify a value from 1 to 365.</p> <ul style="list-style-type: none"> <li>1-365: Password expiry period (day)</li> <li>-----: Indicates that management of password expiration dates is disabled (users can log in without any conditions.).</li> </ul>                                                                                               |
| Change expired password           | <p>Operation when the password expires.</p> <ul style="list-style-type: none"> <li>enable: Can change the expired password to log in.</li> <li>disable: Cannot log in.</li> <li>-----: Indicates that management of password expiration dates is disabled.</li> </ul>                                                                                                                        |

## Rules

This command displays the settings for the following items: management of password expiration dates, the password expiry period for the entire system, and the operation when the password expires. You can use the account information display command (`show user account`) to check the number of the remaining days until the password expiration date of each account.

## Related topics

- [show user account on page 5-191](#)

## show user role

Displays the configuration information for the specified role. If you do not specify a role name, the configuration information for all roles is displayed.

## Syntax

```
show user role -i <role_id>
```

## Privilege

Account privilege

## Parameters

**-i <role\_id>**

Role name

Specify the name of the role to be displayed. You can use a maximum of 31 alphanumeric characters. You can specify only an alphanumeric character for the first character. You cannot omit this parameter.

**-F**

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To display the configuration information for the role `bladeoperator`:

```
$ show user role -i bladeoperator
-- User role --
Role ID : bladeoperator
Server blade 1 : enable
Server blade 2 : enable
Server blade 3 : enable
Server blade 4 : enable
Server blade 5 : enable
Server blade 6 : enable
Server blade 7 : enable
Server blade 8 : enable
Server blade 9 : enable
Server blade 10 : enable
Server blade 11 : enable
Server blade 12 : enable
Server blade 13 : enable
Server blade 14 : enable
Server blade 15 : enable
Switch module 1 : disable
Switch module 2 : disable
Network : disable
Chassis : disable
Account : disable
Read/Write : read write
Remote disable : off
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-151 Execution results of the command show user role**

| Displayed item | Description |
|----------------|-------------|
| Role ID        | Role name   |

| Displayed item | Description                                                                                                                                                                                                                          |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | Displays the role name. The maximum length is 31 alphanumeric characters.                                                                                                                                                            |
| Server blade 1 | Privilege for server blade 1<br>Displays whether the privilege for server blade 1 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Server blade 2 | Privilege for server blade 2<br>Displays whether the privilege for server blade 2 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Server blade 3 | Privilege for server blade 3<br>Displays whether the privilege for server blade 3 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Server blade 4 | Privilege for server blade 4<br>Displays whether the privilege for server blade 4 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Server blade 5 | Privilege for server blade 5<br>Displays whether the privilege for server blade 5 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Server blade 6 | Privilege for server blade 6<br>Displays whether the privilege for server blade 6 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Server blade 7 | Privilege for server blade 7<br>Displays whether the privilege for server blade 7 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Server blade 8 | Privilege for server blade 8<br>Displays whether the privilege for server blade 8 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |

| Displayed item  | Description                                                                                                                                                                                                                            |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Server blade 9  | Privilege for server blade 9<br>Displays whether the privilege for server blade 9 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul>   |
| Server blade 10 | Privilege for server blade 10<br>Displays whether the privilege for server blade 10 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Server blade 11 | Privilege for server blade 11<br>Displays whether the privilege for server blade 11 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Server blade 12 | Privilege for server blade 12<br>Displays whether the privilege for server blade 12 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Server blade 13 | Privilege for server blade 13<br>Displays whether the privilege for server blade 13 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Server blade 14 | Privilege for server blade 14<br>Displays whether the privilege for server blade 14 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Server blade 15 | Privilege for server blade 15<br>Displays whether the privilege for server blade 15 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Switch module 1 | Privilege for switch module 1<br>Displays whether the privilege for switch module 1 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul> |
| Switch module 2 | Privilege for switch module 2                                                                                                                                                                                                          |

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | Displays whether the privilege for switch module 2 is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul>                                                                                                                                                                                                                                                                                                                                                  |
| Network        | Network privilege<br>Displays whether the network privilege is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul>                                                                                                                                                                                                                                                                                                                                         |
| Chassis        | Server chassis privilege<br>Displays whether the server chassis privilege is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul>                                                                                                                                                                                                                                                                                                                           |
| Account        | Account privilege<br>Displays whether the account privilege is assigned. <ul style="list-style-type: none"> <li>enable: The privilege is assigned.</li> <li>disable: The privilege is not assigned.</li> </ul>                                                                                                                                                                                                                                                                                                                                         |
| Read/Write     | Displays which privilege is assigned: the read privilege only or the privilege for reading, setting, and operating. <ul style="list-style-type: none"> <li>read only: The read privilege only</li> <li>read write: The privilege for reading, setting, and operating</li> </ul>                                                                                                                                                                                                                                                                        |
| Remote disable | Whether permission to execute remote consoles and OS consoles is denied<br>Displays whether permission to execute remote consoles and OS consoles is denied. If on is set, the role is not allowed to execute the remote consoles and OS consoles of the server blades even if the server blade privileges for the server blades are assigned to the role. <ul style="list-style-type: none"> <li>on: Connection to remote consoles and OS consoles is not allowed.</li> <li>off: Connection to remote consoles and OS consoles is allowed.</li> </ul> |

## show user session

Displays information about sessions established by users logged in to management modules.

### Syntax

```
show user session
```

## Privilege

Account privilege

## Parameters

None

## Execution example

To display information about user sessions:

```
show user session
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-152 User session**

| Displayed item    | Description                                                                                                                                                                                                                                    |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Session ID        | Session ID                                                                                                                                                                                                                                     |
| Remote IP address | Connection-source IP address<br>Displays an IPv4 address or an IPv6 address.                                                                                                                                                                   |
| Console           | Connection console <ul style="list-style-type: none"><li>web: Connects through the Web console.</li><li>cli: Connects through the CLI console.</li></ul>                                                                                       |
| Protocol          | Connection protocol <ul style="list-style-type: none"><li>serial: Connects via a serial port</li><li>telnet: Connects via telnet.</li><li>ssh: Connects via SSH.</li><li>http: Connects via HTTP.</li><li>https: Connects via HTTPS.</li></ul> |
| Account           | Login account                                                                                                                                                                                                                                  |
| Role              | Role                                                                                                                                                                                                                                           |
| Login attribute   | Login time                                                                                                                                                                                                                                     |

## Commands for time settings

This section describes the commands to confirm and change the time settings.

### set time dst

Changes the daylight saving time settings for management modules.



## Syntax

```
set time dst -v <dst_valid> [-sm <dst_month>] [-sd <dst_day>] [-sh
<hour>] [-sn <minute>] [-em <dst_month>] [-ed <dst_day>] [-eh
<hour>] [-en <minute>] [-F]
```

## Privilege

Chassis privilege

## Parameters

-v <dst\_valid>

Enables or disables daylight saving time.

- enable: Enables daylight saving time.
- disable: Disables daylight saving time.

-sm <dst\_month>

Start month of daylight saving time

Specify a value from 1 to 12.

-sd <dst\_day>

Start day of daylight saving time

Specify this item in one of the following formats.

- Value: Specify a value from 1 to 31.
- "lastDDD": The last day of the week (DDD) of the month "DDD" is "Sun", "Mon", "Tue", "Wed", "Thu", "Fri" or "Sat".
- "DDD>=Y": The first day of the week (DDD) after a certain date (Y) "DDD" is "Sun", "Mon", "Tue", "Wed", "Thu", "Fri" or "Sat". "Y" is a value from 1 to 31.
- "DDD<=Y": The last day of the week (DDD) before a certain date (Y) "DDD" is "Sun", "Mon", "Tue", "Wed", "Thu", "Fri" or "Sat". "Y" is a value from 1 to 31.

-sh <hour>

Start hour of daylight saving time

Specify a value from 0 to 23.

-sn <minute>

Start minute of daylight saving time

Specify a value from 0 to 59.

-em <dst\_month>

End month of daylight saving time

Specify a value from 1 to 12.

-ed <dst\_day>

End day of daylight saving time

Specify this item in one of the following formats.

- Value: Specify a value from 1 to 31.
- "lastDDD": The last day of the week (DDD) of the month "DDD" is "Sun", "Mon", "Tue", "Wed", "Thu", "Fri" or "Sat".
- "DDD>=Y": The first day of the week (DDD) after a certain date (Y) "DDD" is "Sun", "Mon", "Tue", "Wed", "Thu", "Fri" or "Sat". "Y" is a value from 1 to 31.
- "DDD<=Y": The last day of the week (DDD) before a certain date (Y) "DDD" is "Sun", "Mon", "Tue", "Wed", "Thu", "Fri" or "Sat". "Y" is a value from 1 to 31.

-eh *<hour>*

End hour of daylight saving time

Specify a value from 0 to 23.

-en *<minute>*

End minute of daylight saving time

Specify a value from 0 to 59.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the period from 12:00 on May 10 to 15:00 on August 24 as daylight saving time:

```
set time dst -v enable -sm 5 -sd 10 -sh 12 -sn 0 -em 8 -ed 24 -eh 15 -en 0
```

To set the period from 12:00 on the last Sunday in May to 15:00 on the last Wednesday in August as daylight saving time:

```
set time dst -v enable -sm 5 -sd lastSun -sh 12 -sn 0 -em 8 -ed lastWed -eh 15 -en 0
```

To set the period from 12:00 on the first Monday after May 10 to 15:00 on the first Saturday before August 9 as daylight saving time:

```
set time dst -v enable -sm 5 -sd Mon>=10 -sh 12 -sn 0 -em 8 -ed Sat<=9 -eh 15 -en 0
```

To disable daylight saving time for management modules:

```
set time dst -v disable
```

## set time local

Changes time settings for management modules.

### Syntax

```
set time local -d <date_time> [-F]
```

## Privilege

Chassis privilege

## Parameters

-d <date\_time>

Date and time

The format is *YYYY-MM-DD hh:mm:ss*.

Enter a space character between the date and the time.

Enclose the entire value in double quotation marks, because this value includes a space character.

If you omit this parameter, the current time is set.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To change the time settings for management modules:

```
set time local -d "2012-05-01 15:00:00"
```

## set time timezone

Changes the time zone settings for management modules.

## Syntax

```
set time timezone -z <timezone> [-F]
```

## Privilege

Chassis privilege

## Parameters

-z<timezone>

Time zone

Specify a time zone from -24:00 to +24:00.

If you specify a minus sign (-), enclose the entire value in double quotation marks.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To change the time zone settings for management modules:

```
set time timezone -z +09:00
```

## show time dst

Displays the daylight saving time settings for management modules.

### Syntax

```
show time dst
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display the daylight saving time settings for management modules:

```
show time dst
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-153 Daylight saving time**

| Displayed item | Description                                                                                                                                                                         |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DST            | Whether daylight saving time is enabled <ul style="list-style-type: none"><li>enable: Daylight saving time is enabled.</li><li>disable: Daylight saving time is disabled.</li></ul> |

**Table 5-154 DST start time**

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Month          | Start month of daylight saving time<br>This is a month from January to December.                                                                                                                                                                                                                                                                                                                                                                                            |
| Day            | Start day of daylight saving time<br>This item is displayed in one of the following formats. <ul style="list-style-type: none"><li>Value: A value from 1 to 31.</li><li>"lastDDD": The last day of the week (DDD) of the month "DDD" is "Sun", "Mon", "Tue", "Wed", "Thu", "Fri" or "Sat".</li><li>"DDD&gt;=Y": The first day of the week (DDD) after a certain date (Y) "DDD" is "Sun", "Mon", "Tue", "Wed", "Thu", "Fri" or "Sat". "Y" is a value from 1 to 31.</li></ul> |

| Displayed item | Description                                                                                                                                                                                                      |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <ul style="list-style-type: none"> <li>"DDD&lt;=Y": The last day of the week (DDD) before a certain date (Y) "DDD" is "Sun", "Mon", "Tue", "Wed", "Thu", "Fri" or "Sat". "Y" is a value from 1 to 31.</li> </ul> |
| Time           | Start time of daylight saving time<br>The format is <i>hh:mm</i> .                                                                                                                                               |

**Table 5-155 DST end time**

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Month          | End month of daylight saving time<br>This is a month from January to December.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Day            | End day of daylight saving time<br>This item is displayed in one of the following formats. <ul style="list-style-type: none"> <li>Value: A value from 1 to 31.</li> <li>"lastDDD": The last day of the week (DDD) of the month "DDD" is "Sun", "Mon", "Tue", "Wed", "Thu", "Fri" or "Sat".</li> <li>"DDD&gt;=Y": The first day of the week (DDD) after a certain date (Y) "DDD" is "Sun", "Mon", "Tue", "Wed", "Thu", "Fri" or "Sat". "Y" is a value from 1 to 31.</li> <li>"DDD&lt;=Y": The last day of the week (DDD) before a certain date (Y) "DDD" is "Sun", "Mon", "Tue", "Wed", "Thu", "Fri" or "Sat". "Y" is a value from 1 to 31.</li> </ul> |
| Time           | End time of daylight saving time<br>The format is <i>hh:mm</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## show time local

Displays the time settings for management modules.

### Syntax

```
show time local
```

### Privilege

Chassis privilege

### Parameters

None

## Execution example

To display the time settings for management modules:

```
show time local
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-156 Local time**

| Displayed item | Description                                                                                                                                                         |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date           | Date<br>The date format is <i>YYYY-MM-DD</i> .<br><i>YYYY</i> is a value from 1970 to 2037. <i>MM</i> is a value from 01 to 12. <i>DD</i> is a value from 01 to 31. |
| Time           | Time<br>The time format is <i>hh:mm:ss</i> .<br><i>hh</i> is a value from 00 to 23. <i>mm</i> is a value from 00 to 59. <i>ss</i> is a value from 00 to 59.         |

## show time timezone

Displays the time zone settings for management modules.

## Syntax

```
show time timezone
```

## Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the time zone settings for management modules:

```
show time timezone
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-157 Timezone**

| Displayed item | Description                                         |
|----------------|-----------------------------------------------------|
| Timezone       | Time zone<br>This is a value from -24:00 to +24:00. |

## Commands for language setting

This section describes the commands to confirm or change the language setting.

### set language system

Changes the language setting for management modules.

#### Syntax

```
set language system -l <language> [-F]
```

#### Privilege

Chassis privilege

#### Parameters

-l <language>

Language setting

- english: English
- japanese: Japanese

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

#### Execution example

To change the language setting for management modules to Japanese:

```
set language system -l japanese
```

### show language system

Displays the language setting for management modules.

#### Syntax

```
show language system
```

## Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the language setting for management modules:

```
show language system
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-158 System language**

| Displayed item | Description                                                                                                  |
|----------------|--------------------------------------------------------------------------------------------------------------|
| Language       | Language setting <ul style="list-style-type: none"><li>english: English</li><li>japanese: Japanese</li></ul> |

# Commands for security settings

This section describes the commands to strengthen the security of the system unit.

## set security strength

Sets the security strength.

Specify the security strength for management modules and server blades.

If you set the security strength for management modules, management modules will be restarted.

## Syntax

```
set security strength [-m] [-b <blade_no>] -s <security_strength> [-F]
```

## Privilege

Chassis privilege

## Parameters

-m



## Management modules

Specify the security strength for management modules.

**-b**<*blade\_no*>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify *all*, command processing is performed for all server blades.

**-s** <*security\_strength*>

Security strength

- o high: High
- o default: Default

This parameter is used to set values for both management modules and server blades.

**-F**

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the security strength for management modules to "high":

```
$ set security strength -m -s high
W0006 : If confirm, management module restart and this connect is
lost.
Confirm? (y/[n]):y
I0067 : <Management module> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

To set the security strength for server blades 2 and 3 to "default":

```
$ set security strength -b 2,3 -s default
Confirm? (y/[n]):y
I0037 : <Blade 2> Setting was completed.
I0037 : <Blade 3> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

To set the security strength for management modules and all server blades to "high":

```
$ set security strength -m -b all -s high
W0006 : If confirm, management module restart and this connect is
lost.
Confirm? (y/[n]):y
I0037 : <Blade 1> Setting was completed.
I0037 : <Blade 2> Setting was completed.
I0037 : <Blade 3> Setting was completed.
I0037 : <Blade 4> Setting was completed.
I0037 : <Blade 5> Setting was completed.
I0037 : <Blade 6> Setting was completed.
```

```
I0037 : <Blade 7> Setting was completed.
I0037 : <Blade 8> Setting was completed.
I0037 : <Blade 9> Setting was completed.
I0037 : <Blade 10> Setting was completed.
I0037 : <Blade 11> Setting was completed.
I0037 : <Blade 12> Setting was completed.
I0037 : <Blade 13> Setting was completed.
I0037 : <Blade 14> Setting was completed.
I0037 : <Blade 15> Setting was completed.
I0067 : <Management module> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

If you set the security strength for management modules, after the command is executed, management modules will be restarted and the sessions with management modules will be closed.

If you set the security strength for management modules to "high", the TLS versions for management modules will be enabled or disabled as follows:

- TLS 1.2: Enabled
- TLS 1.1: Disabled
- TLS 1.0: Disabled

If you set the security strength for management modules to "default", the TLS versions for management modules will be enabled or disabled as follows:

- TLS 1.2: Enabled
- TLS 1.1: Enabled
- TLS 1.0: Enabled

## set security tls mgmt-module

Enables or disables the TLS versions for management modules.

Of the versions TLS 1.2, TLS 1.1, and TLS 1.0, specify which versions to enable.

If you omit a version, that TLS version will be disabled.

### Syntax

```
set security tls mgmt-module -v <tls_version> [-F]
```

### Privilege

Chassis privilege

### Parameters

-v <tls\_version>

### TL version

Enables the specified TLS versions. Disables the versions that are not specified. To specify versions, use the following strings:

- 1.2: TLS 1.2
- 1.1: TLS 1.1
- 1.0: TLS 1.0
- all: All versions

To enable multiple versions, separate strings by using commas. Do not enter space characters between commas and versions.

You can specify versions in any order.

You cannot disable all TLS versions. Enter at least one TLS version.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To enable TLS 1.2, and to disable TLS 1.1, and TLS 1.0:

```
$ set security tls mgmt-module -v 1.2
Confirm? (y/[n]):y
I0067 : <Management module> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

To enable TLS 1.2, TLS 1.1, and TLS 1.0:

```
$ set security tls mgmt-module -v 1.2,1.1,1.0
Confirm? (y/[n]):y
I0067 : <Management module> Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

### Rules

You cannot disable all TLS versions.

If the security strength for management modules is "high", you cannot change the setting to enable or disable TLS versions. (You can use only TLS 1.2.)

If you execute this command, the following message appears:

E0559 : Command was canceled. TLS version is not editable when security strength is high.

To enable multiple versions, specify the `-v` parameter and separate the versions by using commas. Do not enter space characters between commas and versions.

## show security setting

Displays the configuration information about security strength and enabled TLS versions.

The following information is displayed:

- Security strength for management modules and information about whether TLS versions are enabled
- Security strength for server blades

### Syntax

```
show security setting
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display the security strength and TLS version configuration information:

This execution example assumes the installation status and the security strength of server blades are as follows:

Slots 1 and 2: Fullwide blade, and security strength supported

Slot 3: No blade installed

Slot 4: Half-wide blade, and security strength not supported

Slot 5: Half-wide blade, and security strength supported

Slot 6: Half-wide blade, and security strength supported

Slot 7: Half-wide blade, and security strength supported

Slot 8: No blade installed

```
$ show security setting
-- Management module security setting --
Security strength : high
TLS 1.2 : enable
TLS 1.1 : disable
TLS 1.0 : disable
-- Server blade security setting --
Slot : 1
Security strength : high
-- Server blade security setting --
Slot : 2 (not install)
Security strength : high
-- Server blade security setting --
Slot : 3 (not install)
```

```

Security strength : high
-- Server blade security setting --
Slot : 4 (not supported)
Security strength : high
-- Server blade security setting --
Slot : 5
Security strength : high
-- Server blade security setting --
Slot : 6
Security strength : high
-- Server blade security setting --
Slot : 7
Security strength : high
-- Server blade security setting --
Slot : 8 (not install)
Security strength : high
:
:
S0002 : Command succeeded.
S0000 : Command was finished.
$

```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-159 Management module security setting**

| Displayed item    | Description                                                                                                                                                                               |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Security strength | Security strength for management modules<br>Displays the security strength for management modules. <ul style="list-style-type: none"> <li>high: High</li> <li>default: Default</li> </ul> |
| TLS 1.2           | Whether TLS 1.2 is enabled<br>Displays whether TLS 1.2 is enabled. <ul style="list-style-type: none"> <li>enable: Enabled.</li> <li>disable: Disabled.</li> </ul>                         |
| TLS 1.1           | Whether TLS 1.1 is enabled<br>Displays whether TLS 1.1 is enabled. <ul style="list-style-type: none"> <li>enable: Enabled.</li> <li>disable: Disabled.</li> </ul>                         |
| TLS 1.0           | Whether TLS 1.0 is enabled<br>Displays whether TLS 1.0 is enabled. <ul style="list-style-type: none"> <li>enable: Enabled.</li> <li>disable: Disabled.</li> </ul>                         |

**Table 5-160 Server blade security setting**

| Displayed item    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot              | Server blade slot number<br>This is a value from 1 to 15. <ul style="list-style-type: none"><li>• 0 to 15: Slots in which a server blade whose BCM supports security strength is installed</li><li>• 0 (not supported) to 15 (not supported): Slots in which a server blade whose BCM does not support security strength is installed</li><li>• 1 (not installed) to 15 (not installed): Slots in which no server blade is installed</li></ul> |
| Security strength | Security strength for server blades <ul style="list-style-type: none"><li>• high: High</li><li>• default: Default</li></ul>                                                                                                                                                                                                                                                                                                                    |

## Commands for network management

This section describes the commands for managing the system units of networks.

### test ping

Uses the ICMP ping command to confirm the network connection.

#### Syntax

```
test ping -h <host_name> [-c <send_count>] [-t <time_to_live>] [-F]
```

#### Privilege

Network privilege

#### Parameters

**-h <host\_name>**

Host name (FQDN) or IPv4 address. Maximum of 255 characters.

For FQDN, this item consists of alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9), hyphens (-), and periods (.).

**-c <send\_count>**

The number of times the test is performed. Range is from 1 to 10.

If you specify more than one ping test, the tests are performed in one-second intervals.

If you omit this parameter, 3 is assumed.

-t <time\_to\_live>

Specifies the TTL (Time To Live). Range is from 1 to 64.  
If you omit this parameter, 64 is assumed.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To ping the IP address 192.168.1.1:

```
$ test ping -h 192.168.1.1 -c 3
PING 192.168.1.1 (192.168.1.1) 56(84) bytes of data.
64 bytes from 192.168.1.1: icmp_req=1 ttl=64 time=0.206 ms
64 bytes from 192.168.1.1: icmp_req=2 ttl=64 time=0.169 ms
64 bytes from 192.168.1.1: icmp_req=3 ttl=64 time=0.158 ms

--- 192.168.1.1 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 1998ms
rtt min/avg/max/mdev = 0.158/0.177/0.206/0.025 ms
$
```

## Execution results

The `ping` command displays the status of the network connection.

## test ping6

Uses the ICMPv6 ping command to confirm the network connection.

## Syntax

```
test ping6 -h <host_name> [-c <send_count>] [-t <time_to_live>]
[-F]
```

## Privilege

Network privilege

## Parameters

-h <host\_name>

Host name (FQDN) or IPv4 address. Maximum of 255 characters.

For FQDN, this item consists of alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9), hyphens (-), and periods (.).

-c <send\_count>

The number of times the test is performed. Range is from 1 to 10.

If you specify more than one ping test, the tests are performed in one-second intervals.

If you omit this parameter, 3 is assumed.

-t <time\_to\_live>

Specifies the TTL (Time To Live). Range is from 1 to 64.  
If you omit this parameter, 64 is assumed.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To ping the IP address 2001:2000::202:1:

```
$ test ping6 -h 2001:2000::202:1 -c 3
PING 2001:2000::202:1 (2001:2000::202:1) 56 data bytes
64 bytes from 2001:2000::202:1: icmp_seq=1 ttl=64 time=0.055 ms
64 bytes from 2001:2000::202:1: icmp_seq=2 ttl=64 time=0.058 ms
64 bytes from 2001:2000::202:1: icmp_seq=3 ttl=64 time=0.064 ms

--- 2001:2000::202:1 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 1999ms
rtt min/avg/max/mdev = 0.055/0.059/0.064/0.003 ms
$
```

### Execution results

The ping6 command displays the status of the network connection.

## Commands for remote access management

This section describes the commands to manage remote access to the system unit.

### delete e-mail mgmt-lan address

Deletes an email notification destination setting.

#### Syntax

```
delete e-mail mgmt-lan address -ae <email_address> [-F]
```

#### Privilege

Chassis privilege

#### Parameters

-ae <email\_address>

Address to which notifications are to be sent by email  
Specify a maximum of 64 characters.

-F



Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To delete an address to which notifications are sent by email:

```
delete e-mail mgmt-lan address -ae addr@mail.mnt.co.jp
```

## delete hcsmanager

Deletes HCSM.

### Syntax

```
delete hcsmanager -i <hcsman_ip_addr> [-F]
```

### Privilege

Chassis privilege

### Parameters

-i <hcsman\_ip\_addr>

HCSM IP address

An IPv4 address or an IPv6 address.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To delete HCSM:

```
delete hcsmanager -i 192.168.0.20
```

## delete hitrackmanager

Deletes the HiTrack management server.

### Syntax

```
delete hitrackmanager -i <hitrack_ip_addr> [-F]
```

### Privilege

Chassis privilege

### Parameters

-i <hitrack\_ip\_addr>

IP address of HiTrack management server.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

Deletes the HiTrack management server:

```
delete hitrack manager -i 192.168.0.20
```

## disconnect hcsn session

Disconnects an HCSM session.

### Syntax

```
disconnect hcsn session -i <hcsn_ses_id> [-F]
```

### Privilege

Chassis privilege

### Parameters

-i <hcsn\_ses\_id>

Session ID

Specify a decimal number.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To disconnect an HCSM session:

```
disconnect hcsn session -i 1420427160
```

## send e-mail latest mgmt-lan

Sends the most recent failure log data by email.

### Syntax

```
send e-mail latest mgmt-lan [-a <email_addr_no>] [-F]
```

### Privilege

Chassis privilege

### Parameters

-a <email\_addr\_no>

Address number to which notifications are to be sent by email  
You can specify a value from 0 to 3. You can specify multiple values.  
If you specify `all` or omit this parameter, email notifications are sent for all addresses.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To send the most recent log data by email:

```
send e-mail latest mgmt-lan -a 0
```

## send e-mail select mgmt-lan

Sends past failure log data (selected from the failure notification history) by email.

For the failure notification history number, specify a log ID that is displayed by the `show log error` command.

## Syntax

```
send e-mail select mgmt-lan -n <email_history_num> [-a
<email_addr_no>] [-F]
```

## Privilege

Chassis privilege

## Parameters

-n <email\_history\_num>

Failure notification history number

You can specify a value from 3 to 34. You can check valid failure notification history numbers from log IDs displayed by the `show log error` command.

-a <email\_addr\_no>

Address to which notifications are to be sent by email

You can specify a value from 0 to 3. You can specify multiple values.

If you specify `all` or omit this parameter, email notifications are sent for all addresses.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To send a failure history notification by email:

```
send e-mail select mgmt-lan -n 3 -a 0
```

## send hcsn alert

Sends an alert to HCSM for a failover test in the N+M cold standby configuration.

This command only requests for an alert to be sent.

### Syntax

```
send hcsn alert -b <blade_no> -t <alert_type> [-F]
```

### Privilege

Chassis privilege

### Parameters

-b <blade\_no>

Server blade number

You can specify a value from 1 to 15. You cannot specify multiple values.

-t <alert\_type>

Alert type

Specify the type of test alert to be sent.

- immediate: Sends an alert to HCSM to perform a failover immediately after receiving the alert.
- delayed: Sends an alert to HCSM to perform a failover a while after receiving the alert.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To send an alert to HCSM to perform a failover immediately after receiving this alert:

```
send hcsn alert -b 1 -t immediate -F
```

## set e-mail mgmt-lan address

Changes the destination to which email notifications are sent.

### Syntax

```
set e-mail mgmt-lan address -ae <email_address> [-an
<email_nickname>] [-aa <email_attach>] [-F]
```

## Privilege

Chassis privilege

## Parameters

-ae <*email\_address*>

Address to which notifications are to be sent by email

Specify a maximum of 64 characters.

-an <*email\_nickname*>

Nickname of the notification destination

Specify a maximum of 15 characters.

-aa <*email\_attach*>

Specify whether logs are attached to the email notifications.

- yes: Attached.
- no: Not attached.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To change the destination to which notifications are sent by email:

```
set e-mail mgmt-lan address -ae addr@mail.mnt.co.jp -an nickname -aa yes
```

## set e-mail mgmt-lan notification

Changes the email notification authentication settings.

## Syntax

```
set e-mail mgmt-lan notification [-nn <email_notify>] [-na <email_addr>] [-nh <email_host>] [-nc <email_comment>] [-ss <email_smtp>] [-sp <email_port>] [-aa <email_auth>] [-au <email_user>] [-ap <email_pass>] [-am <email_method>] [-ee <email_encrypt>] [-ep <email_protocol>] [-se <email_security>] [-F]
```

## Privilege

Chassis privilege

## Parameters

-nn <*email\_notify*>

Enables or disables the email notification functionality.

- enable: Enabled.
- disable: Disabled.

- na <*email\_addr*>  
Email address for the administrator  
Specify a maximum of 64 characters.
- nh <*email\_host*>  
Host name (FQDN)  
Host name for management modules  
Specify a maximum of 64 characters.
- nc <*email\_comment*>  
Comments to identify customers  
Specify a maximum of 32 characters.
- ss <*email\_smtp*>  
SMTP server  
IPv4 address, IPv6 address, or host name for the SMTP server.  
Specify a maximum of 64 characters.
- sp <*email\_port*>  
Port number for the SMTP server  
Specify a value from 1 to 65535.
- aa <*email\_auth*>  
Enables or disables the SMTP authentication functionality.
  - o enable: Enabled.
  - o disable: Disabled.
- au <*email\_user*>  
Account name used for SMTP authentication  
The maximum is 64 characters.
- ap <*email\_pass*>  
Password used for SMTP authentication  
The maximum is 64 characters.
- am <*email\_method*>  
SMTP authentication method
  - o plain: Uses plain-text authentication. The account name and password are sent together.
  - o login: Uses plain-text authentication. The account name and password are sent separately.
  - o cram-md5: Uses challenge/response authentication. MD5 is used to create a message digest.
- ee <*email\_encrypt*>  
Enables or disables the encryption functionality.
  - o enable: Enabled.
  - o disable: Disabled.

-ep <email\_protocol>

Protocol used when the encryption functionality is enabled.

- tls: TLS (Transport Layer Security)

-se <email\_security>

Security strength of email notification

Specify this parameter to set a different security strength from the management module.

This parameter is valid for management module firmware version A0320 or later.

- high: High
- default: Default

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To change email notification settings:

```
set e-mail mgmt-lan notification -nn enable -na esdadmin@hitachi.com
-nh tokyo.hitachi.com-nc comment -ss smtp.hitach.com -sp 25 -aa
enable -au user_name -ap password -am plain -ee enable -ep tls
```

To change security strength of email notification to default:

```
set e-mail mgmt-lan notification -se default
```

## Rules

- When you specify the -se parameter, do not specify other parameters at once.
- If you set the security strength of the management module, the setting of e-mail notification will also be changed accordingly. To make it different setting from the management module, set it again.

## set hcsn agent

Sets HCSM linkage.

### Syntax

```
set hcsn agent -c <hcsn_permit_con> -o <hcsn_permit_other> [-F]
```

### Privilege

Chassis privilege

### Parameters

-c <hcsn\_permit\_con>

HCSM linkage functionality

- enable: Enables the HCSM linkage functionality.
- disable: Disables the HCSM linkage functionality.

-o <hcsm\_permit\_other>

Connection restrictions

- enable: Permits only connections from registered HCSM instances.
- disable: Permits connections from all HCSM instances.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To enable the HCSM linkage functionality and the connection restriction setting:

```
set hcsm agent -c enable -o enable
```

## set hcsm manager

Sets HCSM.

If no IP address is registered, this command registers the information. If an IP address is already registered, this command updates the information.

This command does not change the settings for parameters that are not specified.

## Syntax

```
set hcsm manager -i <hcsm_ip_addr> [-ap <alert_port>] [-al
<alert_policy>] [-ai <alert_retry_interval>] [-at
<alert_retry_time>] [-F]
```

## Privilege

Chassis privilege

## Parameters

-i <hcsm\_ip\_addr>

HCSM IP address

An IPv4 address or an IPv6 address.

-ap <alert\_port>

Port number to which alerts are to be sent

This is the number of the port where HCSM receives alerts. Specify a value from 1 to 65535.

-al <alert\_policy>



Level of alerts that are to be sent to HCSM

- all: All notifications (failure notifications, warning notifications, and information notifications)
- warning: Warning notifications (failure notifications and warning notifications)
- alert: Failure notifications
- disable: No notifications

-ai <alert\_retry\_interval>

Retry interval (in minutes) when an alert notification cannot be sent  
Specify a value from 1 to 4.

-at <alert\_retry\_time>

Time period (in minutes) during which the sending of alert notifications is to be retried  
Specify a value from 4 to 15.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To set an HCSM IP address to restrict connections based on the IP address:

```
set hcsmanager -i 192.168.0.20
```



**Note:** For the management module firmware from revision A0135 and later, this command cannot be executed by specifying the following parameters:

- -ap <alert\_port>
- -al <alert\_policy>
- -ai <alert\_retry\_interval>
- -at <alert\_retry\_time>

These parameters can be specified for the management module firmware earlier than revision A0135, but do not change the set values by using the parameters.

---

### Related topic

- [Specifying the HCSM linkage options on page 3-3](#)
- Manual *Hitachi Command Suite Compute Systems Manager User Guide*

## set hitrack agent

Sets the HiTrack agent.

### Syntax

```
set hitrack agent -c <hitrack_permit_con> [-F]
```

## Privilege

Chassis privilege

## Parameters

`-c <hitrack_permit_con>`

HiTrack Enable or Disable

- enable : HiTrack enable
- disable : HiTrack disable

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

Sets the HiTrack agent:

```
set hitrack agent -c enable
```

## set hitrack manager

Sets the HiTrack management server.

Adds server when IP address is not registered and updates the setting when registered.

## Syntax

```
set hitrack manager -i <hitrack_ip_addr> [-F]
```

## Privilege

Chassis privilege

## Parameters

`-i <hitrack_ip_addr>`

IP address of HiTrack management server

`-F`

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

```
set hitrack manager -i 192.168.0.20
```

## set remote-access protocol ftp

Changes the FTP connection permission settings.

## Syntax

```
set remote-access protocol ftp [-a <allow>] [-n <network_addr>] [-s
<subnet_mask>] [-a6 <allow>] [-n6 <network_addr>] [-p6 <prefix_len>]
[-F]
```

## Privilege

Chassis privilege

## Parameters

-a <allow>

IPv4 connection permission

- allow: Permits IPv4 connections.
- deny: Prohibits IPv4 connections.

-n <network\_addr>

Network address

To limit the IPv4 addresses from which FTP connections are permitted, specify the network address that indicates the range of IPv4 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0.0.0.0".

-s <subnet\_mask>

Subnet mask

To limit the IPv4 addresses from which FTP connections are permitted, specify the subnet mask that indicates the range of IPv4 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0.0.0.0".

-a6 <allow>

IPv6 connection permission

- allow: Permits IPv6 connections.
- deny: Prohibits IPv6 connections.

-n6 <network\_addr>

Network address

To limit the IPv6 addresses from which FTP connections are permitted, specify the network address that indicates the range of IPv6 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "::".

-p6 <prefix\_len>

Prefix length

To limit the IPv6 addresses from which FTP connections are permitted, specify the prefix length that indicates the range of IPv6 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0".

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To permit FTP connections from 192.168.0.0 to 192.168.0.255:

```
set remote-access protocol ftp -a allow -n 192.168.0.0 -s 255.255.255.0
```

To prohibit all FTP connections:

```
set remote-access protocol ftp -a deny
```

## set remote-access protocol http

Changes the HTTP connection permission settings.

### Syntax

```
set remote-access protocol http [-a <allow>] [-p <protocol_port>] [-n <network_addr>] [-s <subnet_mask>] [-a6 <allow>] [-n6 <network_addr>] [-p6 <prefix_len>] [-F]
```

### Privilege

Chassis privilege

### Parameters

-a <allow>

IPv4 connection permission

- o allow: Permits IPv4 connections.
- o deny: Prohibits IPv4 connections.

-p <protocol\_port>

Protocol number

Specify a value from 1 to 65535.

-n <network\_addr>

Network address

To limit the IPv4 addresses from which HTTP connections are permitted, specify the network address that indicates the range of IPv4 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0.0.0.0".

-s <subnet\_mask>

Subnet mask

To limit the IPv4 addresses from which HTTP connections are permitted, specify the subnet mask that indicates the range of IPv4 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0.0.0.0".

-a6 <allow>

IPv6 connection permission

- allow: Permits IPv6 connections.
- deny: Prohibits IPv6 connections.

-n6 <network\_addr>

Network address

To limit the IPv6 addresses from which HTTP connections are permitted, specify the network address that indicates the range of IPv6 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "::".

-p6 <prefix\_len>

Prefix length

To limit the IPv6 addresses from which HTTP connections are permitted, specify the prefix length that indicates the range of IPv6 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0".

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the HTTP port number to 80 and to permit HTTP connections from 192.168.0.0 to 192.168.0.255:

```
set remote-access protocol http -p 80 -a allow -n 192.168.0.0 -s 255.255.255.0
```

To prohibit all HTTP connections:

```
set remote-access protocol http -a deny
```

## set remote-access protocol https

Changes the HTTPS connection permission settings.

## Syntax

```
set remote-access protocol https [-a <allow>] [-p <protocol_port>] [-n <network_addr>] [-s <subnet_mask>] [-a6 <allow>] [-n6 <network_addr>] [-p6 <prefix_len>] [-F]
```

## Privilege

Chassis privilege

## Parameters

-a <allow>

IPv4 connection permission

- o allow: Permits IPv4 connections.
- o deny: Prohibits IPv4 connections.

-p <protocol\_port>

Protocol number

Specify a value from 1 to 65535.

-n <network\_addr>

Network address

To limit the IPv4 addresses from which HTTPS connections are permitted, specify the network address that indicates the range of IPv4 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0.0.0.0".

-s <subnet\_mask>

Subnet mask

To limit the IPv4 addresses from which HTTPS connections are permitted, specify the subnet mask that indicates the range of IPv4 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0.0.0.0".

-a6 <allow>

IPv6 connection permission

- o allow: Permits IPv6 connections.
- o deny: Prohibits IPv6 connections.

-n6 <network\_addr>

Network address

To limit the IPv6 addresses from which HTTPS connections are permitted, specify the network address that indicates the range of IPv6 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify ":::".

-p6 <prefix\_len>

Prefix length

To limit the IPv6 addresses from which HTTPS connections are permitted, specify the prefix length that indicates the range of IPv6 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0".

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To set the HTTPS port number to 443 and to permit HTTPS connections from 192.168.0.0 to 192.168.0.255:

```
set remote-access protocol https -p 443 -a allow -n 192.168.0.0 -s 255.255.255.0
```

To prohibit all HTTPS connections:

```
set remote-access protocol https -a deny
```

## set remote-access protocol ssh

Changes the SSH connection permission settings.

### Syntax

```
set remote-access protocol ssh [-a <allow>] [-n <network_addr>] [-s <subnet_mask>] [-a6 <allow>] [-n6 <network_addr>] [-p6 <prefix_len>] [-F]
```

### Privilege

Chassis privilege

### Parameters

-a <allow>

IPv4 connection permission

- allow: Permits IPv4 connections.
- deny: Prohibits IPv4 connections.

-n <network\_addr>

Network address

To limit the IPv4 addresses from which SSH connections are permitted, specify the network address that indicates the range of IPv4 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0.0.0.0".

-s <subnet\_mask>

#### Subnet mask

To limit the IPv4 addresses from which SSH connections are permitted, specify the subnet mask that indicates the range of IPv4 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0.0.0.0".

**-a6** *<allow>*

IPv6 connection permission

- allow: Permits IPv6 connections.
- deny: Prohibits IPv6 connections.

**-n6** *<network\_addr>*

Network address

To limit the IPv6 addresses from which SSH connections are permitted, specify the network address that indicates the range of IPv6 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "::".

**-p6** *<prefix\_len>*

Prefix length

To limit the IPv6 addresses from which SSH connections are permitted, specify the prefix length that indicates the range of IPv6 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0".

**-F**

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To permit SSH connections from 192.168.0.0 to 192.168.0.255:

```
set remote-access protocol ssh -a allow -n 192.168.0.0 -s 255.255.255.0
```

To prohibit all SSH connections:

```
set remote-access protocol ssh -a deny
```

## set remote-access protocol telnet

Changes the Telnet connection permission settings.

### Syntax

```
set remote-access protocol telnet [-a <allow>] [-n <network_addr>] [-s <subnet_mask>] [-a6 <allow>] [-n6 <network_addr>] [-p6 <prefix_len>] [-F]
```



## Privilege

Chassis privilege

## Parameters

-a <allow>

IPv4 connection permission

- allow: Permits IPv4 connections.
- deny: Prohibits IPv4 connections.

-n <network\_addr>

Network address

To limit the IPv4 addresses from which Telnet connections are permitted, specify the network address that indicates the range of IPv4 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0.0.0.0".

-s <subnet\_mask>

Subnet mask

To limit the IPv4 addresses from which Telnet connections are permitted, specify the subnet mask that indicates the range of IPv4 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0.0.0.0".

-a6 <allow>

IPv6 connection permission

- allow: Permits IPv6 connections.
- deny: Prohibits IPv6 connections.

-n6 <network\_addr>

Network address

To limit the IPv6 addresses from which Telnet connections are permitted, specify the network address that indicates the range of IPv6 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "::".

-p6 <prefix\_len>

Prefix length

To limit the IPv6 addresses from which Telnet connections are permitted, specify the prefix length that indicates the range of IPv6 addresses to be permitted.

If you do not want to limit the addresses from which connections are permitted, specify "0".

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To permit Telnet connections from 192.168.0.0 to 192.168.0.255:

```
set remote-access protocol telnet -a allow -n 192.168.0.0 -s 255.255.255.0
```

To prohibit all Telnet connections:

```
set remote-access protocol telnet -a deny
```

## show e-mail mgmt-lan

Displays the email notification settings.

### Syntax

```
show e-mail mgmt-lan
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display the email notification settings:

```
show e-mail mgmt-lan
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-161 E-mail notification setting**

| Displayed item | Description                                                                                                                                         |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Notification   | Whether the email notification functionality is enabled <ul style="list-style-type: none"><li>enable: Enabled.</li><li>disable: Disabled.</li></ul> |
| Address        | Email address for the administrator<br>The maximum length is 64 characters.                                                                         |
| Host (FQDN)    | Host name (FQDN)<br>Host name for management modules                                                                                                |

| Displayed item    | Description                                                                                                                    |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------|
|                   | The maximum length is 64 characters.                                                                                           |
| Comment           | Comments to identify customers<br>The maximum length is 32 characters.                                                         |
| SMTP server       | SMTP server<br>IPv4 address, IPv6 address, or host name for the SMTP server.<br>The maximum length is 64 characters.           |
| Port number       | Port number for the SMTP server<br>This is a value from 1 to 65535.                                                            |
| Security strength | Security strength of email notification <ul style="list-style-type: none"> <li>high: High</li> <li>default: Default</li> </ul> |

**Table 5-162 E-mail authentication setting**

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Authentication | Enables or disables the SMTP authentication functionality. <ul style="list-style-type: none"> <li>enable: Enabled.</li> <li>disable: Disabled.</li> </ul>                                                                                                                                                                                                                  |
| Name           | Account name used for SMTP authentication<br>This item consists of alphanumeric characters (uppercase A to Z, lowercase a to z, and 0 to 9), hyphens (-), underscores (_), and periods (.).<br>The maximum length is 64 characters.                                                                                                                                        |
| Method         | SMTP authentication method <ul style="list-style-type: none"> <li>plain: Uses plain-text authentication. The account name and password are sent together.</li> <li>login: Uses plain-text authentication. The account name and password are sent separately.</li> <li>cram-md5: Uses challenge/response authentication. MD5 is used to create a message digest.</li> </ul> |

**Table 5-163 E-mail encryption setting**

| Displayed item | Description                                                                                                                                      |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Encryption     | Enables or disables the encryption functionality. <ul style="list-style-type: none"> <li>enable: Enabled.</li> <li>disable: Disabled.</li> </ul> |

| Displayed item | Description                                                                                                                                        |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Protocol       | Protocol used when the encryption functionality is enabled <ul style="list-style-type: none"> <li>• tls: TLS (Transport Layer Security)</li> </ul> |

**Table 5-164 E-mail address**

| Displayed item | Description                                                                                                                                          |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number         | Email notification destination number<br>This is a value from 0 to 3.                                                                                |
| Nickname       | Nickname of the notification destination<br>The maximum length is 15 characters.                                                                     |
| Address        | Address to which notifications are to be sent by email<br>The maximum length is 64 characters.                                                       |
| Attach         | Whether logs are attached to the email notifications <ul style="list-style-type: none"> <li>• yes: Attached.</li> <li>• no: Not attached.</li> </ul> |

## show hcsn setting

Displays the HCSM settings.

### Syntax

```
show hcsn setting
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display the HCSM settings:

```
show hcsn setting
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-165 HCSM agent setting**

| Displayed item     | Description                                                                                                                                                                                                           |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Server cooperation | HCSM linkage functionality <ul style="list-style-type: none"> <li>enable: The HCSM linkage functionality is enabled.</li> <li>disable: The HCSM linkage functionality is disabled.</li> </ul>                         |
| Access control     | Connection restrictions <ul style="list-style-type: none"> <li>enable: Only connections from registered HCSM instances are permitted.</li> <li>disable: Connections from all HCSM instances are permitted.</li> </ul> |

**Table 5-166 HCSM management server setting**

| Displayed item             | Description                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IP address                 | HCSM IP address<br>Displays an IPv4 address or an IPv6 address.                                                                                                                                                                                                                                                                                                       |
| Alert port                 | Port number to which alerts are sent<br>This is a value from 1 to 65535.                                                                                                                                                                                                                                                                                              |
| Alert level                | Level of alerts that are to be sent to HCSM <ul style="list-style-type: none"> <li>all: All notifications (failure notifications, warning notifications, and information notifications)</li> <li>warning: Warning notifications (failure notifications and warning notifications)</li> <li>alert: Failure notifications</li> <li>disable: No notifications</li> </ul> |
| Alert retry interval (min) | Retry interval (in minutes) when an alert notification cannot be sent<br>This is a value from 1 to 4.                                                                                                                                                                                                                                                                 |
| Alert retry duration (min) | Time period (in minutes) during which the sending of alert notifications is to be retried<br>This is a value from 4 to 15.                                                                                                                                                                                                                                            |

**Table 5-167 HCSM session**

| Displayed item    | Description                                                                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connection status | Connection status <ul style="list-style-type: none"> <li>connect: A connection is established.</li> <li>disconnect: No connection is established.</li> </ul> |
| Session ID        | Session ID                                                                                                                                                   |

| Displayed item | Description                                  |
|----------------|----------------------------------------------|
|                | Displays the session ID as a decimal number. |

## show hitrack setting

Shows the setting of HiTrack setting.

### Syntax

```
show hitrack setting
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

Shows the setting of HiTrack:

```
show hitrack setting
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-168 HiTrack agent setting**

| Displayed item     | Description                                                                                                                            |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Server cooperation | HiTrack Enable or Disable <ul style="list-style-type: none"> <li>enable : HiTrack enable</li> <li>disable : HiTrack disable</li> </ul> |

**Table 5-169 HiTrack management server setting**

| Displayed item | Description                              |
|----------------|------------------------------------------|
| IP address     | IP address of HiTrack management server. |

## show remote-access protocol ftp

Displays the FTP connection permission settings.

## Syntax

```
show remote-access protocol ftp
```

## Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the FTP connection permission settings:

```
show remote-access protocol ftp
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-170 FTP setting**

| Displayed item  | Description                                                                                                                                                                                                                                                                                      |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allow           | IPv4 connection permission <ul style="list-style-type: none"><li>allow: IPv4 connections are permitted.</li><li>deny: IPv4 connections are prohibited.</li></ul>                                                                                                                                 |
| Network address | Network address<br>If there is a limit on the IPv4 addresses from which FTP connections are permitted, the network address indicating the range of permitted IPv4 addresses is displayed.<br>If there is no limit on the addresses from which connections are permitted, "0.0.0.0" is displayed. |
| Subnetmask      | Subnet mask<br>If there is a limit on the IPv4 addresses from which FTP connections are permitted, the subnet mask indicating the range of permitted IPv4 addresses is displayed.<br>If there is no limit on the addresses from which connections are permitted, "0.0.0.0" is displayed.         |

**Table 5-171 FTP setting (IPv6)**

| Displayed item | Description                                                                                                                                                      |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allow          | IPv6 connection permission <ul style="list-style-type: none"><li>allow: IPv6 connections are permitted.</li><li>deny: IPv6 connections are prohibited.</li></ul> |

| Displayed item  | Description                                                                                                                                                                                                                                                                                 |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network address | Network address<br>If there is a limit on the IPv6 addresses from which FTP connections are permitted, the network address indicating the range of permitted IPv6 addresses is displayed.<br>If there is no limit on the addresses from which connections are permitted, "::" is displayed. |
| Prefix len      | Prefix length<br>If there is a limit on the IPv6 addresses from which FTP connections are permitted, the prefix length indicating the range of permitted IPv6 addresses is displayed.<br>If there is no limit on the addresses from which connections are permitted, "0" is displayed.      |

## show remote-access protocol http

Displays the HTTP connection permission settings.

### Syntax

```
show remote-access protocol http
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display the HTTP connection permission settings:

```
show remote-access protocol http
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-172 HTTP setting**

| Displayed item | Description                                         |
|----------------|-----------------------------------------------------|
| Port number    | Protocol number<br>This is a value from 1 to 65535. |
| Allow          | IPv4 connection permission                          |



| Displayed item  | Description                                                                                                                                                                                                                                                                                                      |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <ul style="list-style-type: none"> <li>allow: IPv4 connections are permitted.</li> <li>deny: IPv4 connections are prohibited.</li> </ul>                                                                                                                                                                         |
| Network address | <p>Network address</p> <p>If there is a limit on the IPv4 addresses from which HTTP connections are permitted, the network address indicating the range of permitted IPv4 addresses is displayed.</p> <p>If there is no limit on the addresses from which connections are permitted, "0.0.0.0" is displayed.</p> |
| Subnetmask      | <p>Subnet mask</p> <p>If there is a limit on the IPv4 addresses from which HTTP connections are permitted, the subnet mask indicating the range of permitted IPv4 addresses is displayed.</p> <p>If there is no limit on the addresses from which connections are permitted, "0.0.0.0" is displayed.</p>         |

**Table 5-173 HTTP setting (IPv6)**

| Displayed item  | Description                                                                                                                                                                                                                                                                                                  |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allow           | <p>IPv6 connection permission</p> <ul style="list-style-type: none"> <li>allow: IPv6 connections are permitted.</li> <li>deny: IPv6 connections are prohibited.</li> </ul>                                                                                                                                   |
| Network address | <p>Network address</p> <p>If there is a limit on the IPv6 addresses from which HTTP connections are permitted, the network address indicating the range of permitted IPv6 addresses is displayed.</p> <p>If there is no limit on the addresses from which connections are permitted, ":::" is displayed.</p> |
| Prefix len      | <p>Prefix length</p> <p>To limit the IPv6 addresses from which HTTP connections are permitted, specify the prefix length that indicates the range of IPv6 addresses to be permitted.</p> <p>If you do not want to limit the addresses from which connections are permitted, specify "0".</p>                 |

## show remote-access protocol https

Displays the HTTP connection permission settings.

### Syntax

```
show remote-access protocol https
```

## Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the HTTP connection permission settings:

```
show remote-access protocol https
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-174 HTTPS setting**

| Displayed item  | Description                                                                                                                                                                                                                                                                                        |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Port number     | Protocol number<br>This is a value from 1 to 65535.                                                                                                                                                                                                                                                |
| Allow           | IPv4 connection permission <ul style="list-style-type: none"><li>allow: IPv4 connections are permitted.</li><li>deny: IPv4 connections are prohibited.</li></ul>                                                                                                                                   |
| Network address | Network address<br>If there is a limit on the IPv4 addresses from which HTTPS connections are permitted, the network address indicating the range of permitted IPv4 addresses is displayed.<br>If there is no limit on the addresses from which connections are permitted, "0.0.0.0" is displayed. |
| Subnetmask      | Subnet mask<br>If there is a limit on the IPv4 addresses from which HTTPS connections are permitted, the subnet mask indicating the range of permitted IPv4 addresses is displayed.<br>If there is no limit on the addresses from which connections are permitted, "0.0.0.0" is displayed.         |

**Table 5-175 HTTPS setting (IPv6)**

| Displayed item  | Description                                                                                                                                                      |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allow           | IPv6 connection permission <ul style="list-style-type: none"><li>allow: IPv6 connections are permitted.</li><li>deny: IPv6 connections are prohibited.</li></ul> |
| Network address | Network address                                                                                                                                                  |

| Displayed item | Description                                                                                                                                                                                                                                                                                   |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <p>If there is a limit on the IPv6 addresses from which HTTPS connections are permitted, the network address indicating the range of permitted IPv6 addresses is displayed.</p> <p>If there is no limit on the addresses from which connections are permitted, ":::" is displayed.</p>        |
| Prefix len     | <p>Prefix length</p> <p>To limit the IPv6 addresses from which HTTPS connections are permitted, specify the prefix length that indicates the range of IPv6 addresses to be permitted.</p> <p>If you do not want to limit the addresses from which connections are permitted, specify "0".</p> |

## show remote-access protocol ssh

Displays the SSH connection permission settings.

### Syntax

```
show remote-access protocol ssh
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display the SSH connection permission settings:

```
show remote-access protocol ssh
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-176 SSH setting**

| Displayed item  | Description                                                                                                                                                                |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allow           | <p>IPv4 connection permission</p> <ul style="list-style-type: none"> <li>allow: IPv4 connections are permitted.</li> <li>deny: IPv4 connections are prohibited.</li> </ul> |
| Network address | Network address                                                                                                                                                            |

| Displayed item | Description                                                                                                                                                                                                                                                                                             |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <p>If there is a limit on the IPv4 addresses from which SSH connections are permitted, the network address indicating the range of permitted IPv4 addresses is displayed.</p> <p>If there is no limit on the addresses from which connections are permitted, "0.0.0.0" is displayed.</p>                |
| Subnetmask     | <p>Subnet mask</p> <p>If there is a limit on the IPv4 addresses from which SSH connections are permitted, the subnet mask indicating the range of permitted IPv4 addresses is displayed.</p> <p>If there is no limit on the addresses from which connections are permitted, "0.0.0.0" is displayed.</p> |

**Table 5-177 SSH setting (IPv6)**

| Displayed item  | Description                                                                                                                                                                                                                                                                                                |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allow           | <p>IPv6 connection permission</p> <ul style="list-style-type: none"> <li>allow: IPv6 connections are permitted.</li> <li>deny: IPv6 connections are prohibited.</li> </ul>                                                                                                                                 |
| Network address | <p>Network address</p> <p>If there is a limit on the IPv6 addresses from which SSH connections are permitted, the network address indicating the range of permitted IPv6 addresses is displayed.</p> <p>If there is no limit on the addresses from which connections are permitted, "::" is displayed.</p> |
| Prefix len      | <p>Prefix length</p> <p>To limit the IPv6 addresses from which SSH connections are permitted, specify the prefix length that indicates the range of IPv6 addresses to be permitted.</p> <p>If you do not want to limit the addresses from which connections are permitted, specify "0".</p>                |

## show remote-access protocol telnet

Displays the Telnet connection permission settings.

### Syntax

```
show remote-access protocol telnet
```

### Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the Telnet connection permission settings:

```
show remote-access protocol telnet
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-178 TELNET setting**

| Displayed item  | Description                                                                                                                                                                                                                                                                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allow           | IPv4 connection permission <ul style="list-style-type: none"><li>allow: IPv4 connections are permitted.</li><li>deny: IPv4 connections are prohibited.</li></ul>                                                                                                                                    |
| Network address | Network address<br>If there is a limit on the IPv4 addresses from which Telnet connections are permitted, the network address indicating the range of permitted IPv4 addresses is displayed.<br>If there is no limit on the addresses from which connections are permitted, "0.0.0.0" is displayed. |
| Subnetmask      | Subnet mask<br>If there is a limit on the IPv4 addresses from which Telnet connections are permitted, the subnet mask indicating the range of permitted IPv4 addresses is displayed.<br>If there is no limit on the addresses from which connections are permitted, "0.0.0.0" is displayed.         |

**Table 5-179 TELNET setting (IPv6)**

| Displayed item  | Description                                                                                                                                                                                                                                                                                    |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allow           | IPv6 connection permission <ul style="list-style-type: none"><li>allow: IPv6 connections are permitted.</li><li>deny: IPv6 connections are prohibited.</li></ul>                                                                                                                               |
| Network address | Network address<br>If there is a limit on the IPv6 addresses from which Telnet connections are permitted, the network address indicating the range of permitted IPv6 addresses is displayed.<br>If there is no limit on the addresses from which connections are permitted, "::" is displayed. |

| Displayed item | Description                                                                                                                                                                                                                                                                                    |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prefix len     | <p>Prefix length</p> <p>To limit the IPv6 addresses from which Telnet connections are permitted, specify the prefix length that indicates the range of IPv6 addresses to be permitted.</p> <p>If you do not want to limit the addresses from which connections are permitted, specify "0".</p> |

## create self-signed server certificate

Create a self-signed certificate for the management module using the specified signature algorithm.

The created self-signed certificate will be used as the server certificate for the Web console.

### Syntax

```
create self-signed server certificate -h <hash_algorithm> [-F]
```

### Privilege

Chassis privilege

### Parameters

-h <hash\_algorithm>

Signature hash algorithm

SHA: SHA-1 (digest length of 160 bits)

SHA256: SHA-2 (digest length of 256 bits)

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To create a self-signed certificate using SHA256 for the signature hash algorithm:

```
$ create self-signed server certificate -h SHA256
Confirm? (y/[n]):y
I0093 : Creating self-signed server certificate was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## Rules

If you execute this command after the digital certificate signed by the CA has been imported, the imported digital certificate will be discarded and the self-signed certificate becomes valid. To return to using the digital certificate signed by the CA, create the CSR again.

If the digital certificate signed by the CA has not been imported and the management LAN IP (IPv4) address for the management module is changed, a self-signed certificate will be automatically generated. When this command is executed, the self-signed certificate will be automatically generated using the signature hash algorithm specified in the command.

When the security strength is set to high, SHA cannot be specified as the signature hash algorithm.

## Commands for SNMP management

This section describes the commands to use the SNMP functionality.

### delete snmp manager

Deletes the SNMP manager settings.

#### Syntax

```
delete snmp manager -n <snmp_mgr_num> [-F]
```

#### Privilege

Chassis privilege

#### Parameters

-n <snmp\_mgr\_num>

SNMP manager number

You can specify a value from 0 to 8. You cannot specify multiple values.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

#### Execution example

To delete SNMP manager 8:

```
$ delete snmp manager -n 8
Confirm? (y/[n]):y
I0027 : Deleting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## export snmp mib

Outputs the MIB file.

### Syntax

```
export snmp mib [-F]
```

### Privilege

Chassis privilege

### Parameters

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To output the MIB file:

```
export snmp mib
```

## set snmp agent

Changes the SNMP agent settings.

### Syntax

```
set snmp agent [-v <snmp_valid>] [-c <snmp_contact>] [-l <snmp_loc>]
[-p <snmp_port>] [-t <snmp_trap>] [-s <snmp_version>] [-e
<snmp_engine_str>] [-se <snmp_security>] [-F]
```

### Privilege

Chassis privilege

### Parameters

-v <snmp\_valid>

Enables or disables the SNMP agent.

- Enable: Enables the SNMP agent.
- Disable: Disables the SNMP agent.

-c <snmp\_contact>

Name of the administrator.

Specify a maximum of 60 characters.

-l <snmp\_loc>

Location.

Specify a maximum of 60 characters.



- p <snmp\_port>**  
Port number that is used by the SNMP agent.  
Specify a value from 1 to 65535.
- t <snmp\_trap>**  
Levels for which notifications are to be sent by SNMP traps.
- Disable: Does not send notifications.
  - Alert: Sends notifications when the level is non-recoverable-level or serious.
  - Information: Sends notifications when the level is information.
  - ALL: Sends notifications for all levels.
- s <snmp\_version>**  
SNMP version.
- v1/v2c: SNMPv1 or SNMPv2c
  - v3: SNMPv3
- e <snmp\_engine\_str>**  
Character string for creating an engine ID.  
Specify a value consisting of 1 to 27 characters.  
If v3 is set as the SNMP version, you must specify this parameter.
- se <snmp\_security>**  
Security strength of SNMP  
Specify this parameter to set a different security strength from the management module.  
This parameter is valid for management module firmware version A0320 or later.
- high: High
  - default: Default
- F**  
Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To change the SNMP agent settings:

```
set snmp agent -v enable -c contact_name -l location -p 161 -t
information -s v1/v2c
```

To change security strength of SNMP to default:

```
set snmp agent -se default
```

## Rules

- When you specify the -se parameter, do not specify other parameters at once.

- If you set the security strength of the management module, the setting of SNMP will also be changed accordingly. To make it different setting from the management module, set it again.

## set snmp manager

Changes the SNMP manager settings.

### Syntax

```
set snmp manager -n <snmp_mgr_num> [-s <snmp_version>] [-h
<snmp_mgr_host_name>] [-p <snmp_mgr_port>] [-c
<snmp_mgr_community_name>] [-u <snmp_mgr_user_name>] [-a
<snmp_mgr_access_type>] [-at <snmp_mgr_auth_type>] [-ap
<snmp_mgr_auth_password>] [-et <snmp_mgr_encrypt_type>] [-ep
<snmp_mgr_encrypt_password>] [-F]
```

### Privilege

Chassis privilege

### Parameters

- n <snmp\_mgr\_num>  
SNMP manager number.  
You can specify a maximum of nine numbers.  
Specify a value from 0 to 8.
- s <snmp\_version>  
SNMP version.
- h <snmp\_mgr\_host\_name>  
Domain name (FQDN), or the IPv4 address or IPv6 address for the SNMP manager.  
Specify a maximum of 255 characters.
- p <snmp\_mgr\_port>  
SNMP manager port number.  
This value is not the same as the port number for the SNMP agent.  
Specify a value from 1 to 65535.
- c <snmp\_mgr\_community\_name>  
Community name for the SNMP manager.  
Specify a maximum of 60 characters.  
If the SNMP version is v1/v2c, you must specify this parameter.
- u <snmp\_mgr\_user\_name>  
SNMP manager user name.  
Specify a value consisting of 1 to 32 characters.  
If v3 is set as the SNMP version, you must specify this parameter.
- a <snmp\_mgr\_access\_type>

SNMP manager access type.

- noauth-nopriv: Disables authentication and encryption.
- auth-nopriv: Enables authentication but disables encryption.
- auth-priv: Enables authentication and encryption.

If the SNMP version is v3, you must specify one of these values.

-at <snmp\_mgr\_auth\_type>

Authentication method.

- md5: MD5 method
- sha: SHA method

If the SNMP version is v3 and the access type is auth-nopriv or auth-priv, you must specify this parameter.

-ap <snmp\_mgr\_auth\_password>

Authentication password.

If the SNMP version is v3 and the access type is auth-nopriv or auth-priv, you must specify this parameter.

-et <snmp\_mgr\_encrypt\_type>

Encryption algorithm.

- des: DES algorithm
- aes: AES algorithm

If the SNMP version is v3 and the access type is auth-priv, you must specify this parameter.

-ep <snmp\_mgr\_encrypt\_password>

Encryption password.

If the SNMP version is v3 and the access type is auth-priv, you must specify this parameter.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To change the SNMP manager settings (for SNMPv1 and SNMPv2c):

```
set snmp manager -n 0 -s v1/v2c -h 192.168.0.0 -p 162 -c
community_name
```

To change the SNMP manager settings (for SNMPv3):

```
set snmp manager -n 0 -s v3 -h 192.168.0.0 -p 162 -u user_name -a
auth-priv -at md5 -ap password -et des -ep password
```

## show snmp agent

Displays the SNMP agent settings.

## Syntax

`show snmp agent`

## Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the SNMP agent settings:

```
show snmp agent
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-180 SNMP agent setting**

| Displayed item   | Description                                                                                                                                                                                                                                                                                                                                                                   |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agent            | Whether the SNMP agent is enabled <ul style="list-style-type: none"><li>Enable: The SNMP agent is enabled.</li><li>Disable: The SNMP agent is disabled.</li></ul>                                                                                                                                                                                                             |
| Contact name     | Name of the administrator<br>The maximum length is 60 characters.                                                                                                                                                                                                                                                                                                             |
| Location         | Location<br>Specify a maximum of 60 characters.                                                                                                                                                                                                                                                                                                                               |
| Port number      | Port number used by the SNMP agent<br>This is a value from 1 to 65535.                                                                                                                                                                                                                                                                                                        |
| Trap level       | Levels for which notifications are to be sent by SNMP traps <ul style="list-style-type: none"><li>Disable: Notifications are not sent.</li><li>Alert: Notifications are not sent when the level is non-recoverable-level or serious.</li><li>Information: Notifications are not sent when the level is information.</li><li>ALL: All-levels notifications are sent.</li></ul> |
| SNMP version     | SNMP version <ul style="list-style-type: none"><li>v1/v2c: SNMPv1 or SNMPv2c</li><li>v3: SNMPv3</li></ul>                                                                                                                                                                                                                                                                     |
| Engine ID string | Character string for creating an engine ID<br>This is a value consisting of 1 to 27 characters.                                                                                                                                                                                                                                                                               |

| Displayed item    | Description                                                                                                      |
|-------------------|------------------------------------------------------------------------------------------------------------------|
|                   | If v3 is set as the SNMP version, you must specify this parameter.                                               |
| Engine ID         | Engine ID<br>This is a value consisting of 12 to 64 characters.                                                  |
| Security strength | Security strength of SNMP <ul style="list-style-type: none"> <li>high: High</li> <li>default: Default</li> </ul> |

## Rules

In SNMPv3, engine IDs are used to uniquely identify SNMP entities. Specify a character string for creating engine IDs to ensure that no two engine IDs are the same. If two SNMP entities share the same engine ID, the SNMP manager and SNMP agent will not be able to communicate properly.

## show snmp manager

Displays the SNMP manager settings.

## Syntax

```
show snmp manager [-n <snmp_mgr_num>]
```

## Privilege

Chassis privilege

## Parameters

-n <snmp\_mgr\_num>  
 SNMP manager number  
 You can specify a maximum of nine numbers.  
 Specify a value from 0 to 8.

## Execution example

To display the SNMP manager settings:

```
show snmp manager -n 0
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-181 SNMP Manager setting**

| Displayed item      | Description                                                                                                                                                                                                                                                                                                |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNMP version        | SNMP version                                                                                                                                                                                                                                                                                               |
| Host name           | Domain name (FQDN), or the IPv4 address or IPv6 address for the SNMP manager.<br>The maximum length is 255 characters.                                                                                                                                                                                     |
| Port number         | Port number for the SNMP manager<br>This value is not the same as the port number for the SNMP agent.<br>This is a value from 1 to 65535.                                                                                                                                                                  |
| Community name      | Community name for the SNMP manager<br>The maximum length is 60 characters.<br>This item is valid only for SNMPv1 and SNMPv2c.                                                                                                                                                                             |
| User name           | User name for the SNMP manager<br>This is a value consisting of 1 to 32 characters.<br>This item is valid only for SNMPv3.                                                                                                                                                                                 |
| Access type         | Access type for the SNMP manager <ul style="list-style-type: none"><li>noauth-nopriv: Disables authentication and encryption.</li><li>auth-nopriv: Enables authentication but disables encryption.</li><li>auth-priv: Enables authentication and encryption.</li></ul> This item is valid only for SNMPv3. |
| Authentication type | Authentication method <ul style="list-style-type: none"><li>md5: MD5 method</li><li>sha: SHA method</li></ul> This item is valid only when the SNMP version is v3 and the access type is auth-nopriv or auth-priv.                                                                                         |
| Encrypt type        | Encryption algorithm <ul style="list-style-type: none"><li>des: DES algorithm</li><li>aes: AES algorithm</li></ul> This item is valid only when the SNMP version is v3 and the access type is auth-priv.                                                                                                   |

## show snmp mib

Displays the MIB file version.

## Syntax

```
show snmp mib
```

## Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the MIB file version:

```
show snmp mib
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-182 MIB information**

| Displayed item | Description |
|----------------|-------------|
| Version        | MIB version |

## test snmp trap

Sends SNMP test traps.

## Syntax

```
test snmp trap [-F]
```

## Privilege

Chassis privilege

## Parameters

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To send an SNMP test trap:

```
test snmp trap
```

# Commands for LPAR manager management

This section describes commands to manage LPAR manager firmware information.

## delete hvm firmware

Deletes the LPAR manager firmware that was installed for the management modules.

### Syntax

```
delete hvm firmware -b <bank_no> [-F]
```

### Privilege

Chassis privilege

### Parameters

-b <bank\_no>

Bank number

You can specify a value from 0 to 3. You can specify multiple values.

If you specify `all` or omit this parameter, all of the LPAR manager firmware instances are deleted.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To delete the LPAR manager firmware that was installed for bank 0:

```
$ delete hvm firmware -b 0
Confirm? (y/[n]):y
I0001 : Setting was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## show hvm firmware

Displays the area number and version of the LPAR manager firmware that was installed for the management modules.

### Syntax

```
show hvm firmware
```

### Privilege

Chassis privilege



## Parameters

None

## Execution example

To display the area number and version of the LPAR manager firmware:

```
show hvm firmware
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-183 LPAR manager firmware**

| Displayed item | Description                                                                                                                            |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Bank           | LPAR manager firmware area number<br>This is a value from 0 to 3.                                                                      |
| Version        | LPAR manager firmware version<br>This is the LPAR manager firmware version that was installed in the area of the corresponding number. |

## update hvm firmware

Updates the LPAR manager firmware.

## Syntax

```
update hvm firmware -f <fw_file_name> -b <hvm_bank_no> [-F]
```

## Privilege

Chassis privilege

## Parameters

-f <fw\_file\_name>

Name of the firmware update file

-b <hvm\_bank\_no>

LPAR manager firmware area number

Specify a value from 0 to 3.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To update the LPAR manager firmware installed in area 0 by using the file `fw.update`:

```
update hvm firmware -f fw.update -b 0
```

## Rules

You must send the firmware update file via FTP before executing this command.

If you send the firmware update file while this command is running, the firmware update might fail.

If the firmware update fails, retry the operation.

# Commands to collect log data

This section describes commands to collect log data.

## export log failure

Obtains dump log data.

### Syntax

```
export log failure [-d] [-F]
```

### Privilege

Chassis privilege

### Parameters

**-d**

The dump log is output to the home directory for management modules. Even if you omit this parameter, the behavior of this command is the same as if this parameter is specified.

**-F**

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To obtain dump log data:

```
export log failure -d
```

## export log mar-log all

Outputs all MAR log data.

## Syntax

```
export log mar-log all [-d] [-F]
```

## Privilege

Chassis privilege

## Parameters

-d

The MAR log is output to the home directory for management modules. Even if you omit this parameter, the behavior of this command is the same as if this parameter is specified.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To output all MAR log data to the home directory for management modules:

```
export log mar-log all -d
```

## export log mar-log latest

Outputs the latest MAR log data.

## Syntax

```
export log mar-log latest [-d] [-F]
```

## Privilege

Chassis privilege

## Parameters

-d

The MAR log is output to the home directory for management modules. Even if you omit this parameter, the behavior of this command is the same as if this parameter is specified.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To output the latest MAR log data to the home directory for management modules:

```
export log mar-log latest -d
```

## show log environment

Displays the history items listed below for server blades, management modules, or power supply modules.

For each of the following items, the daily values for past seven days are displayed:

- Intake temperature
  - Daily average, maximum, and minimum values
  - Hourly averages (for the last 24 hours)
- Exhaust temperature
  - Daily average, maximum, and minimum values
  - Hourly averages (for the last 24 hours)

### Syntax

```
show log environment -m <log_env_module> [-s <log_env_slot_no>]
```

### Privilege

Chassis privilege

### Parameters

-m <log\_env\_module>

Type of the module whose environment log data is to be displayed

- blade: Server blade
- mgmt: Management module
- ps: Power supply module
- switch: Switch module

-s <log\_env\_slot\_no>

Number of the module whose environment log data is to be displayed

- Server blade: Specify a value from 1 to 15.
- Management module: Specify a value 1 or 2.
- Power supply module: Specify a value from 1 to 6.
- Switch module: Specify a value 1 or 2.

### Execution example

To display environment log data for server blade 1:

```
show log environment -m blade -s 1
```

To display environment log data for management module 1:

```
show log environment -m mgmt -s 1
```

To display environment log data for power supply module 1:

```
show log environment -m ps -s 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-184 module-name.slot-number.environment monitoring log**

| Displayed item         | Description                                                                                                                           |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Date                   | Environment log collection date                                                                                                       |
| intake temperature[C]  | Intake temperature<br>Displays the daily average, maximum, and minimum values, as well as the hourly averages for the last 24 hours.  |
| exhaust temperature[C] | Exhaust temperature<br>Displays the daily average, maximum, and minimum values, as well as the hourly averages for the last 24 hours. |

## show log error

Displays the error notification history.

Use this command to check the log ID to be specified for the `send e-mail select mgmt-lan` command.

## Syntax

```
show log error
```

## Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the failure notification history:

```
show log error
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-185 Error log and E-mail notification history**

| Displayed item   | Description                                    |
|------------------|------------------------------------------------|
| Timestamp        | Date and time when the log entry was generated |
| ID               | Log ID                                         |
| System event log | System event log (SEL)                         |

## show log hcsn-log

Displays HCSM log data.

### Syntax

```
show log hcsn-log
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display HCSM log data:

```
show log hcsn-log
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-186 HCSM log**

| Displayed item | Description                                                                                                                                    |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Timestamp      | Registration time                                                                                                                              |
| ID             | Log ID (alert ID)                                                                                                                              |
| Level          | Alert level <ul style="list-style-type: none"><li>Info: Information level</li><li>WARNING: Warning level</li><li>FAIL: Failure level</li></ul> |
| Message        | Event message                                                                                                                                  |

## show log mac-edit

Displays the following Optional Physical MAC change log data:

- Time when the log was collected
- Information about the port whose MAC address was changed (server blade number, card number, and port number on the card)
- MAC addresses before and after the change
- Source that sent a change request

### Syntax

```
show log mac-edit
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display Optional Physical MAC change log data:

```
show log mac-edit
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-187 Execution results of the command show log mac-edit**

| Displayed item | Description                                                                                                                                                                        |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Timestamp      | Time when the log was collected                                                                                                                                                    |
| P              | Server blade slot number<br>This is a value from 1 to 15.<br>In an SMP configuration, this item displays the slot numbers for primary server blades.                               |
| S              | Server blade slot number<br>This is a value from 1 to 15.                                                                                                                          |
| Card           | Card type <ul style="list-style-type: none"><li>• MCx: Mezzanine card x is the card slot number.</li><li>• IOxx: I/O adapter. xx is the slot number for the I/O adapter.</li></ul> |
| Controller     | Controller number of the card                                                                                                                                                      |
| Port           | Port number of the controller                                                                                                                                                      |

| Displayed item | Description                                                                                                                                                                            |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Before         | MAC before the change                                                                                                                                                                  |
| After          | MAC after the change                                                                                                                                                                   |
| From           | Source of the change request <ul style="list-style-type: none"> <li>hcsmx: Change request from HCSM x is the HCSM number.</li> <li>console: Change request from the console</li> </ul> |

## show log mar-log

Displays MAR log data.

### Syntax

```
show log mar-log
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display MAR log data:

```
show log mar-log
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-188 MARLOG INDEX**

| Displayed item | Description                                    |
|----------------|------------------------------------------------|
| Timestamp      | Date and time when the log entry was generated |
| ID             | Log ID                                         |
| Reason         | Reason message                                 |

## show log power

Displays the following electric power history items for the server chassis and server blades:

For the server chassis:



- Date and time when the power supply status of the chassis was collected
- Moving average value for electric power consumption (AC) for the past three minutes
- Highest value for electric power consumption (AC) within the past three minutes
- Lowest value for electric power consumption (AC) within the past three minutes
- Integrated value for electric power consumption (AC) for the past three minutes
- Moving average value for electric power consumption (DC) for the past three minutes
- Upper limit of electric power consumption set by the APC
- Highest value for the upper limit of electric power consumption set by the APC within the past three minutes
- Lowest value for the upper limit of electric power consumption set by the APC within the past three minutes
- Air flow
- Intake temperature

For server blades:

- Date and time when the power supply status for the server blade was collected
- Moving average value for electric power consumption (DC) for the past three minutes
- Upper limit of electric power consumption set by the APC
- Highest value for the upper limit of electric power consumption set by the APC within the past three minutes
- Lowest value for the upper limit of electric power consumption set by the APC within the past three minutes
- CPU frequency (average)
- CPU frequency (maximum)
- Highest value for electric power consumption (DC) within the past three minutes
- Lowest value for electric power consumption (DC) within the past three minutes

In an SMP configuration, if you specify a primary server blade, the electric power value items display the sum of the values for all server blades constituting the SMP configuration, and the CPU frequency items display the record of primary server blades. If you specify a non-primary server blade, the electric power value items display -----, and the CPU frequency items display the record of non-primary server blades.

## Syntax

```
show log power -m <log_power_module> [-b <blade_no>] [-t
<log_power_trend>]
```

## Privilege

Chassis privilege

## Parameters

-m <log\_power\_module>

Type of module whose power supply status history data is to be displayed

- o chassis: Server chassis
- o blade: Server blade

-b <blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

-t <log\_power\_trend>

Time period for which to display log data

- o last: Displays log history data for the last 24 hours.
- o yesterday: Displays log history data for the 24 hours of the previous day.
- o If you omit this parameter: Displays the log history data from 0:00 of the previous day to the current time.

## Execution example

To display the log history data for the power supply status of the server chassis:

```
show log power -m chassis
```

To display the log history data for the power supply status of server blade 1:

```
show log power -m blade -b 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-189 Chassis power monitoring log**

| Displayed item | Description                                                             |
|----------------|-------------------------------------------------------------------------|
| Date           | Date and time when the power supply status of the chassis was collected |

| Displayed item | Description                                                                                                  |
|----------------|--------------------------------------------------------------------------------------------------------------|
| ac_ave         | Moving average value for electric power consumption (AC) for the past three minutes                          |
| ac_max         | Highest value for electric power consumption (AC) within the past three minutes                              |
| ac_min         | Lowest value for electric power consumption (AC) within the past three minutes                               |
| ac_sum         | Integrated value for electric power consumption (AC) for the past three minutes                              |
| dc_ave         | Moving average value for electric power consumption (DC) for the past three minutes                          |
| apc_up         | Upper limit of electric power consumption set by the APC                                                     |
| apc_max        | Highest value for the upper limit of electric power consumption set by the APC within the past three minutes |
| apc_min        | Lowest value for the upper limit of electric power consumption set by the APC within the past three minutes  |
| airflow        | Air flow                                                                                                     |
| in_temp        | Intake temperature                                                                                           |

**Table 5-190 Blade <slot> power monitoring log**

| Displayed item | Description                                                                                                  |
|----------------|--------------------------------------------------------------------------------------------------------------|
| Date           | Date and time when the power supply status for the server blade was collected                                |
| dc_ave         | Moving average value for electric power consumption (DC) for the past three minutes                          |
| apc_up         | Upper limit of electric power consumption set by the APC                                                     |
| apc_max        | Highest value for the upper limit of electric power consumption set by the APC within the past three minutes |
| apc_min        | Lowest value for the upper limit of electric power consumption set by the APC within the past three minutes  |
| ave_frq        | CPU frequency (average)                                                                                      |
| max_frq        | CPU frequency (maximum)                                                                                      |
| dc_max         | Highest value for electric power consumption (DC) within the past three minutes                              |
| dc_min         | Lowest value for electric power consumption (DC) within the past three minutes                               |

## show log sel

Displays the following items of the system event log (SEL):

- Sequence number
- Time stamp
- SEL level
- Module
- XID
- Code
- Message

In an SMP configuration, the numbers of each server blade where SEL entries are generated are displayed for `Module`.

### Syntax

```
show log sel [-f <filter>] [-l <level>]
```

### Privilege

Chassis privilege

### Parameters

`-f <filter>`

Filter

- B: All server blades
- Bn: One server blade (n is a number from 1 to 15.)
- M: All management modules
- Mn: One management module (n is 1 or 2.)
- SW: All switch modules
- SWn: One switch module (n is 1 or 2.)
- FAN: All fan modules
- FANn: One fan module (n is a number from 1 to 10.)
- PS: All power supply modules
- PSn: One power supply module (n is a number from 1 to 6.)
- MLAN: All management LAN modules.
- MLANn: One management LAN module (n is 1 or 2.)
- FANCTRL: All cooling fan control modules
- FANCTRLn: One cooling fan control module (n is 1 or 2.)

`-l <level>`

SEL level

- 0: All levels

- 1: CAUTION, WARNING, and FAIL levels
- 2: WARNING and FAIL levels
- 3: FAIL level

### Execution example

To display system event log (SEL) data:

```
show log sel
```

To display system event log (SEL) data for server blade 1:

```
show log sel -f B1
```

To display system event log (SEL) data for all server blades:

```
show log sel -f B
```

To display FAIL-level system event log (SEL) data:

```
show log sel -l 3
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-191 System event log**

| Displayed item | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Seq            | Sequence number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Timestamp      | Registration time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Level          | SEL level <ul style="list-style-type: none"> <li>• Info: Information level</li> <li>• Caution: Caution level</li> <li>• WARNING: Warning level</li> <li>• FAIL: Fail level</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Module         | Module <ul style="list-style-type: none"> <li>• B<math>n</math>: Server blade (<math>n</math> is a number from 1 to 15).</li> <li>• M<math>n</math>: Management module (<math>n</math> is a number 1 or 2).</li> <li>• SW<math>n</math>: Switch module (<math>n</math> is a number 1 or 2).</li> <li>• FAN<math>n</math>: Fan module (<math>n</math> is a number from 1 to 10).</li> <li>• PS<math>n</math>: Power supply module (<math>n</math> is a number from 1 to 6).</li> <li>• MLAN<math>n</math>: Management LAN module (<math>n</math> is a number 1 or 2).</li> <li>• FANCTRL<math>n</math>: Fan control module (<math>n</math> is a number 1 or 2).</li> </ul> |
| XID            | XID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Displayed item   | Description                                      |
|------------------|--------------------------------------------------|
| System event log | Code                                             |
| Message          | Message<br>The maximum length is 255 characters. |

## show log svpsts

Displays the SVP status.

### Syntax

```
show log svpsts [-F]
```

### Privilege

Chassis privilege

### Parameters

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To display the SVP status:

```
show log svpsts
```

## show log wwn-edit

Displays the following items of the Optional Physical WWN change log:

- Time when the log was collected
- Information about the port whose WWN was changed (server blade number, card number, and port number on the card).
- Type (WWNN or WWPN) of the changed WWN
- WWNs before and after the change
- Source of the change request

### Syntax

```
show log wwn-edit
```

### Privilege

Chassis privilege

## Parameters

None

## Execution example

To display the Optional Physical WWN change log:

```
show log wwn-edit
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-192 Execution results of the command show log wwn-edit**

| Displayed item | Description                                                                                                                                                                          |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Timestamp      | Time when the log was collected                                                                                                                                                      |
| P              | Server blade slot number<br>This is a value from 1 to 15.<br>In an SMP configuration, this item displays the slot numbers for primary server blades.                                 |
| S              | Server blade slot number<br>This is a value from 1 to 15.                                                                                                                            |
| Card           | Card type <ul style="list-style-type: none"><li>MCx: Mezzanine card x is the card slot number.</li><li>IOxx: I/O adapter. xx is the slot number for the I/O adapter.</li></ul>       |
| Port           | Port number on the card                                                                                                                                                              |
| WWN            | WWN type <ul style="list-style-type: none"><li>wwnn : World Wide Node Name</li><li>wwpn : World Wide Port Name</li></ul>                                                             |
| Before         | WWN before the change                                                                                                                                                                |
| After          | WWN after the change                                                                                                                                                                 |
| From           | Source of the change request <ul style="list-style-type: none"><li>hcsmx: Change request from HCSM. x is the HCSM number.</li><li>console: Change request from the console</li></ul> |

## Commands to obtain backups

This section describes the commands to obtain backups.

## restore blade bmc

Restores the BMC settings to a server blade by using the backup data stored in the management modules.

By specifying the number of a bank in which the backup is stored, you can restore the backup of the generation.

Regardless of whether the specified server blade constitutes an SMP configuration, the BMC settings for the specified server blade are restored.

### Syntax

```
restore blade bmc <blade_no> -n <bank_no> [-F]
```

### Privilege

Server blade privileges

### Parameters

<blade\_no>

Server blade number

Specify a value from 1 to 15. You cannot specify multiple values.

-n <bank\_no>

Saving bank number

Specify a value from 0 to 4.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To restore the BMC settings of server blade 1:

```
restore blade bmc 1 -n 0
```

## restore blade efi

Restores the UEFI settings to a server blade by using the backup data stored in the management modules.

By specifying the number of the bank where the backup is stored, you can restore the backup data for that generation.

Regardless of whether the specified server blade constitutes an SMP configuration, the UEFI settings for the specified server blade are restored.

### Syntax

```
restore blade efi <blade_no> -n <bank_no> [-F]
```



## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

Specify a value from 1 to 15. You cannot specify multiple values.

-n <bank\_no>

Saving bank number

Specify a value from 0 to 4.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To restore the UEFI settings of server blade 1:

```
restore blade efi 1 -n 0
```

## restore blade fc-hba

Restores the Hitachi fibre channel adapter settings for the I/O adapter to be connected to a server blade, by using the backup data stored in the management modules.

By specifying the number of a bank in which the backup is stored, you can restore the backup of the generation.

When a Hitachi fibre channel adapter (8 Gb or 16 Gb) is installed, you can perform the restoration.

For the Hitachi fibre channel adapter:

Depending on the server blade number, the range of specifiable I/O adapter numbers varies as shown below. If you specify the number of an I/O adapter that is not to be connected to the server blade, the restoration is not performed.

| Server blade number | Halfwide blade slot number | Fullwide blade slot number |
|---------------------|----------------------------|----------------------------|
| 1                   | 01A, 01B                   | 01A, 01B, 02A, 02B         |
| 2                   | 02A, 02B                   | --                         |
| 3                   | 03A, 03B                   | 03A, 03B, 04A, 04B         |
| 4                   | 04A, 04B                   | --                         |
| :                   | :                          | :                          |
| :                   | :                          | :                          |

| Server blade number | Halfwide blade slot number | Fullwide blade slot number |
|---------------------|----------------------------|----------------------------|
| 13                  | 13A, 13B                   | 13A, 13B, 14A, 14B         |
| 14                  | 14A, 14B                   | --                         |
| 15                  | Cannot be specified.       | Cannot be specified.       |

## Syntax

```
restore blade fc-hba <blade_no> -i <iobd_no> -n <bank_no> [-F]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

Specify a value from 1 to 15. You cannot specify multiple values.

-i <iobd\_no>

I/O adapter number

Specify a value from 01A to 14B. You cannot specify multiple values.

-n <bank\_no>

Saving bank number

Specify a value from 0 to 4.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To restore the I/O adapter HBA settings of server blade 1 by using the backup data stored in bank 2:

```
$ restore blade fc-hba 1 -i 01A -n 2
Confirm? (y/[n]):y
I0045 : <Blade 1> Restore was completed.
S0002 : Command succeeded.
S0000 : Command was finished.
$
```

## restore factory

Restores the management module settings to their initial settings (the settings at shipping time).

## Syntax

```
restore factory [-F]
```

## Privilege

Chassis privilege

## Parameters

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To restore the management module settings to their initial settings (the setting at shipping time):

```
restore factory
```

## show blade bmc backup

Displays the backup data of the BMC settings for a server blade. All generations are displayed. A maximum of five backups are automatically saved in the management modules.

The following items are displayed:

- Saving bank number
- Saving time

Regardless of whether the specified server blades constitute an SMP configuration, the backup data of the BMC settings for specified server blades is displayed.

## Syntax

```
show blade bmc backup [<blade_no>]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.

If you specify `all` or omit this parameter, command processing is performed for all server blades.

## Execution example

To display the saving status of the BMC settings for server blade 1:

```
show blade bmc backup 1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-193 Blade bmc backup info**

| Displayed item | Description                                                                                                                                                                                                                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15.                                                                                                                                                                                                                                                                       |
| Bank<number>   | Saving time and Serial number of server blade<br>The format is YYYY/MM/DD hh:mm:ss S/<br>N:xxxxxxxxxxxxxxxxxxxxxxxxxxxx.<br><number> is the saving bank number.<br>This is a value from 0 to 4.<br>The serial number of the server blade is displayed<br>when the management module firmware version is<br>A0145 or later. |

## show blade efi backup

Displays the backup data of the UEFI settings for a server blade. All generations are displayed. A maximum of five backups are automatically saved in the management modules.

The following items are displayed:

- Saving bank number
- Saving time

Regardless of whether the specified server blades constitute an SMP configuration, the backup data of the UEFI settings for specified server blades is displayed.

## Syntax

```
show blade efi backup [<blade_no>]
```

## Privilege

Server blade privileges

## Parameters

<blade\_no>

Server blade number

You can specify a value from 1 to 15. You can specify multiple values.  
If you specify `all` or omit this parameter, command processing is performed for all server blades.

### Execution example

To display the saving status of the UEFI settings for server blade 1:

```
show blade efi backup 1
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-194 Blade efi backup info**

| Displayed item | Description                                                                                                                                                                                                                                                                                                      |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15.                                                                                                                                                                                                                                                             |
| Bank<number>   | Saving time and Serial number of server blade<br>The format is YYYY/MM/DD hh:mm:ss S/N:xxxxxxxxxxxxxxxxxxxxxxxxxxxx.<br><number> is the saving bank number.<br>This is a value from 0 to 4.<br>The serial number of the server blade is displayed when the management module firmware version is A0145 or later. |

## show blade fc-hba backup

Displays the backup data for the settings of the Hitachi Fibre Channel board installed in the I/O adapter to be connected to a server blade. All generations are displayed. A maximum of five backups are automatically saved in the management modules.

The following items are displayed:

- Saving bank number
- Saving time

The above items can be displayed when a Hitachi fibre channel adapter (8 Gb or 16 Gb) is installed.

Regardless of whether the specified server blades constitute an SMP configuration, the backup data of the I/O adapter that is to be connected to the specified server blades is displayed.

For the Hitachi fibre channel adapter:

Depending on the server blade number, the range of specifiable I/O adapter numbers varies as shown below. If you specify the number of an I/O adapter that is not to be connected to the server blade, backup data is not displayed.

| Server blade number | Halfwide blade slot number | Fullwide blade slot number |
|---------------------|----------------------------|----------------------------|
| 1                   | 01A, 01B                   | 01A, 01B, 02A, 02B         |
| 2                   | 02A, 02B                   | --                         |
| 3                   | 03A, 03B                   | 03A, 03B, 04A, 04B         |
| 4                   | 04A, 04B                   | --                         |
| :                   | :                          | :                          |
| :                   | :                          | :                          |
| 13                  | 13A, 13B                   | 13A, 13B, 14A, 14B         |
| 14                  | 14A, 14B                   | --                         |
| 15                  | Cannot be specified.       | Cannot be specified.       |

### Syntax

```
show blade fc-hba backup [<blade_no>] -i <iobd_no>
```

### Privilege

Server blade privileges

### Parameters

- <blade\_no>  
 Server blade number  
 You can specify a value from 1 to 15. You can specify multiple values.  
 If you specify `all` or omit this parameter, command processing is performed for all server blades.
- i <iobd\_no>  
 I/O adapter number  
 You can specify a value from 01A to 14B. You can specify multiple values.  
 You can not use a hyphen of multiple values specify. You cannot specify `all`. You cannot omit this parameter.  
 If you specify the number of an I/O adapter that is not to be connected to the server blade, backup data is not displayed.

### Execution example

To display the saving status of the HBA settings for I/O adapter 01A that is to be connected to server blade 1:

```

$ show blade fc-hba backup 1 -i 01A
-- Blade fc-hba backup info --
Slot : 1
IOBD : 01A
Bank 0 : 2009/01/26 08:00:27
Bank 1 : 2009/01/27 18:08:44
Bank 2 : 2009/01/28 09:45:30
Bank 3 : 2009/01/29 22:03:57
Bank 4 : 2009/01/30 20:26:49
S0002 : Command succeeded.
S0000 : Command was finished.
$

```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-195 Blade fc-hba backup info**

| Displayed item | Description                                                                                                                                                  |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slot           | Server blade number<br>This is a value from 1 to 15.                                                                                                         |
| IOBD           | The number of the I/O adapter to be connected to the server blade<br>This is a value from 01A to 14B.<br>This item is displayed for I/O adapter backup data. |
| Bank<number>   | Saving time<br>The format is YYYY/MM/DD hh:mm:ss.<br><number> is the saving bank number.<br>This is a value from 0 to 4.                                     |

## Rules

Because Hitachi Fibre Channel mezzanine cards cannot be installed, you cannot specify a mezzanine card.

## Commands for console management

This section describes the commands that are used to configure settings and for end processing for the console.

### change console

Changes the connection destination of the console to a switch module or to the OS console.

In an SMP configuration, specify a primary server blade. The OS console for the primary server blade is connected.

## Syntax

```
change console {-s <sw_no>|-b <blade_no>} [-F]
```

## Privilege

Connection to a switch module: Switch module privilege

Connection to a server blade: Server blade privilege

## Parameters

-s <sw\_no>

Switch module number

Specify a value 1 or 2.

You cannot specify multiple values.

-b<blade\_no>

Server blade number

Specify a value from 1 to 15. You cannot specify multiple values.

Specify this parameter to connect the console to the OS console of the server blade.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

## Execution example

To change the connection destination of the console to the OS console of server blade 1:

```
change console -b 1
```

To change the connection destination of the console to switch module 1:

```
change console -s 1
```

## Rules

- In an SMP configuration, if you specify a non-primary server blade, the following message appears and the OS console is not connected:  
E0640 : <Blade %1\$d> Command was canceled. Specified blade is not the primary blade of SMP.
- The user who denies permission to execute remote consoles and OS consoles cannot connect the OS console for server blades.

## exit

Ends the CLI console.

## Syntax

```
exit
```



## Privilege

All privileges

## Parameters

None

## Execution example

To end the CLI console:

```
exit
```

## set web-console function

Specifies whether to enable use of the Web console.

Set the following items:

- Whether to enable use of the Web console from the management LAN  
Set whether to enable the use of the Web console when the system console is connected to management LAN port for management modules.
- Whether to enable use of the Web console from the maintenance LAN  
Set whether to enable use of the Web console when the system console is connected to the maintenance LAN port (MAINT) for management modules.

## Syntax

```
set web-console function [-mg <function>] [-mn <function>] [-F]
```

## Privilege

Chassis privilege

## Parameters

-mg <function>

Specifies whether to enable use of the Web console from the management LAN.

- enable: Enabled.
- disable: Disabled.

-mn <function>

Specifies whether to enable use of the Web console from the maintenance LAN.

- enable: Enabled.
- disable: Disabled.

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To disable use of the Web console from the management LAN:

```
set web-console function -mg disable
```

### Rules

If use of the Web console is disabled, users cannot newly log in to the Web console. Users who are currently logged in can continue to use the Web console until they log out.

## show web-console function

Displays whether use of the Web console is enabled.

The following items are displayed:

- Whether to enable use of the Web console from the management LAN
- Whether to enable use of the Web console from the maintenance LAN

### Syntax

```
show web-console function
```

### Privilege

Chassis privilege

### Parameters

None

### Execution example

To display whether use of the Web console is enabled:

```
show web-console function
```

### Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-196 Web console functionality**

| Displayed item         | Description                                                                                                                         |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Web console (mgmt-lan) | Whether to enable use of the Web console from the management LAN <ul style="list-style-type: none"><li>• enable: Enabled.</li></ul> |

| Displayed item        | Description                                                                                                                                                      |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | <ul style="list-style-type: none"> <li>disable: Disabled.</li> </ul>                                                                                             |
| Web console (mnt-lan) | Whether to enable use of the Web console from the maintenance LAN <ul style="list-style-type: none"> <li>enable: Enabled.</li> <li>disable: Disabled.</li> </ul> |

## help

Shows the Help for CLI console commands.

All commands are displayed regardless of the user's assigned permissions.

### Syntax

help

### Privilege

All privileges

### Parameters

None

### Execution example

```
$ help
assign blade hvm firmware <blade_no1> {-b <hvm_bank_no>|-d} [-F]
add user account -i <user_id> [-s <status>] -r <role_id> [-l
<language>] [-c <cli_prompt>] [-t <logout_time>] [-p <password>] [-F]
add user role -i <role_id> [-b <blade_no>] [-s <switch_no>] [-n] [-
c] [-a] [-r] [-k] [-F]
bmc-reset blade [<blade_no>] [-h|-s|-sb] [-F]
(omitted)
update blade firmware bulk [<blade_no>] -f <fw_file_name> [-F]
update hvm firmware -f <fw_file_name> -b <hvm_bank_no> [-F]
update mgmt-module firmware [-F]
update parts-db [-F]
S0002 : Command succeeded.
S0000 : Command was finished.
```

### Rules

The following commands might be displayed. However, you cannot execute these commands, because they are intended for maintenance personnel.

- delete e-mail mnt-lan address
- remove log all
- remove log sel
- restore blade fru

- send e-mail latest mnt-lan
- send e-mail select mnt-lan
- set blade cna personality
- set blade efi time sync
- set blade fru data
- set blade fru lom-type
- set blade hvm license
- set chassis type
- set dhcp license
- set e-mail mnt-lan address
- set e-mail mnt-lan notification
- set ha-monitor license
- set mgmt-module fru data
- set mgmt-module mnt-lan
- show blade cna personality
- show blade cna version
- show blade efi time sync
- show blade fru backup
- show blade fru data
- show blade io-info status
- show blade manufacture-mode
- show blade margin
- show dhcp license
- show e-mail mnt-lan
- show ha-monitor license
- show log rc
- show mgmt-module fru data
- show mgmt-module margin
- show sw-module manufacture-mode

## Commands to identify parts

This section describes the commands to manage the part name identification database.

### show parts-db list

Displays the list of unit mnemonics used in the part name identification database.

## Syntax

```
show parts-db list
```

## Privilege

Chassis privilege

## Parameters

None

## Execution example

To display data from the part name identification database:

```
show parts-db list
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-197 Parts DB**

| Displayed item | Description                                                 |
|----------------|-------------------------------------------------------------|
| Unit           | Unit mnemonic used in the part name identification database |

## show parts-db unit

Displays unit information from the part name identification database.

## Syntax

```
show parts-db unit -m <pdb_unit_mnemonic>
```

## Privilege

Chassis privilege

## Parameters

-m <pdb\_unit\_mnemonic>

Unit mnemonic used in the part name identification database

## Execution example

To display information about the SRV1 unit from the part name identification database:

```
show parts-db unit -m SRV1
```

## Execution results

The following table shows the items that are displayed as the execution results of this command.

**Table 5-198 Parts DB unit information**

| Displayed item | Description                                                                                                                                      |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Status         | Installation status of the component <ul style="list-style-type: none"><li>installed: Installed.</li><li>not installed: Not installed.</li></ul> |
| Mnemonic       | FRU mnemonic                                                                                                                                     |
| Name           | Part name                                                                                                                                        |
| Drawing number | Component code                                                                                                                                   |
| Serial number  | Serial number                                                                                                                                    |

## update parts-db

Updates the part name identification database.

### Syntax

```
update parts-db [-F]
```

### Privilege

Chassis privilege

### Parameters

-F

Specify this parameter to execute the command without displaying a confirmation dialog box. You can omit this parameter.

### Execution example

To update the part name identification database:

```
update parts-db
```

# Software license information

This appendix describes software license information of management module.

- ☐ [Software license information](#)

## Software license information

The management module firmware uses the software developed or created by Hitachi and the open-source software below in accordance with the software license agreement for each open-source software product. For details on the open-source software used in the management module firmware and the license agreement for the open-source software, see the table below.

In response to customer requests, Hitachi provides the customers with recording media (CD-ROM or DVD) that contains the source code of the software licensed under the license agreement conditions that impose an obligation to provide the source code, such as the conditions of the GNU General Public License (GPL). Please note that we charge customers for the cost of the recording media, shipping fees, and service charges. When requesting the source code, check the version of the management module firmware via a management module console and provide this information to our sales personnel when asking for assistance.

For the following open-source software, contact our sales personnel for assistance.

**Table A-1 Open-source software**

| Software name | Software license agreement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| acl           | GNU General Public License version2<br>For details on the license, access the following page:<br><a href="http://www.gnu.org/licenses/gpl-2.0.html">http://www.gnu.org/licenses/gpl-2.0.html</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| alsa-lib      | GNU General Public License version2<br>For details on the license, access the following page:<br><a href="http://www.gnu.org/licenses/gpl-2.0.html">http://www.gnu.org/licenses/gpl-2.0.html</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| apr           | Apache License Version 2.0<br>For details on the license, access the following page:<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a><br><br>Apache Portable Runtime<br>Copyright (c) 2009 The Apache Software Foundation.<br><br>This product includes software developed by The Apache Software Foundation ( <a href="http://www.apache.org/">http://www.apache.org/</a> ).<br><br>Portions of this software were developed at the National Center for Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champaign.<br><br>This software contains code derived from the RSA Data Security Inc. MD5 Message-Digest Algorithm.<br><br>This software contains code derived from UNIX V7, Copyright(C) Caldera International Inc. |
| apr-util      | Apache License Version 2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



| Software name | Software license agreement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | <p>For details on the license, access the following page:<br/> <a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a></p> <p>Apache Portable Runtime Utility Library<br/> Copyright (c) 2009 The Apache Software Foundation.</p> <p>This product includes software developed by<br/> The Apache Software Foundation (<a href="http://www.apache.org/">http://www.apache.org/</a>).</p> <p>Portions of this software were developed at the National Center for Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champaign.</p> <p>This software contains code derived from the RSA Data Security Inc. MD5 Message-Digest Algorithm, including various modifications by Spyglass Inc., Carnegie Mellon University, and Bell Communications Research, Inc (Bellcore).</p> |
| arptables_jf  | <p>GNU General Public License version2<br/> For details on the license, access the following page:<br/> <a href="http://www.gnu.org/licenses/gpl-2.0.html">http://www.gnu.org/licenses/gpl-2.0.html</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| atk           | <p>GNU General Public License version2<br/> For details on the license, access the following page:<br/> <a href="http://www.gnu.org/licenses/gpl-2.0.html">http://www.gnu.org/licenses/gpl-2.0.html</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| attr          | <p>GNU General Public License version2<br/> For details on the license, access the following page:<br/> <a href="http://www.gnu.org/licenses/gpl-2.0.html">http://www.gnu.org/licenses/gpl-2.0.html</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| audit         | <p>GNU General Public License version2<br/> GNU Lesser General Public License version2.1<br/> For details on the license, access the following page:<br/> <a href="http://www.gnu.org/licenses/gpl-2.0.html">http://www.gnu.org/licenses/gpl-2.0.html</a><br/> <a href="http://www.gnu.org/licenses/lgpl-2.1.html">http://www.gnu.org/licenses/lgpl-2.1.html</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| augeas        | <p>GNU General Public License version2<br/> For details on the license, access the following page:<br/> <a href="http://www.gnu.org/licenses/gpl-2.0.html">http://www.gnu.org/licenses/gpl-2.0.html</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| autoconf      | <p>GNU General Public License version2<br/> For details on the license, access the following page:<br/> <a href="http://www.gnu.org/licenses/gpl-2.0.html">http://www.gnu.org/licenses/gpl-2.0.html</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| automake      | <p>GNU General Public License version2<br/> For details on the license, access the following page:<br/> <a href="http://www.gnu.org/licenses/gpl-2.0.html">http://www.gnu.org/licenses/gpl-2.0.html</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| avahi         | <p>GNU General Public License version2<br/> For details on the license, access the following page:<br/> <a href="http://www.gnu.org/licenses/gpl-2.0.html">http://www.gnu.org/licenses/gpl-2.0.html</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Software name | Software license agreement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bash          | GNU General Public License version2<br>For details on the license, access the following page:<br><a href="http://www.gnu.org/licenses/gpl-2.0.html">http://www.gnu.org/licenses/gpl-2.0.html</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| bind          | GNU General Public License version2<br>For details on the license, access the following page:<br><a href="http://www.gnu.org/licenses/gpl-2.0.html">http://www.gnu.org/licenses/gpl-2.0.html</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| busybox       | GNU General Public License version2<br>For details on the license, access the following page:<br><a href="http://www.gnu.org/licenses/gpl-2.0.html">http://www.gnu.org/licenses/gpl-2.0.html</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| bzip2         | <p>This program, "bzip2", the associated library "libbzip2", and all documentation, are copyright (C) 1996-2007 Julian R Seward. All rights reserved.</p> <p>Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:</p> <ol style="list-style-type: none"> <li>1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.</li> <li>2. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.</li> <li>3. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.</li> <li>4. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.</li> </ol> <p>THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.</p> <p>Julian Seward,jseward@bzip.org<br/>bzip2/libbzip2 version 1.0.5 of 10 December 2007</p> |
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|               | lib/gssapi/mechglue/g_context_time.c<br>lib/gssapi/mechglue/g_delete_sec_context.c<br>lib/gssapi/mechglue/g_dsp_name.c<br>lib/gssapi/mechglue/g_dsp_status.c<br>lib/gssapi/mechglue/g_dup_name.c<br>lib/gssapi/mechglue/g_exp_sec_context.c<br>lib/gssapi/mechglue/g_export_name.c<br>lib/gssapi/mechglue/g_glue.c<br>lib/gssapi/mechglue/g_imp_name.c<br>lib/gssapi/mechglue/g_imp_sec_context.c<br>lib/gssapi/mechglue/g_init_sec_context.c<br>lib/gssapi/mechglue/g_initialize.c<br>lib/gssapi/mechglue/g_inquire_context.c<br>lib/gssapi/mechglue/g_inquire_cred.c<br>lib/gssapi/mechglue/g_inquire_names.c<br>lib/gssapi/mechglue/g_process_context.c<br>lib/gssapi/mechglue/g_rel_buffer.c<br>lib/gssapi/mechglue/g_rel_cred.c<br>lib/gssapi/mechglue/g_rel_name.c<br>lib/gssapi/mechglue/g_rel_oid_set.c<br>lib/gssapi/mechglue/g_seal.c<br>lib/gssapi/mechglue/g_sign.c<br>lib/gssapi/mechglue/g_store_cred.c<br>lib/gssapi/mechglue/g_unseal.c<br>lib/gssapi/mechglue/g_userok.c<br>lib/gssapi/mechglue/g_utils.c<br>lib/gssapi/mechglue/g_verify.c<br>lib/gssapi/mechglue/gssd_pname_to_uid.c<br>lib/gssapi/mechglue/mglueP.h<br>lib/gssapi/mechglue/oid_ops.c<br>lib/gssapi/spnego/gssapiP_spnego.h<br>lib/gssapi/spnego/spnego_mech.c<br>and the initial implementation of incremental propagation, including the following new or changed files:<br>include/iprop_hdr.h<br>kadmin/server/ipropd_svc.c<br>lib/kdb/iprop.x lib/kdb/kdb_convert.c<br>lib/kdb/kdb_log.c lib/kdb/kdb_log.h<br>lib/krb5/error_tables/kdb5_err.et<br>slave/kpropd_rpc.c<br>slave/kproplog.c<br>are subject to the following license: |

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# HCSM alert log message

This appendix describes HCSM alert log message.

☐ [HCSM alert log message](#)

# HCSM alert log message

Format of alert log messages

[ID]

The message ID

[Level]

The level of the message: Info (information message), WARNING (warning message), or FAIL (error message)

[Message]

A message is shown."X","Y" in a message stands for characters.

**Table B-1 Message list**

| ID                                                                                                                                                                                                                                                                                                                                                                                                      | Level   | Message                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------|
| Description                                                                                                                                                                                                                                                                                                                                                                                             |         |                                                                                 |
| FD00                                                                                                                                                                                                                                                                                                                                                                                                    | WARNING | Temperature of chassis became warning level.(Temp(X),Location:Y)                |
| [Meaning] The temperature at the part shown in Y is beyond the warning level. X shows "Upper" or "Lower".<br>[Action] Although the device can keep running, the high temperature can cause a fault. Thus, check if something prevents it from cooling down, such as failure in air conditioners or in fan modules of the unit, and inlet ports covered with dust.                                       |         |                                                                                 |
| FD01                                                                                                                                                                                                                                                                                                                                                                                                    | FAIL    | Temperature of chassis became error level. (Temp(X),Location:Y)                 |
| [Meaning] The temperature at the part shown in Y is exceedingly high. X shows "Upper" or "Lower".<br>[Action] The module with high temperature may stop working to protect hardware. Contact with your customer engineer or sales personnel.<br>Check if something prevents it from cooling down, such as failure in air conditioners or in fan modules of the unit, and inlet ports covered with dust. |         |                                                                                 |
| FD02                                                                                                                                                                                                                                                                                                                                                                                                    | Info    | Temperature of chassis has been restored to a normal level.(Temp(X),Location:Y) |
| [Meaning] The temperature at the part shown in Y is back to the normal level. X shows "Upper" or "Lower".<br>[Action] No particular action required.                                                                                                                                                                                                                                                    |         |                                                                                 |
| FD03                                                                                                                                                                                                                                                                                                                                                                                                    | WARNING | Temperature of CPU became warning level. (Temp(X),Location:Y)                   |
| [Meaning] The temperature of CPU at the part shown in Y is exceedingly high. X shows "Upper" or "Lower".<br>[Action] Although the device can keep running, the high temperature can cause a fault (the message ID: FD04). Thus, check if something prevents it from cooling down, such as failure in air conditioners or in fan modules of the unit, and inlet ports covered with dust.                 |         |                                                                                 |

| ID                                                                                                                                                                                                                                                                                                                                                                                                                                    | Level   | Message                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------|
| Description                                                                                                                                                                                                                                                                                                                                                                                                                           |         |                                                                             |
| FD04                                                                                                                                                                                                                                                                                                                                                                                                                                  | FAIL    | Temperature of CPU became error level.<br>(Temp(X),Location:Y)              |
| <p>[Meaning] The temperature of CPU at the part shown in Y is beyond the warning level. X shows "Upper" or "Lower".</p> <p>[Action] The module with high temperature may stop working to protect hardware. Contact with your customer engineer or sales personnel.</p> <p>Check if something prevents it from cooling down, such as failure in air conditioners or in fan modules of the unit, and inlet ports covered with dust.</p> |         |                                                                             |
| FD05                                                                                                                                                                                                                                                                                                                                                                                                                                  | Info    | Temperature of CPU has been restored to a normal level.(Temp(X),Location:Y) |
| <p>[Meaning] The temperature of CPU at the part shown in Y is back to the normal level. X shows "Upper" or "Lower".</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                |         |                                                                             |
| FD10                                                                                                                                                                                                                                                                                                                                                                                                                                  | WARNING | Voltage became warning level.<br>(Voltage(X),Location:Y)                    |
| <p>[Meaning] The voltage at the part shown in Y is beyond the warning level. X shows "Upper" or "Lower".</p> <p>[Action] Although the device can keep running, the voltage level can cause a fault (the message ID: FD11). Contact with your customer engineer or sales personnel.</p>                                                                                                                                                |         |                                                                             |
| FD11                                                                                                                                                                                                                                                                                                                                                                                                                                  | FAIL    | Voltage became error level.<br>(Voltage(X),Location:Y)                      |
| <p>[Meaning] The voltage at the part shown in Y is exceedingly high. X shows "Upper" or "Lower".</p> <p>[Action] The module with high voltage may stop working to protect hardware. Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                       |         |                                                                             |
| FD12                                                                                                                                                                                                                                                                                                                                                                                                                                  | Info    | Voltage has been restored to a normal level.(Voltage(X),Location:Y)         |
| <p>[Meaning] The voltage at the part shown in Y is back to the normal level. X shows "Upper" or "Lower".</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                           |         |                                                                             |
| FD21                                                                                                                                                                                                                                                                                                                                                                                                                                  | FAIL    | Current became error level.<br>(Current(Upper),Location:Y)                  |
| <p>[Meaning] The current of the component indicated in Y reached the failure level.</p> <p>[Action] To protect the hardware, the reported module might stop working. Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                                      |         |                                                                             |
| FD22                                                                                                                                                                                                                                                                                                                                                                                                                                  | Info    | Current has been restored to a normal level.(Current(Upper),Location:Y)     |
| <p>[Meaning] The current of the component indicated in Y has recovered and returned to a normal level.</p> <p>[Action] No action is required because this message is reporting a recovery.</p>                                                                                                                                                                                                                                        |         |                                                                             |
| FD30                                                                                                                                                                                                                                                                                                                                                                                                                                  | Info    | Module is installed.(Location:X)                                            |
| <p>[Meaning] A module at the part shown in X is inserted.</p>                                                                                                                                                                                                                                                                                                                                                                         |         |                                                                             |

| ID                                                                                                        | Level   | Message                                                                     |
|-----------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------|
| <b>Description</b>                                                                                        |         |                                                                             |
| [Action] Nothing is required.                                                                             |         |                                                                             |
| FD31                                                                                                      | Info    | Module is removed.(Location:X)                                              |
| [Meaning] A module shown at the part in X is removed.                                                     |         |                                                                             |
| [Action] Nothing is required.                                                                             |         |                                                                             |
| FD38                                                                                                      | FAIL    | Watchdog timer has expired.(Location:X)                                     |
| [Meaning] Watchdog timeout at the part shown in X is detected.                                            |         |                                                                             |
| [Action] Contact with your customer engineer or sales personnel.                                          |         |                                                                             |
| FD40                                                                                                      | WARNING | On server, an warning event occurred.<br>(Location:X,Event:Y)               |
| [Meaning] A warning event in the server blade at the part shown in X is occurred. Y shows the event type. |         |                                                                             |
| [Action] Contact with your customer engineer or sales personnel.                                          |         |                                                                             |
| FD41                                                                                                      | FAIL    | On server, an error event occurred.<br>(Location:X,Event:Y)                 |
| [Meaning] An error event in the server blade at the part shown in X is occurred. Y shows the event type.  |         |                                                                             |
| [Action] Contact with your customer engineer or sales personnel.                                          |         |                                                                             |
| FD42                                                                                                      | Info    | Server has been restored to a normal level.<br>(Location:X,Event:Y)         |
| [Meaning] The server blade at the part shown in X is back to the normal level. Y shows the event type.    |         |                                                                             |
| [Action] No particular action required.                                                                   |         |                                                                             |
| FD43                                                                                                      | WARNING | On physical partition, a warning event occurred.(Location:X,Event:Y)        |
| [Meaning] A warning event in the server blade at the part shown in X is occurred. Y shows the event type. |         |                                                                             |
| [Action] Contact with your customer engineer or sales personnel.                                          |         |                                                                             |
| FD44                                                                                                      | FAIL    | On physical partition, an error event occurred.(Location:X,Event:Y)         |
| [Meaning] An error event in the server blade at the part shown in X is occurred. Y shows the event type.  |         |                                                                             |
| [Action] Contact with your customer engineer or sales personnel.                                          |         |                                                                             |
| FD45                                                                                                      | Info    | Physical partition has been restored to a normal level.(Location:X,Event:Y) |
| [Meaning] The server blade at the part shown in X is back to the normal level. Y shows the event type.    |         |                                                                             |
| [Action] No particular action required.                                                                   |         |                                                                             |
| FD46                                                                                                      | WARNING | On power supply, a warning event occurred.(Location:X,Event:Y)              |

| ID                                                                                                                                                                                              | Level   | Message                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------|
| <b>Description</b>                                                                                                                                                                              |         |                                                                        |
| <p>[Meaning] A warning event in the power supply module at the part shown in X is occurred. Y shows the event type.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p> |         |                                                                        |
| FD47                                                                                                                                                                                            | FAIL    | On power supply, an error event occurred.<br>(Location:X,Event:Y)      |
| <p>[Meaning] An error event in the power supply module at the part shown in X is occurred. Y shows the event type.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>  |         |                                                                        |
| FD48                                                                                                                                                                                            | Info    | Power supply has been restored to a normal level.(Location:X,Event:Y)  |
| <p>[Meaning] The power supply module at the part shown in X is back to the normal level. Y shows the event type.</p> <p>[Action] No particular action required.</p>                             |         |                                                                        |
| FD49                                                                                                                                                                                            | WARNING | On cooling fan, a warning event occurred.<br>(Location:X,Event:Y)      |
| <p>[Meaning] A warning event in the cooling fan module at the part shown in X is occurred. Y shows the event type.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>  |         |                                                                        |
| FD4A                                                                                                                                                                                            | FAIL    | On cooling fan, an error event occurred.<br>(Location:X,Event:Y)       |
| <p>[Meaning] An error event in the cooling fan module at the part shown in X is occurred. Y shows the event type.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>   |         |                                                                        |
| FD4B                                                                                                                                                                                            | Info    | Cooling fan has been restored to a normal level.(Location:X,Event:Y)   |
| <p>[Meaning] The cooling fan module at the part shown in X is back to the normal level. Y shows the event type.</p> <p>[Action] No particular action required.</p>                              |         |                                                                        |
| FD4C                                                                                                                                                                                            | WARNING | On switch module, a warning event occurred.(Location:X,Event:Y)        |
| <p>[Meaning] A warning event in the switch module at the part shown in X is occurred. Y shows the event type.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>       |         |                                                                        |
| FD4D                                                                                                                                                                                            | FAIL    | On switch module, an error event occurred.<br>(Location:X,Event:Y)     |
| <p>[Meaning] An error event in the switch module at the part shown in X is occurred. Y shows the event type.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>        |         |                                                                        |
| FD4E                                                                                                                                                                                            | Info    | Switch module has been restored to a normal level.(Location:X,Event:Y) |

| ID                                                                                                                                                                                                                                                                                      | Level   | Message                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------------------------------------------------------------|
| <b>Description</b>                                                                                                                                                                                                                                                                      |         |                                                                            |
| <p>[Meaning] The switch module at the part shown in X is back to the normal level. Y shows the event type.</p> <p>[Action] No particular action required.</p>                                                                                                                           |         |                                                                            |
| FD50                                                                                                                                                                                                                                                                                    | FAIL    | On disk, an error event occurred.<br>(Location:X,Event:Y)                  |
| <p>[Meaning] An error event in the disk at the part shown in X is occurred. Y shows the event type.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                         |         |                                                                            |
| FD51                                                                                                                                                                                                                                                                                    | Info    | Disk has been restored to a normal level.<br>(Location:X,Event:Y)          |
| <p>[Meaning] The disk at the part shown in X is back to the normal level. Y shows the event type.</p> <p>[Action] No particular action required.</p>                                                                                                                                    |         |                                                                            |
| FD52                                                                                                                                                                                                                                                                                    | WARNING | On management module, a warning event occurred.(Location:X,Event:Y)        |
| <p>[Meaning] A warning event in the management module at the part shown in X is occurred. Y shows the event type.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                           |         |                                                                            |
| FD53                                                                                                                                                                                                                                                                                    | FAIL    | On management module, an error event occurred.(Location:X,Event:Y)         |
| <p>[Meaning] An error event in the management module at the part shown in X is occurred. Y shows the event type.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                            |         |                                                                            |
| FD54                                                                                                                                                                                                                                                                                    | Info    | Management module has been restored to a normal level.(Location:X,Event:Y) |
| <p>[Meaning] The management module at the part shown in X is back to the normal level. Y shows the event type.</p> <p>[Action] No particular action required.</p>                                                                                                                       |         |                                                                            |
| FD58                                                                                                                                                                                                                                                                                    | WARNING | On other module, a warning event occurred.(Location:X,Event:Y)             |
| <p>[Meaning] A warning event in other module (except server blade, power supply module, fan module, switch module, disk, and management module) at the part shown in X is occurred. Y shows the event type.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p> |         |                                                                            |
| FD59                                                                                                                                                                                                                                                                                    | FAIL    | On other module, an error event occurred.<br>(Location:X,Event:Y)          |
| <p>[Meaning] An error event in other module (except server blade, power supply module, fan module, switch module, disk, and management module) at the part shown in X is occurred. Y shows the event type.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>  |         |                                                                            |
| FD60                                                                                                                                                                                                                                                                                    | WARNING | The cooling fan rotation speed is abnormally high or low.(Location:X)      |

| ID                                                                                                                                                                                                                                                                                       | Level   | Message                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------|
| <b>Description</b>                                                                                                                                                                                                                                                                       |         |                                                                              |
| <p>[Meaning] The cooling fan rotation speed is abnormally high or low. X shows the part that event occurred.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                 |         |                                                                              |
| FD61                                                                                                                                                                                                                                                                                     | Info    | The cooling fan rotation speed has been restored a normal level.(Location:X) |
| <p>[Meaning] The cooling rotation speed is restored the normal level. X shows the part that event occurred.</p> <p>[Action] No particular action required.</p>                                                                                                                           |         |                                                                              |
| FD64                                                                                                                                                                                                                                                                                     | WARNING | On chassis, an AC input is lost.(Location:X)                                 |
| <p>[Meaning] An AC input is lost in the power supply module at the part shown in X.</p> <p>[Action] Check if something wrong is in the power supply to devices. If nothing wrong is detected, contact with your customer engineer or sales personnel.</p>                                |         |                                                                              |
| FD65                                                                                                                                                                                                                                                                                     | Info    | On chassis, the AC input error has been corrected.(Location:X)               |
| <p>[Meaning] The AC input error is corrected. X shows the part that error occurred.</p> <p>[Action] No particular action required.</p>                                                                                                                                                   |         |                                                                              |
| FD68                                                                                                                                                                                                                                                                                     | FAIL    | Uncorrectable CPU error occurred. (Location:X)                               |
| <p>[Meaning] Uncorrectable CPU error is occurred. X shows the part that error occurred.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                                      |         |                                                                              |
| FD69                                                                                                                                                                                                                                                                                     | WARNING | Corrected CPU error threshold exceeded. (Location:X)                         |
| <p>[Meaning] Although uncorrectable CPU error is corrected, corrected CPU error threshold is exceeded. X shows the part that error occurred.</p> <p>[Action] Although the device can keep running, fault may be occurred. Contact with your customer engineer or sales personnel.</p>    |         |                                                                              |
| FD6B                                                                                                                                                                                                                                                                                     | FAIL    | Uncorrectable memory error occurred. (Location:X)                            |
| <p>[Meaning] Uncorrectable memory error is occurred. X shows the part that error occurred.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                                   |         |                                                                              |
| FD6C                                                                                                                                                                                                                                                                                     | WARNING | Corrected memory error threshold exceeded.(Location:X)                       |
| <p>[Meaning] Although uncorrectable memory error is corrected, corrected CPU error threshold is exceeded. X shows the part that error occurred.</p> <p>[Action] Although the device can keep running, fault may be occurred. Contact with your customer engineer or sales personnel.</p> |         |                                                                              |
| FD70                                                                                                                                                                                                                                                                                     | WARNING | CPU is disabled.(Location:X)                                                 |
| <p>[Meaning] CPU at the part shown in X is degraded.</p> <p>[Action] Although the device can keep running, CPU performance is degraded. Contact with your customer engineer or sales personnel.</p>                                                                                      |         |                                                                              |

| ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Level   | Message                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------------------------------|
| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |                                                   |
| FD71                                                                                                                                                                                                                                                                                                                                                                                                                                                              | WARNING | Memory is disabled.(Location:X)                   |
| <p>[Meaning] Memory at the part shown in X is degraded.</p> <p>[Action] Although the device can keep running, memory performance is degraded. Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                                                                                         |         |                                                   |
| FD78                                                                                                                                                                                                                                                                                                                                                                                                                                                              | WARNING | Module lacks redundancy.(Location:X)              |
| <p>[Meaning] A module at the part shown in X has no longer redundancy.</p> <p>[Action] Although the device can keep running, redundancy is lost. Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                                                                                      |         |                                                   |
| FD79                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Info    | Module restored redundancy.(Location:X)           |
| <p>[Meaning] A module at the part shown in X has redundancy.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                                                                                   |         |                                                   |
| FD7F                                                                                                                                                                                                                                                                                                                                                                                                                                                              | FAIL    | Event is logged.(Location:X,Event:Y)              |
| <p>[Meaning] Event at the part shown in X is logged. Y shows the event type.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                                                                   |         |                                                   |
| FD85                                                                                                                                                                                                                                                                                                                                                                                                                                                              | WARNING | On server, power-on is inhibited.<br>(Location:X) |
| <p>[Meaning] Power of server blade at the part shown in X is inhibited. The problem may be caused by following reasons:</p> <p>Construction and setting have problem. (Combination of hardware is invalid/power shortage)</p> <p>Working state of maintenance. (Power operation for maintenance module/failure module)</p> <p>[Action] Eliminate the course of inhibition. If you cannot find course, contact with your customer engineer or sales personnel.</p> |         |                                                   |
| FD90                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Info    | Server is powered on.(Location:X)                 |
| <p>[Meaning] A server blade at the part shown in X is powered on.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                                                                              |         |                                                   |
| FD91                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Info    | Server is powered off.(Location:X)                |
| <p>[Meaning] A server blade at the part shown in X is powered off.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                                                                             |         |                                                   |
| FD92                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Info    | Server is reset.(Location:X)                      |
| <p>[Meaning] A server blade at the part shown in X is reset.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                                                                                   |         |                                                   |
| FD93                                                                                                                                                                                                                                                                                                                                                                                                                                                              | FAIL    | Server failed to power-on.(Location:X)            |
| <p>[Meaning] A server blade at the part shown in X is failed to power-on.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                                                                                                                                             |         |                                                   |
| FD9C                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Info    | Switch module is powered on.(Location:X)          |
| <p>[Meaning] A switch module at the part shown in X is powered on.</p>                                                                                                                                                                                                                                                                                                                                                                                            |         |                                                   |



| ID                                                                             | Level   | Message                                                   |
|--------------------------------------------------------------------------------|---------|-----------------------------------------------------------|
| <b>Description</b>                                                             |         |                                                           |
| [Action] No particular action required.                                        |         |                                                           |
| FD9D                                                                           | Info    | Switch module is powered off.(Location:X)                 |
| [Meaning] A switch module at the part shown in X is powered off.               |         |                                                           |
| [Action] No particular action required.                                        |         |                                                           |
| FD9F                                                                           | FAIL    | Switch module failed to power-on.<br>(Location:X)         |
| [Meaning] A switch module at the part shown in X is failed to power-on.        |         |                                                           |
| [Action] Contact with your customer engineer or sales personnel.               |         |                                                           |
| FDA8                                                                           | Info    | Power supply is powered on.(Location:X)                   |
| [Meaning] A power supply module at the part shown in X is powered on.          |         |                                                           |
| [Action] No particular action required.                                        |         |                                                           |
| FDA9                                                                           | Info    | Power supply is powered off.(Location:X)                  |
| [Meaning] A power supply module at the part shown in X is powered off.         |         |                                                           |
| [Action] No particular action required.                                        |         |                                                           |
| FDAB                                                                           | FAIL    | Power supply failed to power-on.<br>(Location:X)          |
| [Meaning] A power supply module at the part shown in X is failed to power-on.  |         |                                                           |
| [Action] Contact with your customer engineer or sales personnel.               |         |                                                           |
| FDAC                                                                           | WARNING | Power supply failed to power-off.<br>(Location:X)         |
| [Meaning] A power supply module at the part shown in X is failed to power-off. |         |                                                           |
| [Action] Contact with your customer engineer or sales personnel.               |         |                                                           |
| FDAE                                                                           | Info    | Management module is powered on.<br>(Location:X)          |
| [Meaning] A management module at the part shown in X is powered on.            |         |                                                           |
| [Action] No particular action required.                                        |         |                                                           |
| FDAF                                                                           | Info    | Management module is powered off.<br>(Location:X)         |
| [Meaning] A management module at the part shown in X is powered off.           |         |                                                           |
| [Action] No particular action required.                                        |         |                                                           |
| FDBA                                                                           | Info    | Panel button was pressed, and NMI was issued.(Location:X) |
| [Meaning] In a server blade at the part shown in X, NMI is issued.             |         |                                                           |
| [Action] No particular action required.                                        |         |                                                           |
| FDBB                                                                           | Info    | NMI was issued.(Location:X)                               |
| [Meaning] In a server blade at the part shown in X, NMI is issued.             |         |                                                           |
| [Action] No particular action required.                                        |         |                                                           |

| ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Level   | Message                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------|
| <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |                                                                                 |
| FDC0                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Info    | Time is updated.(Location:X)                                                    |
| [Meaning] Time of module at the part shown in X is changed.<br>[Action] No particular action required.                                                                                                                                                                                                                                                                                                                                                                        |         |                                                                                 |
| FDC8                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Info    | Updating firmware has started.(Location:X)                                      |
| [Meaning] In a server blade at the part shown in X, firmware update has started.<br>[Action] No particular action required.                                                                                                                                                                                                                                                                                                                                                   |         |                                                                                 |
| FDC9                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Info    | Updating firmware has completed.<br>(Location:X)                                |
| [Meaning] In a server blade at the part shown in X, firmware update has completed.<br>[Action] No particular action required.                                                                                                                                                                                                                                                                                                                                                 |         |                                                                                 |
| FDD0                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | WARNING | Warning about the system configuration is detected.                             |
| [Meaning] Device configuration has problem.<br>[Action] If you change the device configuration before this message appeared, check if something wrong is in the configuration. If there is no problem in the configuration, contact with your customer engineer or sales personnel.                                                                                                                                                                                           |         |                                                                                 |
| FDD1                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | FAIL    | System configuration error is detected.                                         |
| [Meaning] Device configuration has problem.<br>[Action] If you change the device configuration before this message appeared, check if something wrong is in the configuration. If there is no problem in the configuration, contact with your customer engineer or sales personnel.                                                                                                                                                                                           |         |                                                                                 |
| FDD2                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | WARNING | System power activation is deterred for system configuration error.(Location:X) |
| [Meaning] Power of server blade at the part shown in X is inhibited for device configuration error. The problem may be caused by following reasons:<br>Construction and setting have problem. (Combination of hardware is invalid/power shortage)<br>Working state of maintenance. (Power operation for maintenance module/failure module)<br>[Action] Eliminate the course of inhibition. If you cannot find course, contact with your customer engineer or sales personnel. |         |                                                                                 |
| FDD3                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | FAIL    | Power supply capacity is insufficient.                                          |
| [Meaning] Power supply capacity is insufficient.<br>[Action] Check if power supply modules are correctly installed. Contact with your customer engineer or sales personnel.                                                                                                                                                                                                                                                                                                   |         |                                                                                 |
| FDD5                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | FAIL    | The total number of cooling fan modules is insufficient.                        |
| [Meaning] The total number of cooling fan modules is insufficient.<br>[Action] Check if cooling fan modules are correctly installed. Contact with your customer engineer or sales personnel.                                                                                                                                                                                                                                                                                  |         |                                                                                 |

| ID                                                                                                                                                                                                                                                                                                                                                             | Level   | Message                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------------------------------------------------|
| Description                                                                                                                                                                                                                                                                                                                                                    |         |                                                                |
| FF05                                                                                                                                                                                                                                                                                                                                                           | Info    | LAN port <X> has switched to another port.                     |
| <p>[Meaning] When redundancy of LAN port at the part shown in X is available, the LAN port has switched to another port.</p> <p>[Action] No particular action required when only this message appeared, because of keeping redundancy. If the message ID: FD78 appeared with this message, check if the specified LAN port is connected.</p>                   |         |                                                                |
| FF06                                                                                                                                                                                                                                                                                                                                                           | Info    | LAN port <X> has recovered from an error.                      |
| <p>[Meaning] The LAN port route is restored from the changed route of message ID: FF05.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                     |         |                                                                |
| FF08                                                                                                                                                                                                                                                                                                                                                           | WARNING | The synchronization of time is not performed.(Location:X)      |
| <p>[Meaning] In a device at the part shown in X, the time synchronization is not available using NTP server.</p> <p>[Action] Check if communication between the management module and NTP server is available. Also check the configuration of management module and NTP server. Check if the specified parts time is correct, correct the time as needed.</p> |         |                                                                |
| FF09                                                                                                                                                                                                                                                                                                                                                           | Info    | The synchronization of time is resumed.<br>(Location:X)        |
| <p>[Meaning] In a device at the part shown in X, the time synchronization is resumed using NTP server.</p> <p>[Action] Check if the specified parts time is correct, correct the time as needed.</p>                                                                                                                                                           |         |                                                                |
| FF0B                                                                                                                                                                                                                                                                                                                                                           | FAIL    | Support center report failed.(Report:X)                        |
| <p>[Meaning] Support center report is not available due to failure in report function x.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                           |         |                                                                |
| FF0E                                                                                                                                                                                                                                                                                                                                                           | WARNING | A report is failed.(Report:X)                                  |
| <p>[Meaning] A report at the part shown in X failed.</p> <p>[Action] Check if communication between the information addressee and management module is available. Also check the report configuration, and correct the configuration as needed. If the problem persists, contact with your customer engineer or sales personnel.</p>                           |         |                                                                |
| FF0F                                                                                                                                                                                                                                                                                                                                                           | Info    | A report is resumed.(Report:X)                                 |
| <p>[Meaning] A report at the part shown in X is resumed.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                    |         |                                                                |
| FF10                                                                                                                                                                                                                                                                                                                                                           | Info    | Power saving event was occurred.<br>(Location:X,Event:Y)       |
| <p>[Meaning] In a device at the part shown in X, power saving event is logged. Y shows the event type.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                      |         |                                                                |
| FF11                                                                                                                                                                                                                                                                                                                                                           | WARNING | Power saving <warning> event was occurred.(Location:X,Event:Y) |

| ID                                                                                                                                                                                                                                                                                                                                                                                                                                | Level   | Message                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------|
| <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                |         |                                                                                    |
| <p>[Meaning] In a device at the part shown in X, power saving event as warning level is logged. Y shows the event type.</p> <p>[Action] Check if the power saving configuration is correct, correct the configuration as needed.</p>                                                                                                                                                                                              |         |                                                                                    |
| FF18                                                                                                                                                                                                                                                                                                                                                                                                                              | Info    | On <X>, maintenance mode is started.                                               |
| <p>[Meaning] In a device at the part shown in X, maintenance mode is started. This message may be appeared several times depending on the maintenance type.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                    |         |                                                                                    |
| FF19                                                                                                                                                                                                                                                                                                                                                                                                                              | Info    | On <X>, maintenance mode is ended.                                                 |
| <p>[Meaning] In a device at the part shown in X, maintenance mode is ended. This message may be appeared several times depending on the maintenance type.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                      |         |                                                                                    |
| FF22                                                                                                                                                                                                                                                                                                                                                                                                                              | FAIL    | On <X>, a failure occurred in <Y> during smart configure.                          |
| <p>[Meaning] In the server blade at the part shown in X, a failure occurred during a Smart Configure process in the component indicated by Y.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                                         |         |                                                                                    |
| FF23                                                                                                                                                                                                                                                                                                                                                                                                                              | WARNING | On <X>, an invalid setting was found in <Y> during smart configure.                |
| <p>[Meaning] A Smart Configure process in the server blade at the part shown in X, failed because the component indicated by Y was set up incorrectly.</p> <p>[Action] Y is an HBA slot number or a port number. Review and amend the HBA BIOS settings for the specified slot, and then manually run the Smart Configure process. If the same message appears again, contact with your customer engineer or sales personnel.</p> |         |                                                                                    |
| FF24                                                                                                                                                                                                                                                                                                                                                                                                                              | FAIL    | On <X>, a smart configure error was detected.                                      |
| <p>[Meaning] A failure was detected in a Smart Configure process running on the server blade at the part shown in X.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                                                                  |         |                                                                                    |
| FF25                                                                                                                                                                                                                                                                                                                                                                                                                              | WARNING | On <X>, an error occurred when smart configure was being performed.                |
| <p>[Meaning] An error occurred during execution of a Smart Configure process on the server blade at the part shown in X.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                                                              |         |                                                                                    |
| FF28                                                                                                                                                                                                                                                                                                                                                                                                                              | Info    | On <X>, error alert (immediate replacement) is sent by the user request operation. |
| <p>[Meaning] A test of the N+M cold standby function (immediate failover) was performed on the partition indicated by X.</p> <p>[Action] No particular action is required as the message relates to a test.</p>                                                                                                                                                                                                                   |         |                                                                                    |

| ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Level   | Message                                                                                    |
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| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                                            |
| FF29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Info    | On <X>, error alert is sent by the user request operation.                                 |
| <p>[Meaning] A test of the N+M cold standby function (other than immediate failover) was performed on the partition indicated by X.</p> <p>[Action] No particular action is required as the message relates to a test.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |                                                                                            |
| FF2A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | FAIL    | On <X>, a failure requiring an immediate failover occurred.                                |
| <p>[Meaning] A failure which is subject to immediate failover by the N+M cold standby function occurred on the server blade indicated by X. The affected server blade will now fail over to its counterpart in the standby system.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                                                                                                                                                                                                                 |         |                                                                                            |
| FF2B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | FAIL    | On <X>, a failure requiring a failover occurred.                                           |
| <p>[Meaning] A failure which is subject to delayed failover by the N+M cold standby function occurred on the server blade indicated by X. The affected server blade will now fail over to its counterpart in the standby system.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                                                                                                                                                                                                                   |         |                                                                                            |
| FF30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | FAIL    | Unknown SEL detected.                                                                      |
| <p>[Meaning] A SEL that is not registered in the dictionary was collected.</p> <p>[Action] Update the dictionary to the latest version.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                                            |
| FF40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | WARNING | The scheduling mode for a NIC assigned to an LPAR was changed. (Location: <X>, Event: <Y>) |
| <p>[Meaning] Indicates that the scheduling mode of a NIC that was assigned to an LPAR was changed. X indicates the location. Y indicates the event that occurred.</p> <p>[Action] Because safe mode is enabled, review NIC assignment to LPARs and then exit safe mode.</p>                                                                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                                            |
| FF41                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | FAIL    | An error event on a management NIC was detected. (Location: <X>, Event: <Y>)               |
| <p>[Meaning] Indicates that a failure-level event was detected on the specified management NIC. X indicates the location. Y indicates the event that occurred.</p> <p>[Action] If the location is "-", no action needs to be taken. If the location is not "-", check the following:</p> <ul style="list-style-type: none"> <li>• Check whether the management NIC is correctly specified.</li> <li>• If the management NIC is correctly specified, check whether a NIC that supports shared mode is installed in the location.</li> </ul> <p>If you cannot find any problems with the items above, the location might be damaged. Contact with your customer engineer or sales personnel.</p> |         |                                                                                            |
| FF42                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | WARNING | A warning event on a management NIC was detected. (Location: <X>, Event: <Y>)              |
| <p>[Meaning] Indicates that a warning event was detected on the specified management NIC. X indicates the location. Y indicates the event that occurred.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |         |                                                                                            |

| ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Level   | Message                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------------------------------------------------------------------------------------|
| <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |         |                                                                                            |
| <p>[Action] If the location is "-", no action needs to be taken. If the location is not "-", check the following:</p> <ul style="list-style-type: none"> <li>• Check whether the management NIC is correctly specified.</li> <li>• If the management NIC is correctly specified, check whether a NIC that supports shared mode is installed in the location.</li> </ul> <p>If you cannot find any problems with the items above, the location might be damaged. Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                                                                                                                                                                                                                        |         |                                                                                            |
| FF43                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Info    | LP started with the specified ports set as the LP management NIC ports.<br>(Location: <X>) |
| <p>[Meaning] Indicates that LPAR manager started on the LPAR manager management NIC that was specified by the user. &lt;X&gt; indicates the location.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |                                                                                            |
| FF44                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | FAIL    | An error event occurred on a management NIC port. Location: <X>, Event: <Y>)               |
| <p>[Meaning] A failure was detected on the active port of a management NIC. X indicates the location. Y indicates the event that occurred.</p> <p>[Action] Check the following:</p> <ul style="list-style-type: none"> <li>• Check whether cables and switches connecting the port of the management NIC specified in the location and management modules are correctly set and are running normally. After you check, immediately update the communication status of the management NIC.</li> <li>• If management NIC redundancy is not configured or if this event occurred on both ports of the management NIC, check whether a management module failure occurred. If a failure occurred on a management module, take recovery actions.</li> </ul> <p>If you cannot find any problems with the items above, the location might be damaged. Contact with your customer engineer or sales personnel.</p>         |         |                                                                                            |
| FF45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | WARNING | A warning event occurred on a management NIC port. (Location: <X>, Event: <Y>)             |
| <p>[Meaning] A failure was detected on the standby port of a management NIC. X indicates the location. Y indicates the event that occurred.</p> <p>[Action] Check the following:</p> <ul style="list-style-type: none"> <li>• Check whether cables and switches connecting the port of the management NIC specified in the location and management modules are correctly configured and are running normally. After you check, immediately update the communication status of the management NIC.</li> <li>• If management NIC redundancy is not configured or if this event occurred on both ports of the management NIC, check whether a management module failure occurred. If a failure occurred on a management module, take recovery actions.</li> </ul> <p>If you cannot find any problems with the items above, the location might be damaged. Contact with your customer engineer or sales personnel.</p> |         |                                                                                            |
| FF46                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Info    | An event occurred on a management NIC port. (Location: <X>, Event: <Y>)                    |
| <p>[Meaning] Indicates that an event occurred on a management NIC. X indicates the location. Y indicates the event that occurred.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |                                                                                            |

| ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Level   | Message                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |         |                                                                                                                                                                            |
| <p>If the event is "Changed Active/Standby port", the redundancy of management NICs or ports might be removed. If a failure-level alert on a management NIC occurred, take appropriate action.</p> <p>If the event is not "Changed Active/Standby port", no action needs to be taken.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |         |                                                                                                                                                                            |
| FF47                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | WARNING | The function is unavailable owing to port number duplication. (Location:<X>, Function:<Y>)                                                                                 |
| <p>[Meaning] The LPAR manager functions are unavailable owing to port number duplication. &lt;X&gt; indicates the location, and &lt;Y&gt; indicates the event that occurred.</p> <p>[Action] Check the port number settings, and reassign the port numbers.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |                                                                                                                                                                            |
| FF48                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Info    | The port number(s) for the function was recovered from duplication. (Location:<X>, Function:<Y>)                                                                           |
| <p>[Meaning] The port numbers for the LPAR manager function were recovered from port duplication. &lt;X&gt; indicates the location, and &lt;Y&gt; indicates the event that occurred.</p> <p>[Action] No action is required.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |                                                                                                                                                                            |
| FF49                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | WARNING | The temporary LP license will expire in <X> day(s). You will be able to activate or reactivate no LPARs, or no OSs, after the temporary license expiration. (Location:<Y>) |
| <p>[Meaning] The temporary LP license will expire soon.</p> <p>After the temporary license expires, the following operations will be suppressed:</p> <ul style="list-style-type: none"> <li>• Operation to activate LPARs</li> <li>• OS startup after reactivating LPARs</li> <li>• OS startup after restarting OSs</li> <li>• Operations that include the operation to activate LPARs (such as boot order configuration and boot device acquisition)</li> </ul> <p>&lt;X&gt;indicates the number of days until the license expires, and &lt;Y&gt; indicates the location.</p> <p>[Action] Purchase an LP license, or use the LPAR manager as an Essential model by performing the following steps:</p> <ol style="list-style-type: none"> <li>1. Stop the LPAR manager.</li> <li>2. Backup the LPAR manager configuration.</li> <li>3. Update the LP license.</li> <li>4. Start the LPAR manager.</li> </ol> <p>For details about updating an LPAR manager license, see Upgrading LPAR manager model in the manual <i>Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide</i>.</p> |         |                                                                                                                                                                            |
| FF4A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | WARNING | The temporary LP license has expired. You are able to activate or reactivate no LPARs, or reboot no OSs. (Location:<X>)                                                    |
| [Meaning] The temporary LP license has expired.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |                                                                                                                                                                            |

| ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Level   | Message                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------------------|
| <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                                                     |
| <p>The following operations are suppressed.</p> <ul style="list-style-type: none"> <li>• Operation to activate LPARs</li> <li>• OS startup after reactivating LPARs</li> <li>• OS startup after restarting OSs</li> <li>• Operations that include the operation to activate LPARs (such as boot order configuration and boot device acquisition)</li> </ul> <p>&lt;X&gt; indicates the number of days until the license expires, and &lt;Y&gt; indicates the location.</p> <p>[Action] Purchase an LP license, or use the LPAR manager as an Essential model by performing the following steps:</p> <ol style="list-style-type: none"> <li>1. Stop the LPAR manager.</li> <li>2. Backup the LPAR manager configuration.</li> <li>3. Update the LP license.</li> <li>4. Start the LPAR manager.</li> </ol> <p>For details about updating an LPAR manager license, see Upgrading LPAR manager model in the manual <i>Hitachi Compute Blade 2500 Series Logical partitioning manager User Guide</i>.</p> |         |                                                                                                     |
| FF4C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | WARNING | The Essential model is applied to this LP owing to temporary LP license expiration. (Location: <X>) |
| <p>[Meaning] The LPAR manager started as an Essential model, because the temporary LP license has expired.</p> <p>&lt;X&gt; indicates the location.</p> <p>[Action] Continue to use the LPAR manager as an Essential model or purchase a LP license.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |                                                                                                     |
| FF4D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | WARNING | An abnormal time difference between the LP and the NTP server was detected. (Location: <X>)         |
| <p>[Meaning] Periodic time synchronization via NTP was canceled because an abnormal time difference was detected. &lt;X&gt; indicates the location.</p> <p>[Action] Check the status of the NTP server. If there is no problem with the NTP server, disable time synchronization on the LPAR manager, and then set the original value on the LPAR manager to restart time synchronization. Then, if necessary, set the logical RTC time of the LPAR.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |                                                                                                     |
| FF4E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Info    | An information-level event occurred. (Location: <X>)                                                |
| <p>[Meaning] An information-level event occurred on the LPAR manager. &lt;X&gt; indicates the location.</p> <p>[Action] No particular action required. For more detail, see LPAR manager system logs.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |         |                                                                                                     |
| FF4F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | WARNING | A caution-level event occurred. (Location: <X>)                                                     |
| <p>[Meaning] A caution-level event occurred on the LPAR manager. &lt;X&gt; indicates the location.</p> <p>[Action] See LPAR manager system logs.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |         |                                                                                                     |



| ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Level   | Message                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------|
| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |         |                                                                             |
| FF50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | FAIL    | An error-level event occurred. (Location: <X>)                              |
| <p>[Meaning] An error-level event occurred on the LPAR manager. &lt;X&gt; indicates the location.</p> <p>[Action] See LPAR manager system logs.</p>                                                                                                                                                                                                                                                                                                                                                                                  |         |                                                                             |
| FF51                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | WARNING | An invalid date and time was detected at startup of the LP. (Location: <X>) |
| <p>[Meaning] Time was initialized because invalid system equipment time was detected at startup of the LPAR manager. &lt;X&gt; indicates the location.</p> <p>[Action] Check the following:</p> <ul style="list-style-type: none"> <li>• Check the LPAR manager system time. Then, if necessary, adjust LPAR manager system time.</li> <li>• Check the OS system time. Then, if necessary, use an OS command or Adjust LPAR Time to set the logical RTC time of the LPAR.</li> <li>• Save the LPAR manager configuration.</li> </ul> |         |                                                                             |
| FF52                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Info    | SYS2 dump data collection succeeded. (Location: <X>)                        |
| <p>[Meaning] Indicates that SYS2 dump data collection succeeded. &lt;X&gt; indicates the location.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                                                                                                                |         |                                                                             |
| FF53                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | WARNING | SYS2 dump data collection failed. (Location: <X>)                           |
| <p>[Meaning] Indicates that SYS2 dump data collection failed. &lt;X&gt; indicates the location.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                                                                                                                                                                                          |         |                                                                             |
| FF54                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | WARNING | SYS2 dump service failed to start. (Location: <X>)                          |
| <p>[Meaning] Indicates that SYS2 dump service failed to start. &lt;X&gt; indicates the location.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                                                                                                                                                                                         |         |                                                                             |
| FF55                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | WARNING | SYS2 dump service failed to stop. (Location: <X>)                           |
| <p>[Meaning] Indicates that SYS2 dump service failed to stop. &lt;X&gt; indicates the location.</p> <p>[Action] Contact with your customer engineer or sales personnel.</p>                                                                                                                                                                                                                                                                                                                                                          |         |                                                                             |
| FFC0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Info    | Management Module sent a connection request alert.                          |
| <p>[Meaning] The management module issued a connection request to the HCSM.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                                                                                                                                       |         |                                                                             |
| FFC1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Info    | Management Module sent a connection establishment alert.                    |
| <p>[Meaning] The connection between the management module and HCSM is established.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                                                                                                                                |         |                                                                             |

| ID                                                                                                                                                                                                                                                                                                                                                                                                                              | Level | Message                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------|
| Description                                                                                                                                                                                                                                                                                                                                                                                                                     |       |                                                           |
| FFC2                                                                                                                                                                                                                                                                                                                                                                                                                            | Info  | Management Module sent a keep-alive alert.                |
| <p>[Meaning] This message is an alert for confirming connection between the management module and HCSM.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                      |       |                                                           |
| FFC3                                                                                                                                                                                                                                                                                                                                                                                                                            | Info  | On <X>, smart configure started (Data Y procedure).       |
| <p>[Meaning] A Smart Configure process is begun in the server blade indicated by X. Y indicates the type of smart configuration being performed.</p> <p>acquisition: Smart Configure for acquiring information from a server blade</p> <p>setting: Smart Configure for setting information on a server blade</p> <p>diagnosis: Smart Configure for testing a server blade</p> <p>[Action] No particular action is required.</p> |       |                                                           |
| FFC4                                                                                                                                                                                                                                                                                                                                                                                                                            | Info  | On <X>, smart configure succeeded (Data Y procedure).     |
| <p>[Meaning] Smart configuration is succeeded on the server blade at the part shown in X. Y indicates the type of smart configuration being performed. (See the message ID: FFC3)</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                            |       |                                                           |
| FFC5                                                                                                                                                                                                                                                                                                                                                                                                                            | Info  | On <X>, smart configure failed (Data Y procedure).        |
| <p>[Meaning] Smart configuration is failed on the server blade at the part shown in X. Y indicates the type of smart configuration being performed. (See the message ID: FFC3)</p> <p>[Action] Other alert message appeared for indicating the reason for failure. Follow the procedure in this alert message.</p>                                                                                                              |       |                                                           |
| FFCA                                                                                                                                                                                                                                                                                                                                                                                                                            | Info  | The IP address of the management module changed.          |
| <p>[Meaning] The IP address of the management module has been changed.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                                       |       |                                                           |
| FFCB                                                                                                                                                                                                                                                                                                                                                                                                                            | Info  | Module information of <X> changed.                        |
| <p>[Meaning] The module information has been changed. X indicates the module name.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                           |       |                                                           |
| FFCC                                                                                                                                                                                                                                                                                                                                                                                                                            | Info  | Module information (constitution setting) of <X> changed. |
| <p>[Meaning] The module information has been changed. X indicates the module name.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                           |       |                                                           |
| FFCD                                                                                                                                                                                                                                                                                                                                                                                                                            | Info  | System information changed.                               |
| <p>[Meaning] The device information has been changed.</p> <p>[Action] No particular action required.</p>                                                                                                                                                                                                                                                                                                                        |       |                                                           |



# Glossary

This section explains the terminology you need to know when using the CB2500.

## A

### **active blade**

When using the N+M cold standby function, the active blade is the server blade that is actively running your applications.

### **APC (Accurate Power Control)**

A function that uses power capping to limit the power consumption of the system unit. The APC function reduces power consumption by controlling the CPU clock rate of the system unit when power consumption exceeds a predetermined level.

## B

### **BIOS**

Basic Input/Output System

### **BMC (Baseboard Management Controller)**

A controller that monitors and controls the status of server blades. The BMC monitors and controls server blades by connecting to the system console and the management module.

## C

### **CNA**

Converged Network Adapter

|   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
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**CSR**

Certificate Signing Request

**D****DCMI**

Data Center Manageability Interface

**Deployment Manager**

Software provided as part of Compute Systems Manager. Deployment Manager is a function that allows you to back up and restore the disk data of a server blade as an image file. You can also use a backed up image file to replicate the environment of a managed resource on another managed resource.

**DHCP**

Dynamic Host Configuration Protocol

**F****FC**

Fibre Channel

**FCoE**

Fibre Channel over Ethernet

**FPGA**

Field Programmable Gate Array

**FQDN**

Fully Qualified Domain Name

**FRU**

Field-Replaceable Unit

**FTP**

File Transfer Protocol

**H****HA**

High Availability

|   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
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**HDD**

Hard Disk Drive

**HTTP**

HyperText Transfer Protocol

**HTTPS**

HyperText Transfer Protocol Secure

**I****IP**

Internet Protocol

**IPMI**

Intelligent Platform Management Interface

**iSCSI**

Internet Small Computer System Interface

**K****KVM**

Keyboard, Video and Mouse

**L****LAN**

Local Area Network

**LCD**

Liquid Crystal Display

**LDAP**

Lightweight Directory Access Protocol

**LED**

Light Emitting Diode

**LFT**

Link Fault Tolerance

|   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
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**LID (Location IDentifier lamp)**

An LED lamp that you can use to identify the location of server chassis and modules. By controlling the LIDs of a server blade or server chassis remotely from the system console or Hitachi Compute Systems Manager, you can easily identify a managed resource in the system unit.

**logical partitioning**

A function that uses Hitachi's server logical partitioning framework to logically partition a server blade composed of one or several server blades. Each logical partition can then be used to create a discrete server environment.

**LPAR (Logical PARTition)**

When using logical partitioning, an LPAR is the term for each logical partition that can accommodate a discrete server environment.

**LPAR manager (Logical PARTitioning manager)**

A function of logical partitioning. A component that manages LPARs on a server blade.

**LUN**

Logical Unit Number

**M**

**MAC**

Media Access Control

**management module**

A module that monitors and configures the system unit as a whole. The management module allows you to centrally manage the server blades and modules in the system unit.

**memory dump**

A file containing the memory contents of a server at a particular time. When a failure occurs in the OS, you can use a memory dump to diagnose the nature of the failure.

**MIB**

Management Information Base

**MSR**

Model Specific Register

|   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
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## N

### **N+M cold standby**

When a failure occurs in a server, the N+M cold standby function allows the server to failover to a machine that is in standby with power off. When a failure occurs in an active server blade, failover to the standby blade takes place automatically. The server that is actively running applications is called the "active blade". The server blade that is in standby is called the "standby blade".

### **NIC**

Network Interface Card

### **NMI (Non-Maskable Interrupt)**

A hardware interrupt issued to the CPU from an external device. An NMI can be used, for example, to collect OS dump files.

### **NTP**

Network Time Protocol

## O

### **OID**

Object Identifier

## P

### **PCI**

Peripheral Component Interconnect

### **PXE**

Preboot eXecution Environment

## R

### **remote console**

Software provided with the CB2500. You can use the remote console to remotely control the server OS and LPARs on a server blade.

### **ROM**

Read Only Memory

|   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
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## S

### **SAN**

Storage Area Network

### **server chassis**

A frame in which server blades and modules are mounted.

### **SFTP**

SSH File Transfer Protocol

### **SMP**

Symmetric Multi Processor

### **SMTP**

Simple Mail Transfer Protocol

### **SNMP**

Simple Network Management Protocol

### **SR-IOV**

Single Root IO Virtualization

### **SSH**

Secure SHell

### **SSL**

Secure Sockets Layer

### **standby blade**

When using the N+M cold standby function, the standby blade remains in standby with its power off until a failover occurs from a failed active blade.

### **system console**

A computer from which a user monitors and configures the CB2500 system unit.

### **switch module**

A module that connects the system unit to LANs, SANs, and other networks.

## T

### **TCP**

Transmission Control Protocol

|   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
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**terminal software**

Software that allows a user to operate a remote host computer from a terminal computer. The CB2500 remote console can be operated using generic terminal software.

**U****UEFI**

Unified Extensible Firmware Interface

**UPS**

Uninterruptible Power Supply

**URL**

Uniform Resource Locator

**USB**

Universal Serial Bus

**UTC**

Coordinated Universal Time

**UTP**

Unshielded Twist Pair

**V****VGA**

Video Graphics Array

**virtual media**

An image file that contains the data recorded on media such as a CD or DVD. By converting the installation media for the OS and other software to virtual media, you can make the software available for installation on a server blade.

**VLAN**

Virtual Local Area Network

**W****WDT**

WatchDog Timer

|   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
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**Web console**

A console that operates by using a GUI of the system console. You can use the Web console to view hardware information for a server chassis or server blade, or to control the hardware remotely.

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