

Hitachi Compute Rack 210H/220H Remote Management User's Guide

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Preface

This document provides information of the Remote management function and how to use the Web console of the *Compute Rack 210H/220H* (CR 210H/CR 220H).

This preface includes the following information:

- ☐ [Intended Audience](#)
- ☐ [Product Version](#)
- ☐ [Release Notes](#)
- ☐ [Document Organization](#)
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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 the Compute Rack 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 Rack will be installed, including knowledge of physical characteristics, power systems and specifications, and environmental specifications.

Product Version

This document revision applies to Compute Rack 210H version 0021R21500 and Compute Rack 220H version 0021R22500.

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, Overview	Describes the overview of remote management functions used by the system.
Chapter 2, Precaution	Describes the precautions for use of the remote management functions.
Chapter 3, Preparation	Describes how to connect the Web console for use.
Chapter 4, How to use the Web console (BMC version: 09-80 or higher)	Describes how to use the Web console in BMC version 09-80 or higher, and its initial setting and functionality.
Chapter 5, How to use the Web console (BMC version: 09-79 or lower)	Describes how to use the Web console in BMC version 09-79 or lower, and its initial setting and functionality.
Chapter 6, Notice for setting up BMC network	Describes the notice for setup of a BMC network.
Chapter 7, Software license	Describes the license information of the software embedded into components of the system.
Appendixes	Describes the functions of SMASH, CLI console, MIB, and Security strength, and provide the list of IPMI commands.

Referenced Documents

Compute Rack 210H/220H (CR 210H/220H) documents:

- Hitachi Compute Rack 210H Getting Started Guide, MK-90CRH000
- Hitachi Compute Rack 210H User's Guide, MK-90CRH002
- Hitachi Compute Rack 210H CRU Replacement Guide, MK-90CRH004
- Hitachi Compute Rack 220H Getting Started Guide, MK-90CRH001
- Hitachi Compute Rack 220H User's Guide, MK-90CRH003
- Hitachi Compute Rack 220H CRU Replacement Guide, MK-90CRH005
- Hitachi Compute Rack 210H/220H Windows Installation Guide, MK-90CRH007
- Hitachi Compute Rack 210H/220H BIOS Guide, MK-90CRH008
- Hitachi Compute Blade Series / Hitachi Compute Rack Series OS Installation Guide for Windows Server, MK-99COM076





Document Conventions

The term “Compute Rack” refers to all the models of the Compute Rack, unless otherwise noted.

This document uses the following typographic conventions:

Convention	Description
Regular text bold	In text: keyboard key, parameter name, property name, hardware labels, hardware button, hardware switch. In a procedure: user interface item
<i>Italic</i>	Variable, emphasis, reference to document title, called-out term
Screen text	Command name and option, drive name, file name, folder name, directory name, code, file content, system and application output, user input
< > (angled brackets)	Variable (used when italic is not enough to identify variable).
[] (square bracket)	Optional values
{ } braces	Required or expected value
vertical bar	Choice between two or more options or arguments
_(underline)	Default value, for example, [<u>a</u>] b]

This document uses the following symbols to emphasize certain information.

Symbol	Label	Description
	WARNING	This indicates the presence of a potential risk that might cause death or severe injury.
	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	This indicates notes not directly related to injury or severe damage to equipment.
	Tip	This indicates advice on how to make the best use of the equipment.

Convention 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
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

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Thank you!

Overview

This chapter describes the overview of remote management functions of the system.

- [Functional overview](#)
- [List of standard and extended functions](#)

Functional overview

The system unit is equipped with a Baseboard Management Controller (BMC) on its motherboard that has additional functions for monitoring its operating status and power control.

The system unit is also provided with a management interface only for the BMC that enables remote access through a LAN connection and initialization for the BMC. The Web console provided as a standard function is used for remote access.

In addition, using the following application allows function expansion:

- Remote Console application

Enables you to use the remote console function that displays the system unit screen remotely and operate its keyboard and mouse, as well as the remote device function, such as a virtual floppy disk or virtual CD/DVD. This allows you to operate the BIOS or OS of the system unit remotely, and install utilities on the system from the virtual CD/DVD.

List of standard and extended functions

The following are the main functions available with the Web console, a standard BMC feature and Remote Console application:

Table 1-1: Standard and extended functions

Function	Web console	Remote Console application
Remote power control (ON/forced OFF/hard reset)	√	√
Remote failure monitoring	-	-
Remote console/ remote device	-	√
NMI issue	√	√
User management of Web console	√	-
IPMI Over LAN setting	√	-
Setting of power saving function	√	-
Notes: √ Available - N/A		

Precaution

This chapter describes the precautions for use of the remote management functions.

- [Backing up Management settings](#)
- [Setting management interface network](#)
- [Launch Remote Console button](#)
- [Setting IPMI Over LAN](#)
- [Restricting access of BMC network](#)

Backing up Management settings

The setting data used for management of the system unit is required for recovery work in case of a failure.

Back up the Management settings in preparation for a failure and keep the data in a safe place whenever you change the settings when using the Web console and the Remote Console application.

For details, see [Backup server settings](#) on page 4-33.

Setting management interface network

To use the Web console, set up the management interface network as BMC network. Before use, set the network in accordance with your system environment.

For details, see [Connecting to management interface](#) on page 3-2.

Launch remote console button

The **Launch remote console** button is displayed on the login window and the console screen when the Remote Console application is applied.

Setting IPMI Over LAN

The setting of IPMI Over LAN is not supported for the backup and restoration of the Management settings. The setting information of IPMI Over LAN may be lost when the motherboard is replaced in maintenance work. We recommend that you should note down the settings and keep in hand.

Restricting access of BMC network

We strongly recommend that you set a connection restriction IP address for security improvement whenever setting a BMC network.

For the setting of a connection restriction IP address, see [Setting BMC network](#) on page 4-24.

Operating Web console

Web console may run slow according to your system console environment when multiple operations are performed continuously in a Web console.

When Web console operation is extremely slow, log out from Web console and log in again.

Indicating error about HTTP communication

In the Web console of the system unit that is registered in the managed HCSM, you may receive an error about the HTTP communication.

If this error is displayed, operate the Web console after waiting for a while.



Preparation

This chapter describes how to connect the Web console for use.

- [Connecting to management interface](#)
- [Operational environment for the console terminal](#)
- [Considering BMC network setting](#)

Connecting to management interface

To use the Web console, connect the console terminal to the management interface connector on the rear of the system unit through a switching hub and LAN cables.

The following are required for this connection:

- Console terminal (PC) (100BASE-TX compatible)
- LAN cable of category UTP-5 or higher, and switching hub (100BASE-TX compatible)
- HTTP client software

The connecting topology of each model is as follows:

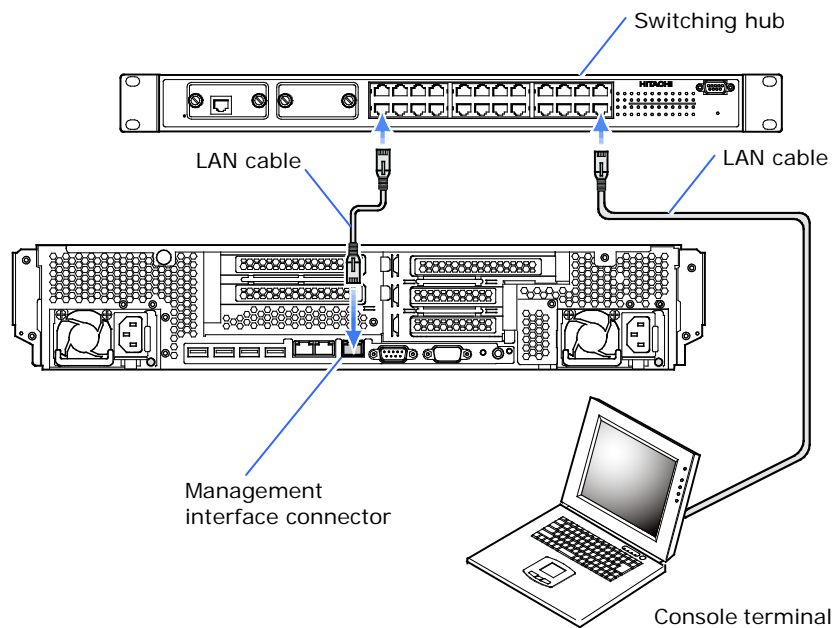


Figure 3-1: Connecting console terminal to CR 220H

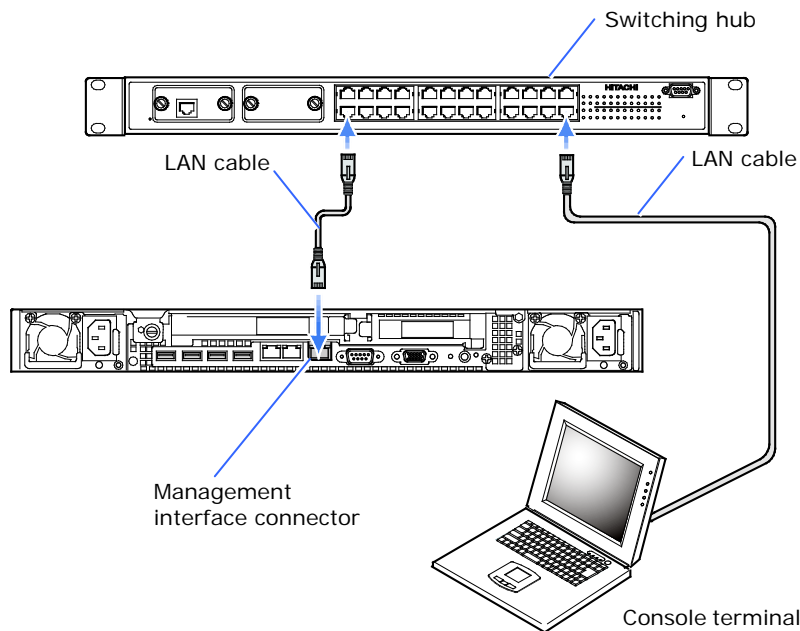


Figure 3-2: Connecting console terminal to CR 210H



- When connecting the console terminal directly to the management interface through LAN cable, you should use a cross cable depending on the console terminal specifications.
- When starting the BMC (supplying AC power to the system unit), connect a LAN cable first and turn on the switching hub and the console terminal.
If you connect the LAN cable after starting the BMC, the BMC may not respond. In such a case, disconnect the AC cable of the system unit after connecting the LAN cable. And then wait at least 30 seconds, reconnect the AC cable.
- We recommend you use the management interface at 100BASE-TX. If the links speed of the management interface is 10 Mbps (10BASE-T link established, the Link LED is OFF), malfunction may occur in communication. In this case you need to reconfigure the network connected to the management interface.
- If you find the communication is unstable, turn off the system unit, shut down the AC power by, for example, disconnecting the AC cable, wait 30 seconds or more, and then reconnect AC power and turn on the system unit.

Operational environment for the console terminal

The following list shows each item of the operational environment the console terminal needs to satisfy.

The conditions are differed depending on the BMC version.

**Table 3-1: Operational environment for console terminal
(BMC version 09-80 or higher)**

Console terminal	Operational environment
Flash Player	Adobe Flash Player 10.2 or higher ¹
Java Software	ORACLE Java 6.0 or higher ²
OS	Windows Server 2012 R2 Standard ^{3 4} Windows Server 2012 R2 Datacenter ^{3 4} Windows Server 2012 Standard ^{3 4} Windows Server 2012 Datacenter ^{3 4} Windows Server 2008 R2 Standard ³ Windows Server 2008 R2 Enterprise ³ Windows Server 2008 Standard Windows Server 2008 Enterprise Windows Server 2008 Standard without Hyper-V Windows Server 2008 Enterprise without Hyper-V Windows Server 2003 R2, Standard Edition Windows Server 2003 R2, Enterprise Edition Windows Server 2003 R2, Standard x64 Edition Windows Server 2003 R2, Enterprise x64 Edition Windows Server 2003, Standard Edition Windows Server 2003, Enterprise Edition Windows Server 2003, Standard x64 Edition Windows Server 2003, Enterprise x64 Edition Windows 8 Pro ³ Windows 7 Professional ³ Windows Vista Business Windows XP Professional Windows XP Professional x64 Edition
Web browser	Internet Explorer 7.0 or higher ⁵
Display	1024 x 768 resolution or higher
LAN	100BASE-TX compatible

Console terminal	Operational environment
Notes: <ol style="list-style-type: none"> 1 When the web browser is installed "Internet Explorer 9.0" or higher in the console terminal, install "Flash Player 11" or later version. 2 The function of the Web console and the Remote Console may not operate properly when the console terminal is not installing ORACLE Java 6.0 or later. See following web site for download and install a newest version of Java. http://java.com/download 64bit version Java is not available for Remote Console, even if OS is x64, apply 32bit Java. Use Java 7 update 2 or higher when SSL/TLS communication of remote console is enabled. 3 When connecting to the Web Console by TLSv1.1/1.2, use Windows 7 or higher, or Windows Server 2008 R2 or higher. 4 You need to install "Desktop Experience" additionally. Select Server Manager > Manage > Add roles and features > Server Selection > Features > User Interfaces and Infrastructure, and install Desktop Experience from them. 5 We recommend using a pre-installed version if the web browser is installed "Internet Explorer 7.0" or higher in the console terminal. 	

**Table 3-2: Operational environment for console terminal
(BMC version 09-79 or lower)**

Console terminal	Operational environment
OS	Windows Server 2012 Standard Windows Server 2012 Datacenter Windows Server 2008 R2 Standard Windows Server 2008 R2 Enterprise Windows Server 2008 Standard Windows Server 2008 Enterprise Windows Server 2008 Standard without Hyper-V Windows Server 2008 Enterprise without Hyper-V Windows Server 2003 R2, Standard Edition Windows Server 2003 R2, Enterprise Edition Windows Server 2003 R2, Standard x64 Edition Windows Server 2003 R2, Enterprise x64 Edition Windows Server 2003, Standard Edition Windows Server 2003, Enterprise Edition Windows Server 2003, Standard x64 Edition Windows Server 2003, Enterprise x64 Edition Windows 8 Pro ³ Windows 7 Professional ³ Windows Vista Business Windows XP Professional Windows XP Professional x64 Edition
Web browser	Internet Explorer 7.0 or higher ¹
Java Software	ORACLE Java 6.0 or higher ²
LAN	100BASE-TX compatible

Console terminal	Operational environment
<p>Notes:</p> <ol style="list-style-type: none"> 1 We recommend using a pre-installed version if the web browser is installed "Internet Explorer 7.0" or higher in the console terminal. 2 The function of the Web console and the Remote Console may not operate properly when the console terminal is not installing ORACLE Java 6.0 or higher. See following web site for download and install a newest version of Java. http://java.com/download 64bit version Java is not available for Remote Console, even if OS is x64, apply 32bit Java. 	

Considering BMC network setting

The management interface for the BMC network is set to factory defaults shown below:

Table 3-3: Factory defaults for BMC network

Item	Factory default
IP address	Not set
Subnet mask	Not set
Default gateway	Not set
DHCP	used

If you need to change the network settings of the management interface, set with the system BIOS setup menu. Otherwise, set the network of console terminal according to the factory defaults, and then log in the Web console and change the settings.

For details, see [Setting BMC network](#) on page 4-24 or ServerMgmt > BMC network configuration in *Hitachi Compute Rack 210H/220H BIOS Guide*.

See [Notice for setting up BMC network](#) before setting up the BMC network.

Also, confirm the Web browser setting of the console terminal with regard to the following descriptions before using the Web console. If the setting is not appropriate, the Web console will not work normally.

- Cancel the setting for pop-up blocking.
Also, cancel the settings by a tool bar or an application as well as browser functions.
- Enable the Java script.
- Set the use setting of Proxy server to connect to BMC network.
- Add IP address of BMC network in "Trusted Sites".
- Enable the screen display.
- Enable the use of cookies.



- For the BMC network, maintenance personnel may connect a maintenance terminal and collect information for the purpose of fault investigation.
 - Information obtained from the BMC is useful for fault investigation. We recommend that you set a network so that you can use the BMC network at any time irrespective of your system environment.
-



- Before connecting the management interface to the network, make sure that no IP addresses overlap. If there is equipment with IP addresses overlapping on the network, a system unit failure will occur. When connecting the management interface of multiple system units to the same network, change the network settings for each management interface before connection.
For details, see [Setting BMC network](#) on page 4-24.
 - If you press the FUNCTION switch continuously for 10 seconds or more while the management interface is not connected to LAN, the system unit gets into the BMC maintenance mode and the ERROR LED will blink.
BMC maintenance mode is used during maintenance work. Avoid this operation. When into this mode, you can release the system unit from the BMC maintenance mode by pressing the FUNCTION switch continuously for 10 seconds or more using, for example, a ballpoint pen.
When BMC maintenance mode is canceled, the ERROR LED stops blinking.
 - The DHCP address has lease period. We recommend that only using DHCP when setting up the system unit. Set disabled DHCP after setting up the system unit, and then changes a static IP address.
-

How to use the Web console (BMC version: 09-80 or higher)

This chapter describes how to use the Web console in BMC version 09-80 or higher, and its initial setting and functionality.

- ☐ [Configuration of Web console menu](#)
- ☐ [Function of Web console](#)
- ☐ [Starting Web console](#)
- ☐ [Initializing Web console](#)
- ☐ [Web console menu items](#)
- ☐ [Exiting Web console](#)

Configuration of Web console menu

This section describes the Web console menu items. See the following chart.

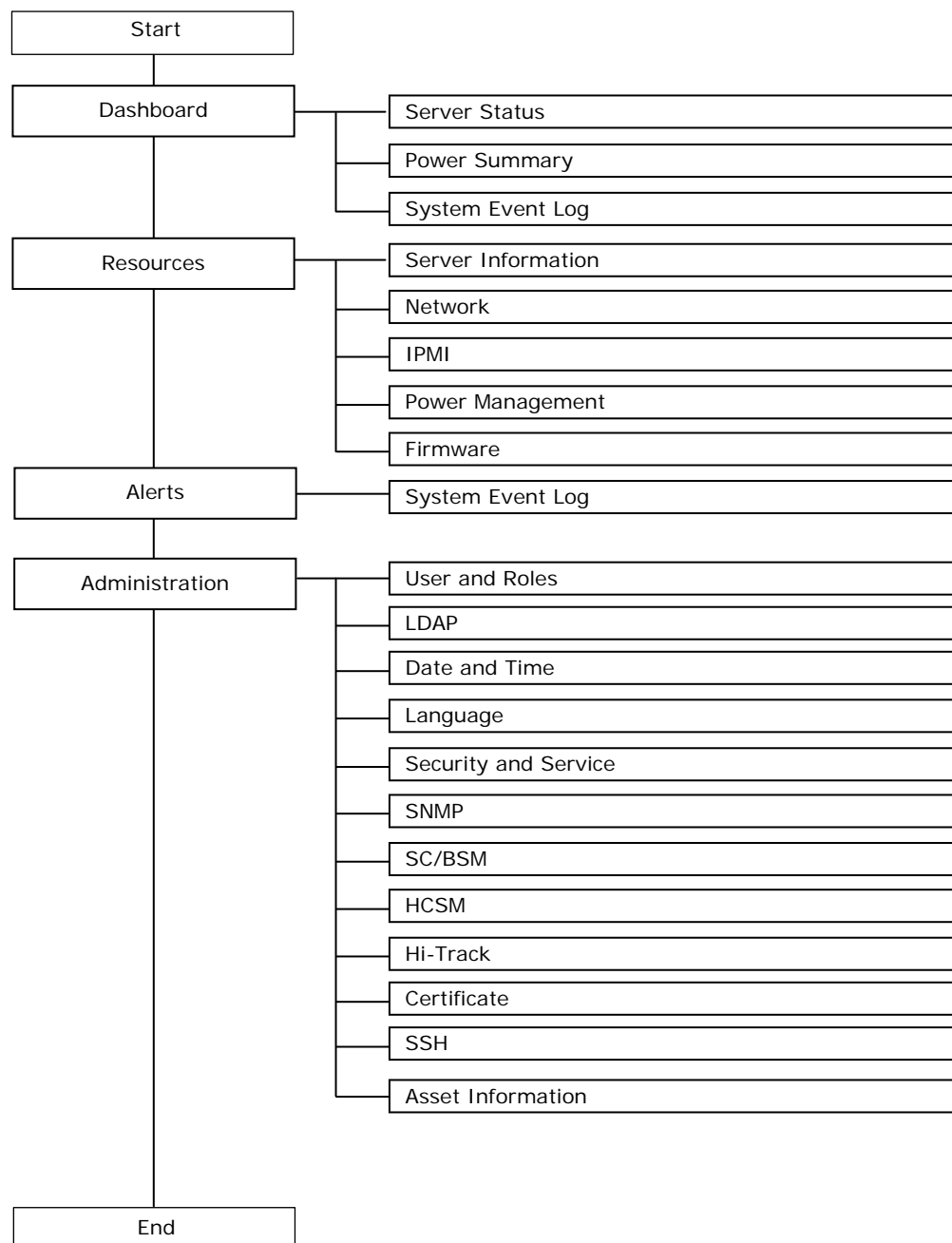


Figure 4-1: Web console menu (BMC version: 09-80 or higher)

Function of Web console

This section describes the functions that you can set from the Web console.

Functions

The Web console provides the following functions:

Table 4-1: List of functions

No.	Menu	Function
Dashboard		
1	Server Information	Displays the information of the system unit.
2	Power Summary	Displays the power consumption of the system unit.
3	System Event Log	Displays the accumulated alert log in the BMC of the system unit.
Resources - Server		
4	Server Information	<ul style="list-style-type: none">Displays the system unit information.Displays the POST code.Displays the operation of power, reset, NMI, and LED, and the status of power and LED.Backs up of the system unit settings.Restores of the system unit settings.Reboots BMC*.
Resources – Systems		
5	Network	<ul style="list-style-type: none">Displays network settings and sets connection restrictionsSet the DNS server settings.
6	IPMI	Sets the IPMI Over LAN settings.
7	Power Management	<ul style="list-style-type: none">Sets a mode for power saving function.Displays the information of the system unit about intake temperature, power status and power consumption.
8	Firmware	Displays and update BMC firmware information.
Alerts		
9	System Event Log	Displays and sets BMC firmware information.
Administration		
10	User and Roles	Displays and sets a user account.
11	LDAP	Sets user authentication by LDAP.
12	Date and Time	Displays and sets BMC time and time zone.
13	Language	Sets a language that you use on the Web console.
14	Security and Service	Enables or disables a service provided by the system unit and sets a port number.
15	SNMP	Sets a SNMP server.
16	SC/BSM	N/A
17	HCSM	<ul style="list-style-type: none">Sets a Hitachi Compute Systems Manager (HCSM) server.Sends a test alert.

No.	Menu	Function
18	Hi-Track	Sets a Hi-Track server.
19	Certificate	Manages an SSL server certificate.
20	SSH	Sets an SSH authentication method and displays a host key.
21	Asset Information	Sets asset information.
General Tasks		
22	Launch remote console	Launch a remote console
23	Remote console settings	Sets mouse mode of remote console.
24	Download logs	Collects and downloads a system unit log.
* This function is available only for "user01" users (users for system administration) and "ceconsl" users (users for maintenance work) in initial settings.		

Requiring Role

The Web console is restricted on operation according to the roles assigned to each use. The operations that can be performed on a role basis are as follows:

Table 4-2: Requiring role to operation

No.	Menu	Operation allowed by role						
		Admini- strator	Server Operation	User Account Manage- ment	Service Settings	IPMI Over LAN	SMASH CLP	CE
Dashboard								
1	Server Information	All	All	All				All
2	Power Summary							
3	System Event Log			Information display only				
Resources – Server								
4	Server Information	All	All*	Information display only				All
Resources – Systems								
5	Network	All	Information display only	All	Information display only	Infor- mation display only	All	
6	IPMI			Informa- tion display only	All		Information display only	Information display only
7	Power Management			All	Information display only			
8	Firmware			Informa- tion display only				
Alerts								
9	System Event Log	All				Informa- tion display only	All	
Administration								
10	User and Roles	All	Display of general users and setting of own account	Informa- tion display only	Display of general users and setting of own account			Information display only
11	LDAP		None					
12	Date and Time		Information display only		All	Information display only		All
13	Language							

No.	Menu	Operation allowed by role							
		Admini- strator	Server Operation	User Account Manage- ment	Service Settings	IPMI Over LAN	SMASH CLP	CE	
14	Security and Service	All	Information display only	All	Information display only		All		
15	SNMP				None				
16	SC/BSM				Information display only		All		
17	HCSM				None		None		
18	Hi-Track								
19	Certificate								
20	SSH								
21	Asset Information				Information display only				
General Tasks									
22	Launch remote console	All	All		All	All		All	
23	Remote console settings		None	None		None			
24	Download logs		All			None			
* The following operations are restricted. - Backup of the server settings - Restore of the server settings - Restart for BMC									



Remote Console and **Remote Media** roles do not affect on the Web console operation. Those roles are used to enabling the each function.

Starting Web console

This section describes how to log in the Web console.

1. Power on the system unit.
2. Start the console terminal's Web browser.
3. Enter the following URL into the address bar:

When the HTTP (Hypertext Transfer Protocol) is used for connection, enter the following into the address bar:

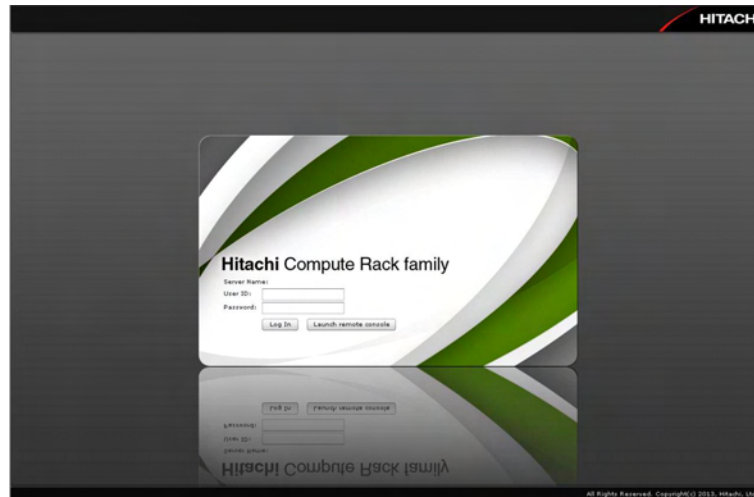
`http://<IP address of management interface>`

When the HTTPS (Hypertext Transfer Protocol over Secure Socket Layer) is used for connection, enter the following into the address bar:

`https://<IP address of management interface>`

When succeed in the connection, the login window opens.

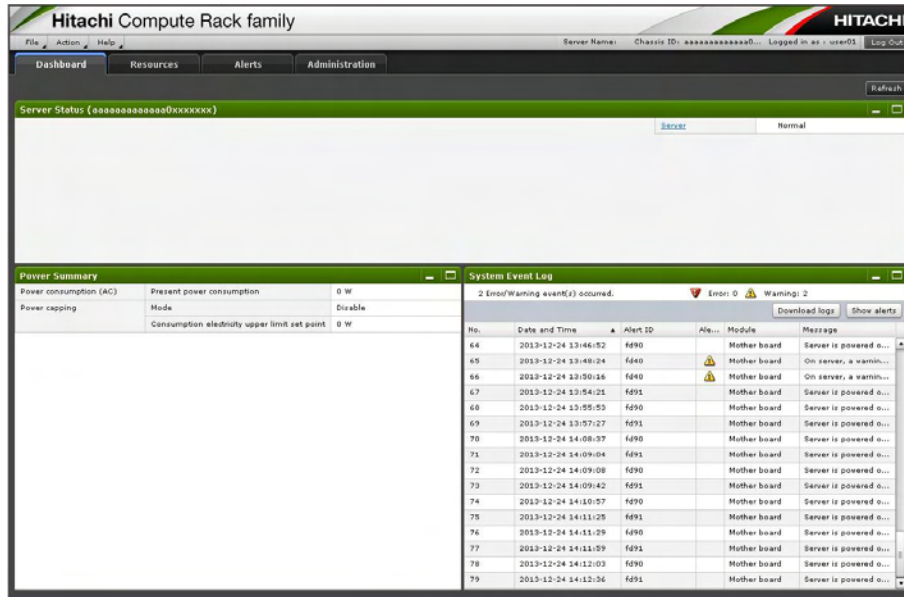
4. Enter a user name and a password in the login window.



- Register the IP address of management interface and "about: blanks" on the trusted site.
- The server certificate is needed to register when connecting by HTTPS protocol.
- A scroll bar of browser may be not displayed under a situation requiring the scroll bar. In this situation, change the window size of browser by a mouse to display a scroll bar of browser.

5. Enter a **user name** and a **password** in the login window.

When your user authentication is successful and you log in to the Web console, the **Dashboard** tab is displayed.

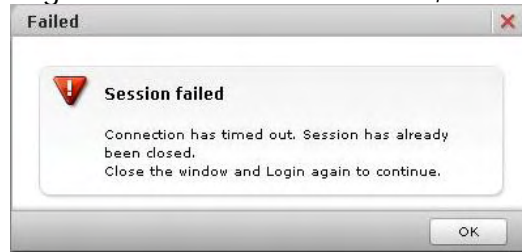


- With the factory defaults for the system unit, you can login as an administrator by entering **user01** and **pass01** in response to the **user name** and **password** in the login window.
If you have been changing an above user account setting, you can not log in the Web console. Enter the user name and password that have been already set to log in.
- For your security, we strongly recommend that you set a user account different from the factory default.
For details, see [Setting user account](#).
- The **Launch remote console** button is displayed on the console screen when the Remote Console application is applied.
When you click **Launch remote console**, the Remote Console application is started and the user name and password entry window for the Remote Console is displayed.
For details on how to use the Remote Console application, see the manual attached to the Remote Console application.
- Up to two users can log in to the Web console simultaneously. If two users have already logged in, or a user logs in again without logout after the same user has already logged in, and you cannot log in.



- When one of tabs/windows of browser is logged out, disconnect from the system unit under the following conditions:
 - Multiple tabs/windows of browser are opened in the same system console
 - Each tab/window is logged in the same single user account or multiple user accounts to the Web console of the same system unit

When the action corresponding to the operation including the BMC communication is executed after disconnecting from the system unit, the **Session failed** dialog box is displayed. Log out from the Web console, and log in again.



- If no operation is done for 30 minutes or longer when you has logged in to the Web console, an automatic logout will be performed. When the action corresponding to the operation including the BMC communication is executed after disconnecting from the system unit, the **Session failed** dialog box is displayed. Log out from the Web console, and log in again.
-

Initializing Web console

This section describes the initial setting of the Web console. You should initially set the following data:

- [Setting user account](#)
- [Setting mouse mode of Remote Console](#)
- [Setting BMC date and time](#)
- [Setting BMC network](#)

Setting user account

The setting of a user account is required for remote operation of the system unit. Each of the registered users can be given a user name, a password, and the authority for the Web console operation as well as can enable or disable own account.

For your security, we strongly recommend that you set a user account different from the factory default.

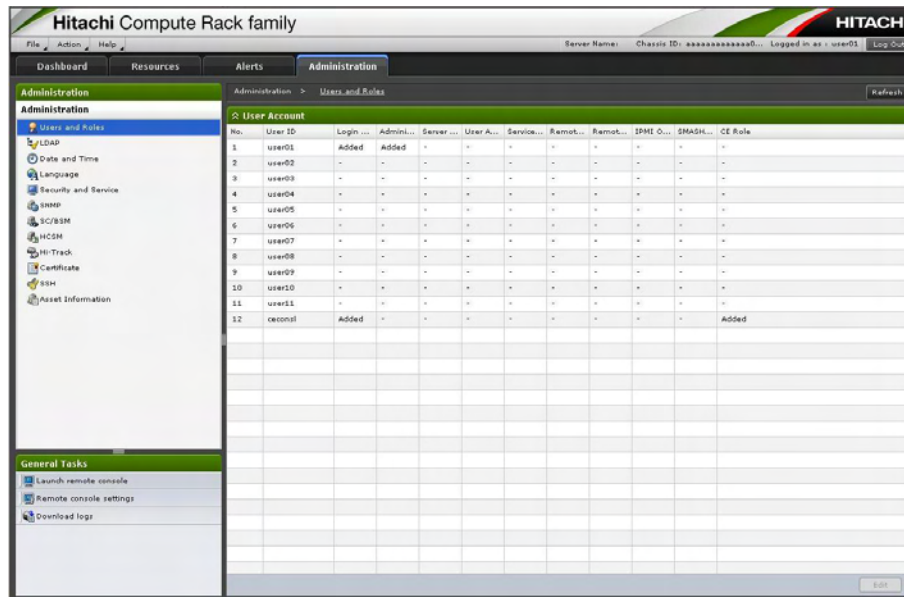
You can set above information in the **User Account** window. Click **Administration** from the top tab, and click **Users and Roles** in the left pane.



- If you forget your user name and password to log in to the Web console, start the system BIOS setup menu and then set **ServerMgmt > Reset BMC Web Connection** to **Yes, On next reset**, and save the setting in **Save & Exit**. BMC network setting (connection restriction of Web console network setting, user account setting, and HTTP service setting) is initialized.
The system unit is restarted after the SERVICE LED on the system unit blinks about 30 to 60 seconds. Log in to the Web console with the factory default user name and password, and then set the Web console network setting (connection restriction of Web console network setting, user account setting, and HTTP service setting) again. When **Reset BMC Web Connection** is executed, **Security and Service** is not initialized, however, **Network** and **HTTP** need to set up again. For the HTTP setting, see [Security and Service](#). When **Security strength** is set as **Default** in [Security and Service](#), **Reset BMC Web Connection** is executed, and then **Network** and **Security and Service** (without **HTTP**) are not initialized. When **Security strength** is set as **High**, **Reset BMC Web Connection** is executed, and then **Security strength** is set as **Default**, **Security and Service** is initialized. **Network** is not initialized.
 - When confirm the BMC network configuration by the system BIOS setup menu, see "BMC network configuration" of the "ServerMgmt" section in *Hitachi Compute Rack 210H/220H BIOS Guide*.
-

Configure User Accounts menu

Click **Server Setting** from the top tab, and then click **User Accounts** in the left pane. The following window is displayed.



The following table shows description of menu items in the window.

Table 4-3: Configure User Accounts menu items

Menu items	Description
Refresh button	Refreshes user account information.
Username	User account name
Role	
Login	Displays the roles given to user account.
Administrator	
Server Operation	
User Account Management	
Service Settings	
Remote Console	
Remote Media	
IPMI Over LAN	
SMASH CLP	
CE	
Edit	Go to the Edit User Account window.

Roles

Giving roles to a user account allows the setting of actions that the user can do. Each has the following meaning:

Table 4-4: Role allowing operation and function

Role name	Description
Login	A role for logging in to the service provided by the Web console. Any user without this role is considered invalid and cannot log in to a service.
Administrator	A role representing the user authority for an administrator. Any user with this role can perform all the functions of Web console except setting IPMI Over LAN and BMC restart.
Server Operation	A role for controlling the power to the system unit and making a reset operation.
User Account Management	A role for setting a user account.
Service Settings	A role for setting a service provided by the system unit.
Remote Console*	A role for the Remote Console function to display the system unit screen on a console terminal, and remotely manipulating both keyboard and mouse.
Remote Media*	A role for using the remote floppy disk function and remote CD/DVD function.
IPMI Over LAN	A role for setting a user account and an authentication type for IPMI Over LAN.
SMASH CLP	A role for setting user account for SMASH.
CE	A role representing the user authority for maintenance work, which can be given to cecons1 user only.
* The setting becomes valid when the Remote Console application is applied.	

Initial setting of a user account

The initial setting of a user account is as follows:

Table 4-5: Initial settings of user account

Username	Password	Role	Description
user01	pass01	Login Administrator	A user for system unit administration. This role is unchangeable.
user02	pass02	None	General users
user03	pass03		
user04	pass04		
user05	pass05		
user06	pass06		
user07	pass07		
user08	pass08		
user09	pass09		
user10	pass10		
user11	pass11		
ceconsl	Set at shipment	Login CE	A user for maintenance work. Maintenance personnel use this role during maintenance work. This setting is unchangeable.

Configure User Accounts > Edit User Accounts

Changes the settings of a user account.

The screenshot shows a web browser window titled "Edit User Account" with a subtitle "Edit User Account settings.". The window contains the following fields and controls:

- User Account**
 - No.: 1
 - User ID:
 - Password:
 - Retype Password:
 - Role:
 - ☒ Login
 - ☒ Administrator
 - ☐ Server Operation
 - ☐ User Account Management
 - ☐ Service Settings
 - ☐ Remote Console
 - ☐ Remote Media
 - ☐ IPMI Over LAN
 - ☐ SMASH CLP
- SSH Public Key 1:**
 - Key Data: Not Registered
 - Register Public Key:
- SSH Public Key 2:**
 - Key Data: Not Registered
 - Register Public Key:
- SSH Public Key 3:**
 - Key Data: Not Registered
 - Register Public Key:
- SSH Public Key 4:**
 - Key Data: Not Registered
 - Register Public Key:

At the bottom of the window are two buttons: "Confirm" and "Cancel".

The following table shows description of menu items in the window.

Table 4-6: Configure User Accounts > Edit User Accounts menu items

Menu items		Description
Username		User account name (up to 32 characters)
Password		Entry of a password (up to 32 characters)
Password (Confirm)		Re-entry of a password
Role		
	Login	A checked role is given to a user account.
	Administrator	
	Server Operation	
	User Account Management	
	Service Settings	
	Remote Console	
	Remote Media	
	IPMI Over LAN	
	SMASH CLP	
SSH Public Key1 to 4: Set the Public Key to use Secure Shell connection.		
	Key Data	Display information of a public key data. If a public key data is not registered, display Not Registered .
	Register Public Key	Upload a public key data, and register the public key data. If a public key data is not registered, this item is not displayed.
	Key Length	Display a key length of registered public key data. If a public key data is not registered, this item is not displayed.
	Fingerprint	Display a fingerprint of registered public key data. If a public key data is not registered, this item is not displayed.
	Options	Display options of registered public key data. If a public key data is not registered, this item is not displayed.
	Comment	Display a comment of registered public key data. If a public key data is not registered, this item is not displayed.
	Update Public Key	Update a registered public key data.
	Delete Public Key	Delete a registered public key data.
Confirm button		Enables what you edited, and goes to the confirming window.
Cancel button		Disables what you edited, and returns to the status before editing.



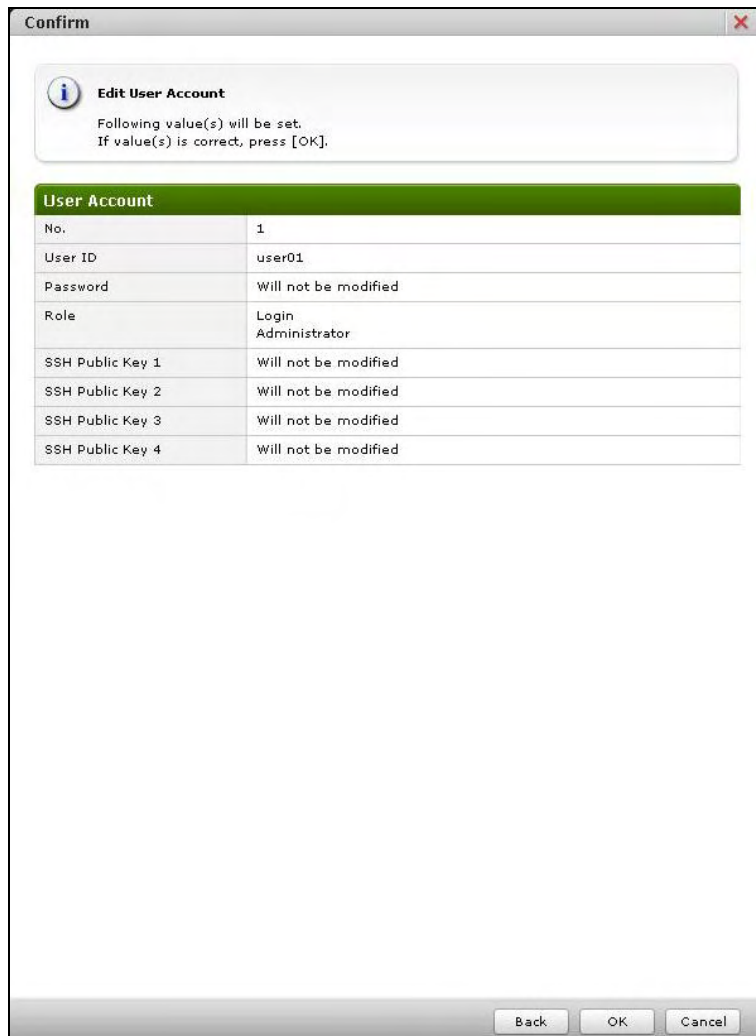
- **Username** is a mandatory input item.
 - When you set a password, enter the same value for both **password** and **password (Confirm)**.
 - When you edit a user account, a password is not a mandatory item. When you do not enter a password, the BMC decides that the password remains unchanged.
 - You can register a SSH public key file made with OpenSSH.
 - A maximum size of a SSH public key file which you can register is 2 KB.
 - The **user01**, which the administrator user's role is unchangeable.
 - Only the user with Administrator role can change a role.
 - The **ceconsl** is a user for maintenance personnel. Maintenance personnel use this role when a maintenance service is offered. This setting is unchangeable.
-



- The following error is displayed when a content of input string is not correct.
 - When a cursor is moved to other input string in a state which a content of input string is not correct, an incorrect input string is displayed with in a red frame.

- Place the cursor on the input string within the red frame, and the error message is displayed with a speech bubble.

Click **Confirm**, and the following **Confirm** dialog box is displayed.



The image shows a 'Confirm' dialog box with a title bar containing a close button. Inside, there is an information icon and the text 'Edit User Account'. Below this, it says 'Following value(s) will be set. If value(s) is correct, press [OK].'. A table titled 'User Account' lists various fields and their values. At the bottom, there are three buttons: 'Back', 'OK', and 'Cancel'.

User Account	
No.	1
User ID	user01
Password	Will not be modified
Role	Login Administrator
SSH Public Key 1	Will not be modified
SSH Public Key 2	Will not be modified
SSH Public Key 3	Will not be modified
SSH Public Key 4	Will not be modified

Click **Back** to go back to **Edit User Account**.

Click **OK** to save the change settings, and go back to **Edit User Account**.

Click **Cancel** to go back to **Edit User Account** without saving.

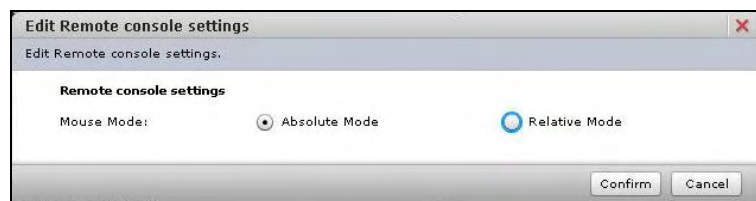
Setting mouse mode of Remote Console

When the Remote Console application is applied to the system unit, set the mouse mode for remote console operation.

Set the mouse mode on **Remote console settings** from the General Tasks tab.

Click **Resources**, **Alerts**, or **Administration** from the global tabs, and click **Remote console settings** from **General Tasks** in the left pane. The following window is displayed.

Set mouse mode in accordance with the OS that you install.



The following table shows description of menu items in the window.

Table 4-7: Remote KVM Settings menu items

Menu items	Description
Mouse Mode	ABSOLUTE Mode: A mode for manipulating the mouse of remote console using the mouse cursor of a console terminal. Use this mode when the OS of the system unit is Windows or RHEL6. RELATIVE Mode: A mode for manipulating the mouse of remote console using the mouse cursor on the system unit screen. For use of a non-Windows OS and non-RHEL6.
Confirm button	Enables what you edited, and goes to the confirming window.
Cancel button	Disables what you edited, and returns to the status before editing.

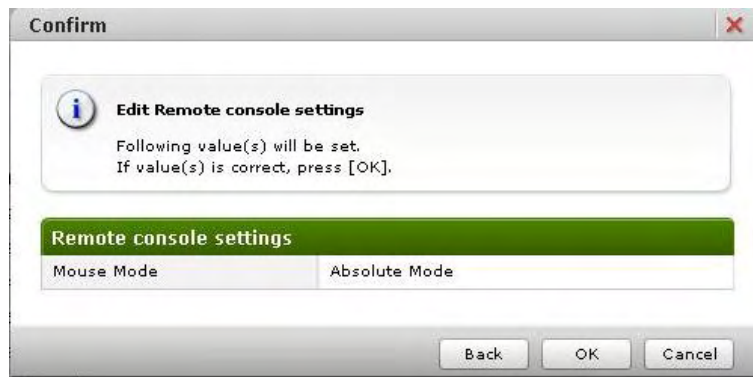


When changing the mouse mode, terminate the remote console first. An attempt to change the mouse mode while the remote console is active, the mouse cursor may not work normally.



For details on how to use the Remote Console application, see *Remote Console Application User's Guide*.

And then click **Confirm**. The following **Confirm** dialog box is displayed.



Click **Back** to go back to **Remote console settings**.

Click **OK** to save the change settings, and go back to **Remote console settings**.

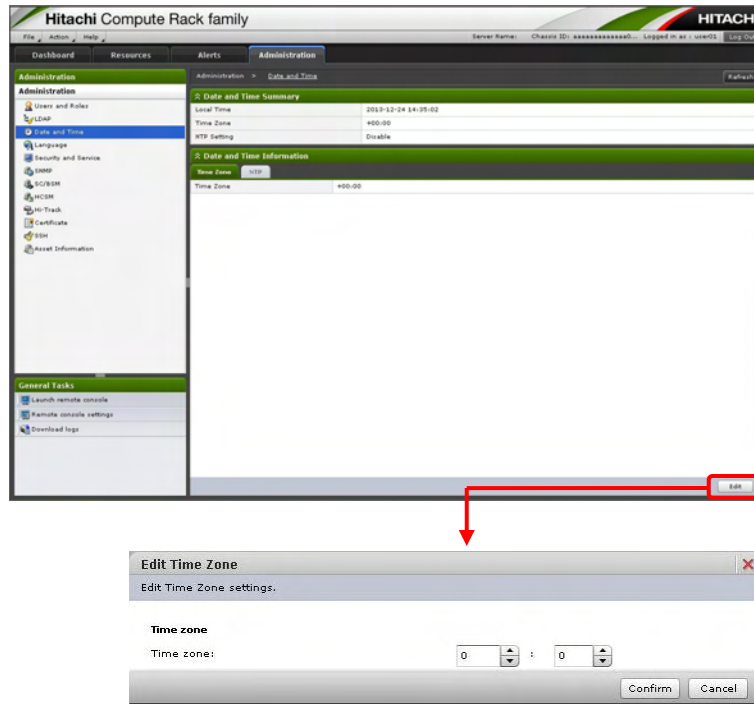
Click **Cancel** to go back to **Remote console settings** without saving.

Setting BMC date and time

Set the BMC time and time zone.

Click **Administration** from the global tabs, and click **Date and Time** in the left pane. The following window is displayed.

The setting of BMC date and time is required for time stamp of an error log.



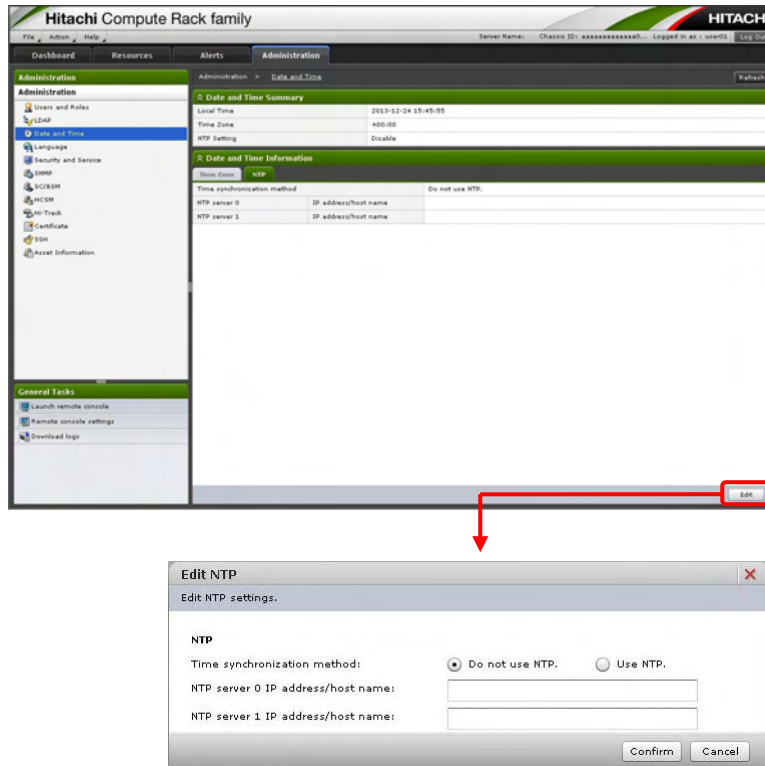


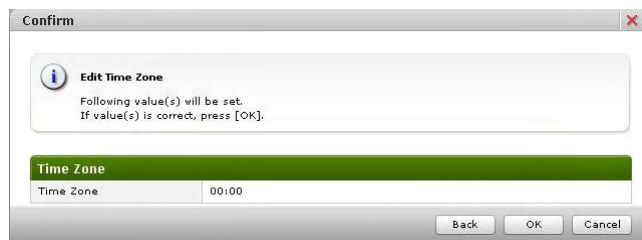
Table 4-8: BMC Time menu items

Menu items	Description
Refresh button	Refreshes information.
Edit	Goes to the Edit window.
Timezone ¹	Set the time zone of the local area where the system unit is installed, according to its OS.
Time Synchronization Method ²	<ul style="list-style-type: none"> • Do Not Use NTP: BMC reads and synchronizes the system clock of the system unit periodically. • Use NTP: BMC time is synchronized with the time distributed by an external NTP server.
NTP server 0 to 1 ²	When setting Time Synchronization Method to Use NTP , enter the IP address of NTP server.
Confirm button	Enables what you edited, and goes to the confirming window.
Cancel button	Disables what you edited, and returns to the status before editing.
Notes: 1 When change the settings, click the Time Zone tab on Date and Time Information , and click Edit . 2 When change the settings, click the NTP tab on Date and Time Information , and click Edit .	



- When change time settings in a system console connected to a Web console, a display that **Local time** of **Date and Times Summary** is changed.
Click **Refresh** to go back to the original time in the display of **Local time**.
- Displays of **Local time** and **Timezone** are not reflected values retrieved from an NTP server just after setting to **Use NTP** in **Time Synchronization Method**.
Click **Refresh** to reflect the values retrieved from an NTP server to **Local time** and **Timezone**.

Click **Confirm** in the **Timezone** window, and the following **Confirm** dialog box is displayed.

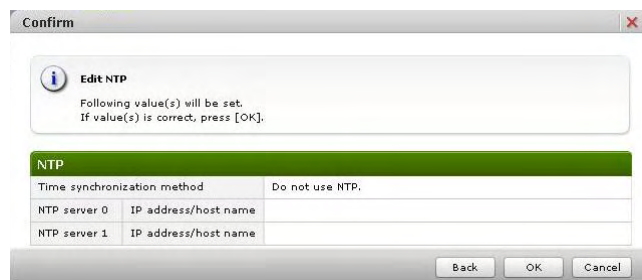


Click **Back** to go back to the settings window.

Click **OK** to save the change settings, and go back to the **Timezone** window.

Click **Cancel** to go back to the **Timezone** window without saving.

Click **Confirm** in the **NTP** window, and the following **Confirm** dialog box is displayed.



Click **Back** to go back to the settings window.

Click **OK** to save the change settings, and go back to the **NTP** window.

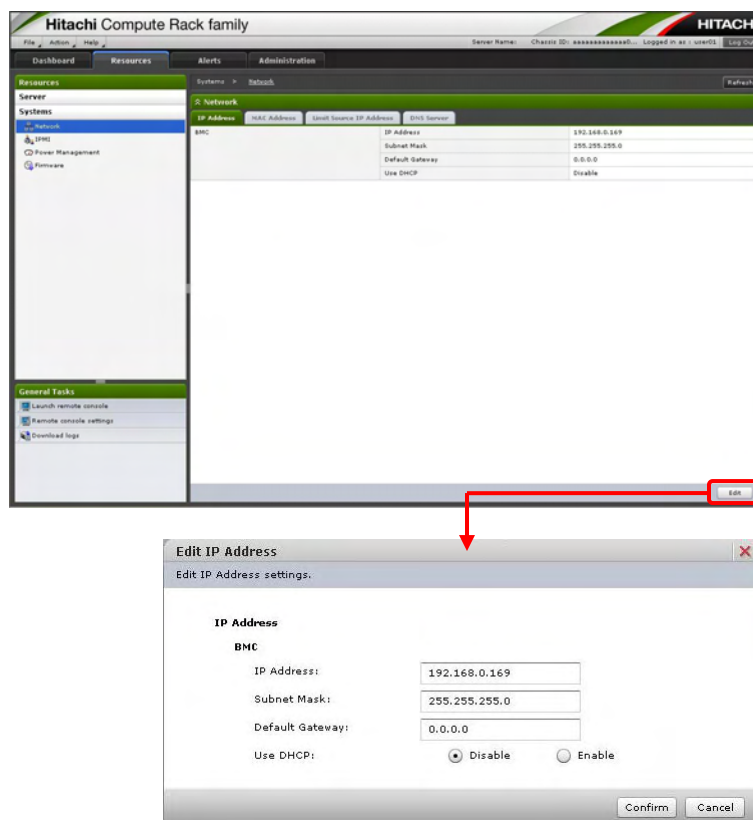
Click **Cancel** to go back to the **NTP** window without saving.

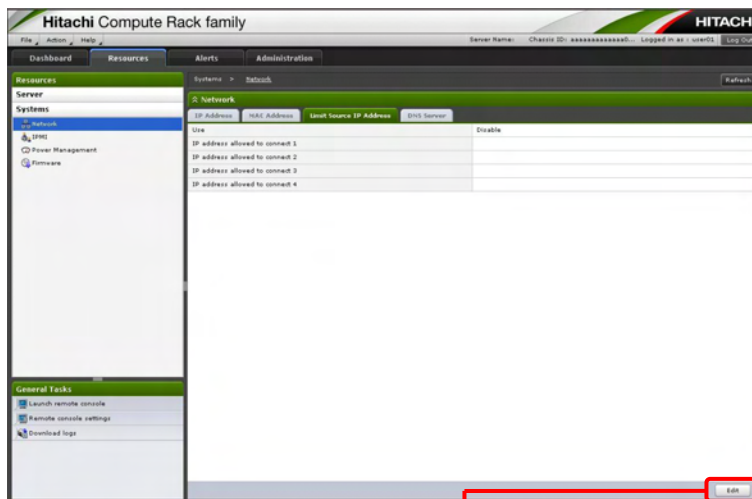
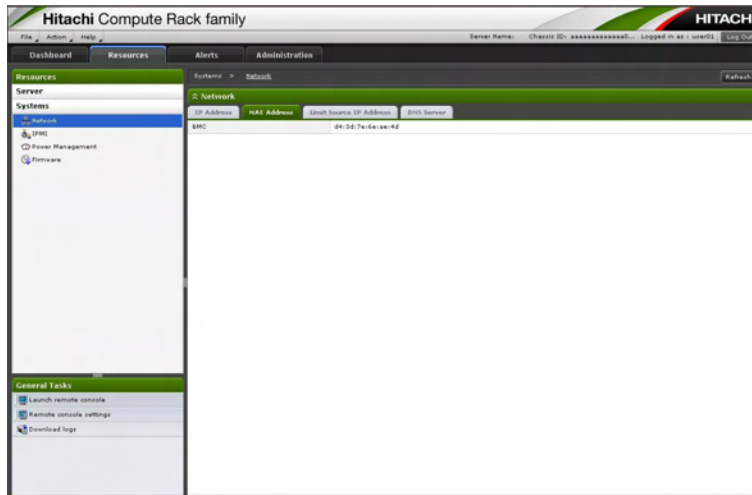
Setting BMC network

You can change the BMC network setting of the system unit from the factory defaults in accordance with your system environment. When the BMC network setting is changed, the network is shut off and restarts. After that, you can connect to the BMC network only in the environment changed in setting. Confirm that the settings are correct when changing the BMC network setting.

You can make setting to restrict the IP address of network device allowed connecting to the system unit. Up to four IP addresses of the network devices that permits connection to the system unit.

Click **Resources** from the global tab in the **Network** window, and then click **Systems > Network** in the left pane.





Edit Limit Source IP Address

Edit Limit Source IP Address settings.

Limit Source IP Address

Examples of IP address allowed to connect

Set IP address: 192.168.0.1
Set subnet: 192.168.0.0/255.255.255.0, 192.168.0.0/24

Use:

☒ Disable
☐ Enable

IP address allowed to connect 1:

IP address allowed to connect 2:

IP address allowed to connect 3:

IP address allowed to connect 4:

Confirm
Cancel

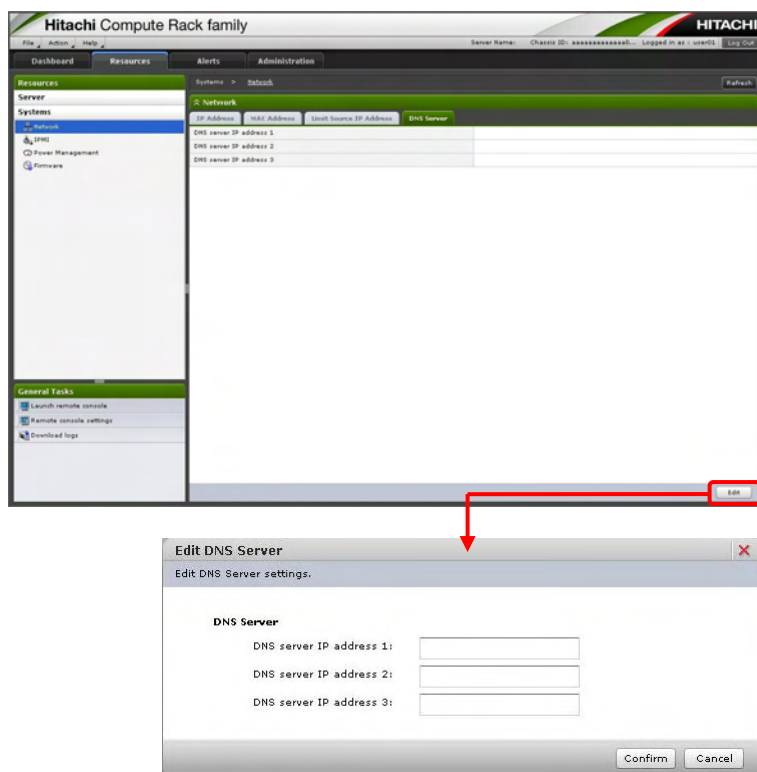


Table 4-9: Network Setting menu items

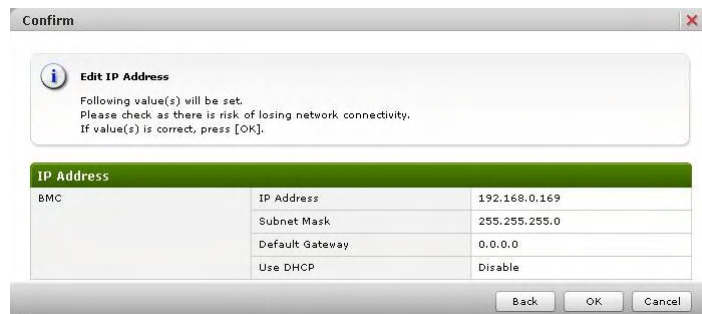
Menu items	Description
Refresh button	Refreshes information.
Edit button	Goes to the Edit window.
IP Address Netmask Default Gateway ¹	Sets the BMC network. For the setting of the default IP address, the subnet mask, and the default gateway, see Connecting to management interface .
DHCP ^{1,2}	Enables or disables the DHCP.
MAC Address (Only display)	Displays MAC address of BMC network in a system unit.
Use ³	Enables or disables the connection IP address restriction function.
IP Address Allowed to connect 1 IP Address Allowed to connect 2 IP Address Allowed to connect 3 IP Address Allowed to connect 4 ³	Enter an IP address to permit connection to the system unit. You can set a single IP address or subnet. (Example) Single IP address: 192.168.10.1 Subnet: 192.168.10.0/255.255.255.0 or 192.168.10.0/24
DNA server ⁴	Set a DNA server. For the setting of DNA server, see Network > DNA Server .
Confirm button	Enables what you edited, and goes to the confirming window.
Cancel button	Disables what you edited, and returns to the status before editing.

Menu items	Description
Notes: 1 When changing the settings, click Network > IP Address > Edit . 2 When you set DHCP to Used , settings of IP Address , Netmask , and Default Gateway are disabled. 3 When changing the settings, click Network > Limit Source IP Address > Edit . 4 When changing the settings, click Network > DNA Server > Edit .	



When you set **DHCP** to **Enable**, an IP address of the BMC network may be changed depending on the DHCP server.
 We recommend you use a DHCP only as temporary use to initialization of an IP address, and set **DHCP** to **Disable** usually.

- Click **Confirm** in the **Edit IP Address** dialog box, and the **Confirm** window is displayed.



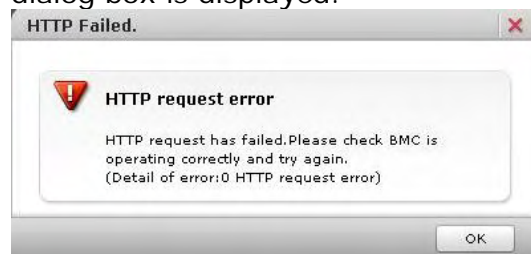
Click **Back** to go back to the **IP Address** window.

Click **OK** to change IP address, and disconnect from a system unit.

Input the changed IP address on a navigation bar of system console, and log in the Web console again after reconnecting the system unit.



When the action corresponding to the operation including the BMC communication is executed after disconnecting from the system unit, the **HTTP request error** dialog box is displayed.
 Try to log out from the Web console, and the **HTTP request error** dialog box is displayed.



Click **Cancel** to go back to the **Network** window without saving.

- Click **Confirm** in the **Edit Limit Source IP Address** dialog box, and the **Confirm** window is displayed.



The image shows a 'Confirm' dialog box with a title bar containing a close button. Inside, there is an information icon and the text 'Edit Limit Source IP Address' followed by 'Following value(s) will be set. If value(s) is correct, press [OK].'. Below this is a table with a green header 'Limit Source IP Address'. The table has two columns: 'Use' and 'Disable'. The 'Use' column contains four rows of IP address labels: 'IP address allowed to connect 1', 'IP address allowed to connect 2', 'IP address allowed to connect 3', and 'IP address allowed to connect 4'. The 'Disable' column is empty. At the bottom right are three buttons: 'Back', 'OK', and 'Cancel'.

Limit Source IP Address	
Use	Disable
IP address allowed to connect 1	
IP address allowed to connect 2	
IP address allowed to connect 3	
IP address allowed to connect 4	

Click **Back** to go back to the setting window.

Click **OK** to save the change content, and go back to the **Limit Source IP Address** window.

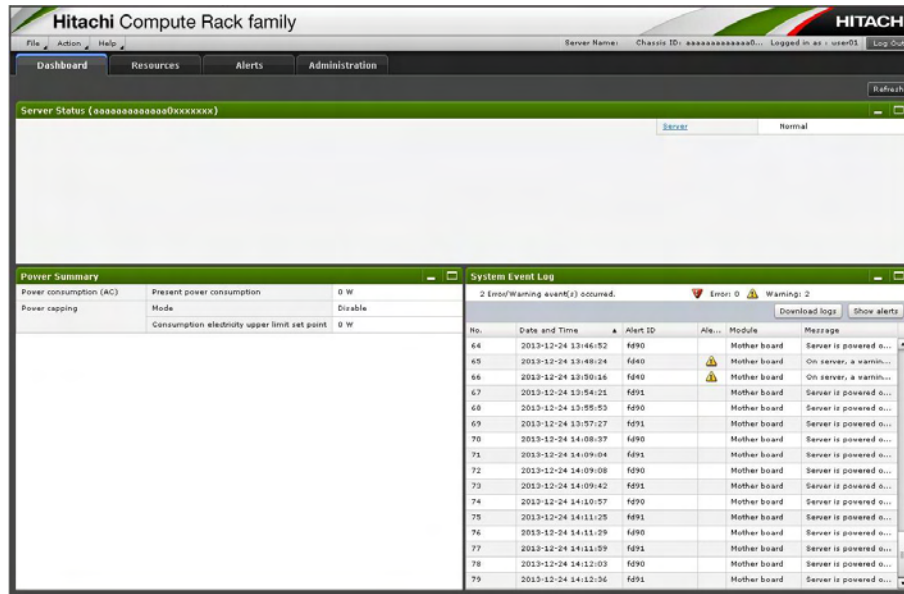
Click **Cancel** to go back to the **Network** window without saving.

Web console menu items

This section describes the Web console menus and setting items.

Dashboard

Display **Server Status**, **Power Summary**, and **System Event Log**.



Server Status

Table 4-10: Server Status menu items

Menu items	Description
Refresh button	Refreshes information.
Server	Displays a status of system unit. Normal: Event (error level) does not occur. Error: Event (error level) has occurred.

Power Summary

Table 4-11: Power Summary menu items

Menu items	Description
Refresh button	Refreshes information.
Power consumption (AC)	Displays current power consumption in a system unit.
Power capping	Displays power capping setting in a system unit.

System Event Log

For **System Event Log**, see [Alerts](#).

Resources > Server

The following indications and setups are available in the **Server Information** window.

- Displays the firmware information, power status, and LED status for a system unit.
- Performs the power supply, reset, NMI, or LED for a system unit.
- Displays the object identifier for a system unit.
- Displays the BMC settings for a system unit.
- Performs the backup settings of system unit. (see [Backup server settings](#))
- Performs the restore settings of system unit. (see [Restore server settings](#))
- Restarts BMC. (see [Restart BMC](#))

Server Information > Condition

Display the firmware information, power status, and LED status for a system unit. Remote control (power ON/forced power OFF/reset/NMI) can be performed for a system unit.

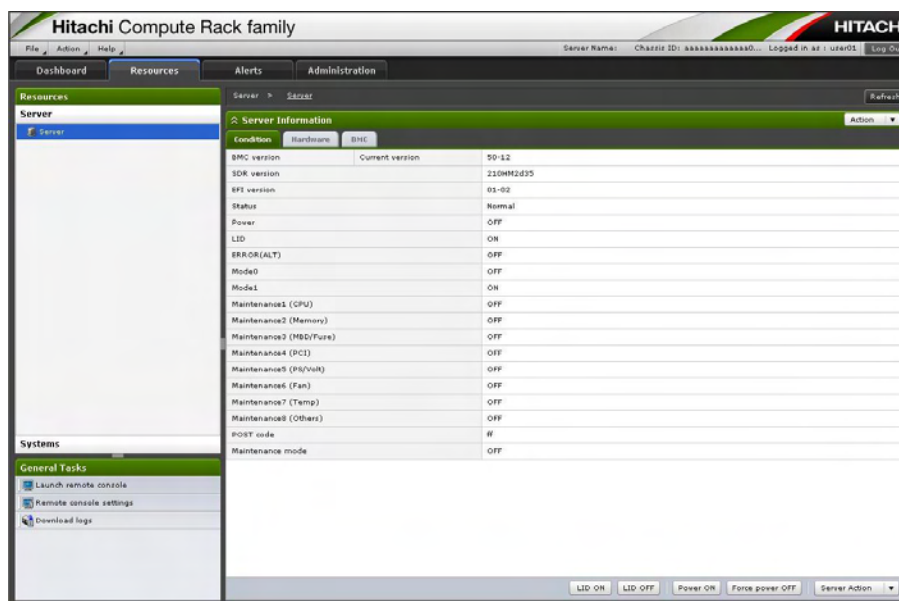


Table 4-12: Server Information menu items

Menu items	Description
Refresh button	Refreshes information.
Action selection button	Backs up or restores server settings.
BMC version	Displays a BMC's firmware version.
SDR version	Displays a SDR's firmware version.
EFI version	Displays an EFI's firmware version.
Status	Displays the status of system unit.
Power	Displays the current power status of system unit. OFF: power off ON: power on
LID ¹	Displays the SERVICE LED status of system unit.
ERROR (ALT) ¹	Displays the ERROR LED status of system unit.
Mode0 ¹ Mode1 ¹	Displays the following LEDs status of system unit. <ul style="list-style-type: none"> CR 220H: <ul style="list-style-type: none"> Mode0: Dot LED on the left of MAINTENANCE LED Mode1: Dot LED on the right of MAINTENANCE LED CR 210H: <ul style="list-style-type: none"> Mode0: MODE0 LED Mode1: MODE1 LED
Maintenance ¹	Displays the Maintenance LEDs status of system unit. (see Maintenance corresponding)
POST code	Displays the POST code of BMC.
Maintenance mode	Displays that the operation mode of BMC is maintenance mode or not.
LID ON button ²	Turns on the SERVICE LED of system unit. This operation is same as pressing the SERVICE LED switch when the SERVICE LED is turned off.
LID OFF button ²	Turns off the SERVICE LED of system unit. This operation is same as pressing the SERVICE LED switch when the SERVICE LED is turned on.
Power ON button ²	Turns on the system unit.
Force power OFF button ²	Turns off the system unit forcefully. OS is not shut down. Normally, shut down from the OS to turn off the system unit.
Server Action selection button ³	Perform the following operations from the menu. <ul style="list-style-type: none"> Reset: <ul style="list-style-type: none"> The system unit is performed a hardware reset. This operation is available when the system unit is turned on. NMI: <ul style="list-style-type: none"> Issues interrupt signals. The dump processing is started depending on the OS settings. This operation is available when the system unit is turned on.

Menu items	Description
Notes: <ol style="list-style-type: none"> 1 For the detail of each LED, see "Name of each component and its functions" section in the each type of "Getting Started Guide". 2 Click the button, and the Confirm window is displayed. Click OK to perform the operation. 3 Click the button, and select a menu. The Confirm window is displayed. Click OK to perform the operation. 	



Types of BMC's operating modes are Normal Mode and Maintenance Mode. Maintenance Mode is used only by maintenance personnel during maintenance work. If **Maintenance Mode** is displayed **ON**, press the FUNCTION switch for at least 10 seconds with the tip of a ballpoint pen to cancel that mode.

Maintenance corresponding

Each **Maintenance** corresponds to an event code displayed in MAINTENANCE LEDs on a system unit. A correspondence is depending on a type of system unit.

- CR 220H

The following table shows **Maintenance** that corresponded to the event code in the MAINTENANCE LEDs.

Table 4-13: Event codes

Event codes	Maintenance
01	Maintenance8 (Others)
02	Maintenance7 (Temp)
04	Maintenance6 (Fan)
08	Maintenance5 (PS/Volt)
10	Maintenance4 (PCI)
20	Maintenance3 (MBD/Fuse)
40	Maintenance2 (Memory)
80	Maintenance1 (CPU)
Others*	Plural parts
*When failures occur in plural parts at the same time in a system unit, each event code is displayed as the value that adds hexadecimal numbers.	

- CR 210H

The following table shows **Maintenance** that corresponded to the MAINTENANCE LEDs when the event codes are displayed.

Table 4-14: MAINTENANCE LEDs

MAINTENANCE LEDs	Maintenance
1	Maintenance1 (CPU)
2	Maintenance2 (Memory)
3	Maintenance3 (MBD/Fuse)
4	Maintenance4 (PCI)
5	Maintenance5 (PS/Volt)
6	Maintenance6 (Fan)
7	Maintenance7 (Temp)
8	Maintenance8 (Others)

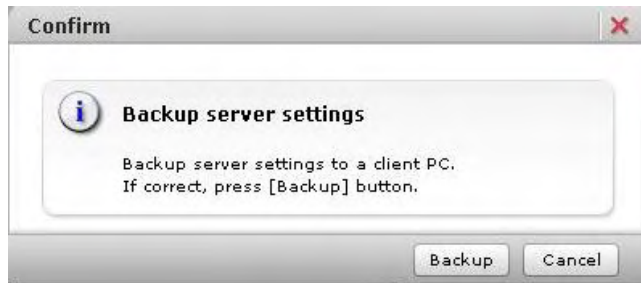
Backup server settings

Back up server settings that are used for system unit management. Make sure to back up the settings when changing Web console settings.

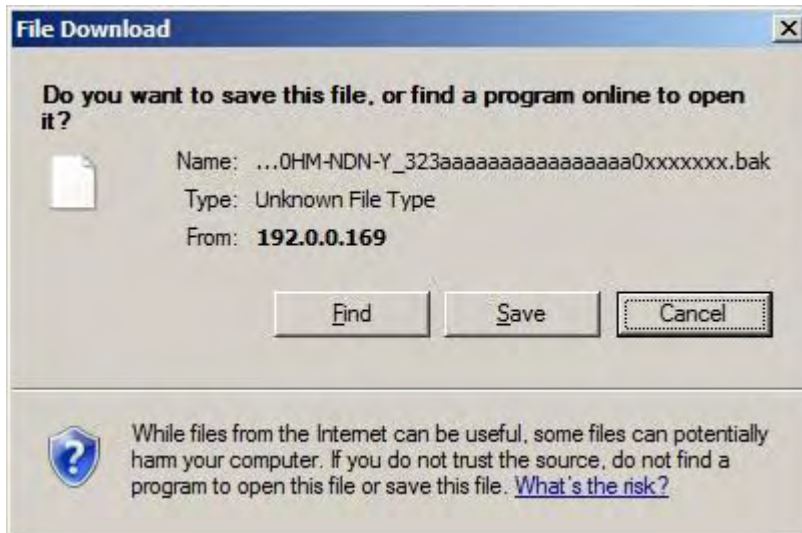


Back up firmware settings when changing BMC firmware image, ADR, or something. Use the latest backup file.

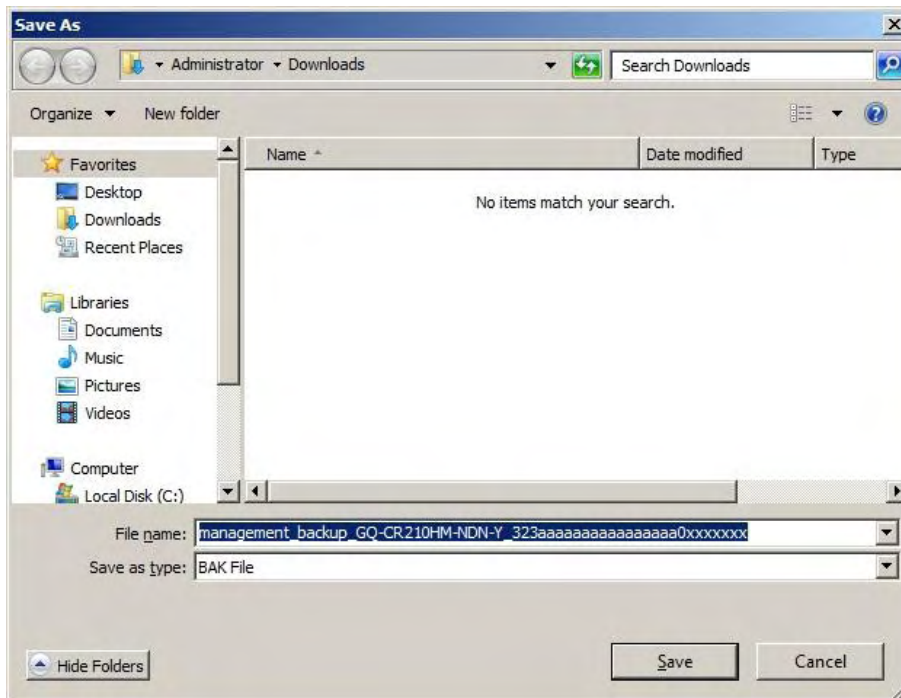
Click the action selection button, and select **Backup server settings**. The following **Confirm** dialog box is displayed.



Click **Save**, and the following dialog box is displayed. Click **Save**.



The following window is displayed, and selects the saved folder. Click **Save**.



The backup data is saved, and the download complete window is displayed. Click **Close**.

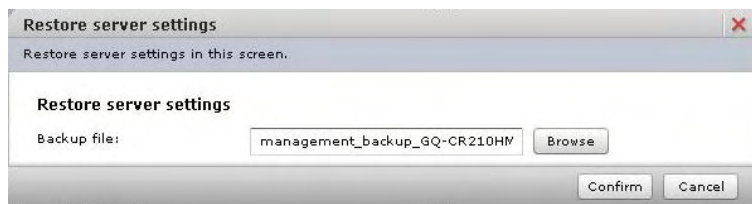
Restore server settings

Restore the setting of system unit using the backup data that downloaded in [Backup server settings](#). BMC is restarted automatically after restoring.



- For IPMI Over LAN function settings, IP address settings of BMC network, default gateway settings of BMC network, and subnet mask settings of BMC network are not backed up and restored. When a motherboard is replaced by failure and others, set these settings again.
- Do not restore the backup data of firmware settings using Web console to other system units. A unique type name of system unit, a serial number, and hardware configurations are wrote to other system unit, and the system unit might not operate properly. Restore the backup file to the system unit that is executed the backup.
- Do not restore the backup data of firmware settings using the Web console in BMC version 09-80 or higher, to the system units using the Web console in BMC version 09-79 or lower.
Do not restore the backup data of firmware settings using the Web console in BMC version 09-79 or lower, to the system units using the Web console in BMC version 09-80 or higher.
If you want to update BMC version 09-80 or higher from BMC version 09-79 or lower, you should note down the settings of the web console and keep in hand.

Click **Action**, and select **Restore server settings**. The following **Restore server settings** dialog box is displayed.



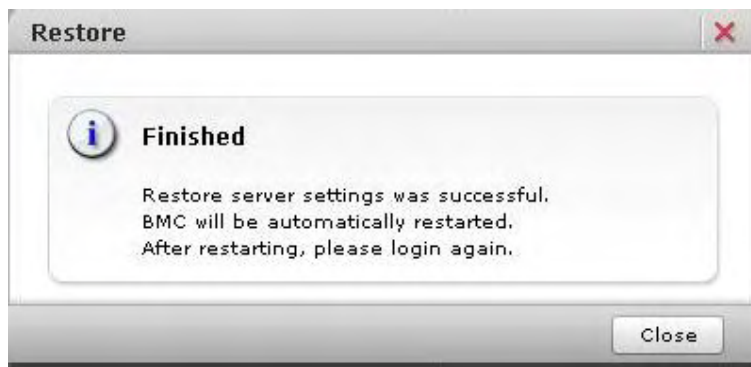
Click **Browse**, and select a backup data file of server settings.

Then click **Confirm**, and the **Confirm** window is displayed. Make sure the backup data file is correct, and click **OK**. Start to restore the settings.



- When click **Confirm** in the **Restore server settings** dialog box while updating the BMC firmware or restoring the server settings, the dialog box that content indicated "wait a little while and try again" is displayed. Click **Close** to exit.
- When the following conditions are met, click OK in the Confirm window. The dialog box that confirms to restart BMC is displayed again. Click **OK** to continue.
 - Running BIOS
 - Running system unit
- When the system unit is not operated over 30 minutes in the **Confirm** dialog box, restore is suspended. Click **Close**, and try again from the start.

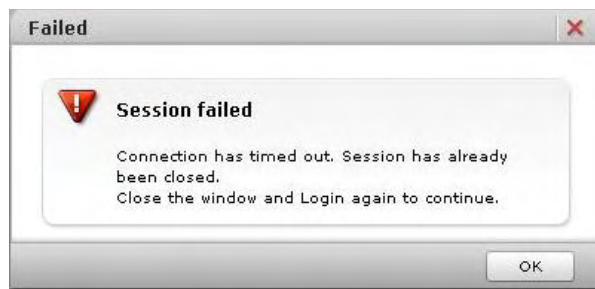
After setting restoration is completed, the following dialog box is displayed, and clicks **Close**. The connection is disconnected from the system unit due to restarting BMC.





When perform the operation occurred BMC communication after disconnecting from the system unit, the **HTTP request error** or **Session failed** dialog box is displayed.

Logout and log back in Web console.



SERVIC LED flashes for 30 to 90 seconds in the system unit after restarting BMC. Cut off the power supply after SERVIC LED flashing is completed.



Communications (such as HCSM or BIOS) and BMC functions (such as Web console and Remote console) are stopped after restarting BMC. These communications and functions cannot be available while BMC restart (30 to 90 seconds).

Problem may occur such as displaying error messages due to stopping BMC communication service while restarting BMC. This problem may occur depending on a communication program.

Do not restart BMC during running BIOS or operating a setup menu. BMC cannot communicate with BIOS, and then failures may occur in a system unit. We recommend that you restart BMC while a system unit is shut down.

Server Information > Hardware

Display the information of identification for a system unit.

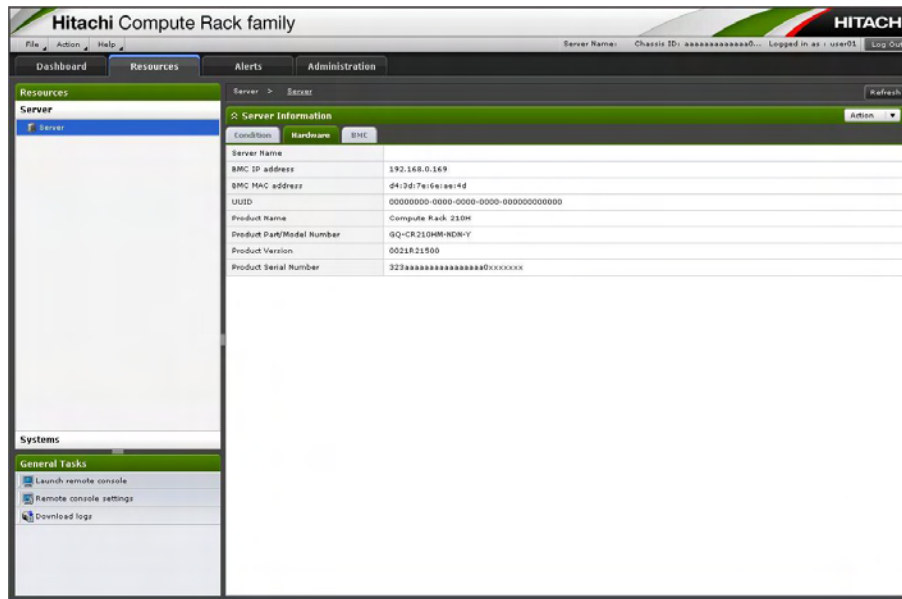


Table 4-15: Server Information menu items

Menu items	Description
Refresh button	Refreshes information.
Action selection button	Backs up or restores server settings. See Backup server settings , and Restore server settings .
Server name	Displays a server name that is set in Asset Information .
BMC IP address	Displays BMC IP address for a system unit. For the initial BMC IP address settings, see Connecting to management interface . For the BMC IP address changing, see Setting BMC network
BMC MAC address	Displays BMC MAC address.
UUD	Displays UUD.
Product Name	Displays a product name of system unit.
Product Part/Module Number	Displays product information of system unit
Product Version	Hardware version of system unit is displayed.
Product Serial Number	Product serial number of system unit is displayed.

Server Information > BMC

Display the information of BMC settings.

The screenshot displays the Hitachi Compute Rack family Web console interface. The top navigation bar includes 'Dashboard', 'Resources', 'Alerts', and 'Administration'. The 'Resources' tab is active, showing a list of servers. The 'Server Information' tab is selected, displaying a table of BMC settings. The table is organized into sections: Status, BMC time, Network, IPMI, Security and Service, and Remote console. The 'Status' section shows 'EMASH Database' as 'Building completed'. The 'BMC time' section shows 'Time adjustment method' as 'Do not use NTP' and 'Time zone' as '+00:00'. The 'Network' section shows 'Network' settings including 'MAC address', 'IP address', 'Subnet mask', 'Default gateway', and 'DHCP'. The 'IPMI' section shows 'IPMI user accounts' with a table of 10 users, each with a 'User name', 'Privilege Level', and 'Status'. The 'Security and Service' section shows 'Security strength' as 'Use', 'Telnet (CLI)' as 'Enable', 'SSH (CLI)' as 'Enable', and 'Remote console' as 'Enable'. The 'Remote console' section shows 'Access to SSL/TLS communication' as 'Disable', 'TLS version' as 'SSLv3', 'Remote KVM' as 'Port number 7578', 'Remote CD/DVD' as 'Port number 4997', and 'Remote FD' as 'Port number 4995'. The 'HTTP' section shows 'Use' as 'Enable' and 'Port number' as '80'. The 'HTTPS' section shows 'Use' as 'Enable', 'TLS version' as 'SSLv3', and 'Port number' as '443'. The 'WS-MAN' section shows 'Use' as 'Disable', 'TLS version' as 'SSLv3 / TLSv1.0 / TLSv1.1 / TLSv1.2', and 'Port number' as '5986'. The 'IPMI over LAN' section shows 'Access to IPMI over LAN v1.5 and null account' as 'Permitted', 'RMCP messaging cipher suite ID 0' as 'Administrator', 'Cipher suite ID 1' as 'Administrator', 'Cipher suite ID 2' as 'Administrator', 'Cipher suite ID 3' as 'Administrator', 'Cipher suite ID 6' as 'Administrator', 'Cipher suite ID 7' as 'Administrator', 'Cipher suite ID 8' as 'Administrator', 'Cipher suite ID 11' as 'Administrator', and 'Cipher suite ID 12' as 'Administrator'. The 'SVP' section shows 'Port number' as '423', 'Use' as 'Enable', and 'Port number' as '21001'. The 'Remote console settings' section shows 'Mouse Mode' as 'Relative Mode'. The bottom right corner has a 'Restart BMC' button.

Section	Item	Value
Status	EMASH Database	Building completed
	BMC time	
BMC time	Time adjustment method	Do not use NTP
	Time zone	+00:00
Network	Network	
	MAC address	84:3d:7e:fa:ae:6e
	IP address	192.168.0.50
	Subnet mask	255.255.255.0
	Default gateway	0.0.0.0
	DHCP	Do not use
	Limit source IP address	Use
	IP address allowed to connect 1	Disable
	IP address allowed to connect 2	Disable
	IP address allowed to connect 3	Disable
IPMI	IPMI user accounts	
	1	Use
	User name	Administrator
	Privilege Level	Enable
	2	Use
	User name	root
	Privilege Level	Administrator
	3	Use
	User name	*****
	Privilege Level	Disable
	4	Use
	User name	*****
	Privilege Level	Disable
	5	Use
	User name	*****
	Privilege Level	Disable
	6	Use
	User name	*****
	Privilege Level	Disable
	7	Use
User name	*****	
Privilege Level	Disable	
8	Use	
User name	*****	
Privilege Level	Disable	
9	Use	
User name	*****	
Privilege Level	Disable	
10	Use	
User name	*****	
Privilege Level	Disable	
Security and Service	Authentication type	
	Callback	None / MD5 / MD5 / Sha1 password
	User	None / MD5 / MD5 / Sha1 password
	Operator	None / MD5 / MD5 / Sha1 password
	Administrator	None / MD5 / MD5 / Sha1 password
	Security strength	Current security strength
	Telnet (CLI)	Use
	Port number	23
	SSH (CLI)	Use
	Port number	22
Remote console	Remote console	Use
	Access to SSL/TLS communication	Disable
	TLS version	SSLv3
	TLSv1.0	Disable
	TLSv1.1	Disable
	TLSv1.2	Disable
	Remote KVM	Port number 7578
	Remote CD/DVD	Port number 4997
	Remote FD	Port number 4995
	HTTP	Use
Port number	80	
HTTPS	Use	Enable
	TLS version	SSLv3
	TLSv1.0	Enable
	TLSv1.1	Enable
	TLSv1.2	Enable
WS-MAN	Port number	443
	Use	Disable
	TLS version	SSLv3 / TLSv1.0 / TLSv1.1 / TLSv1.2
IPMI over LAN	Port number	5986
	Use	Enable
Remote console settings	Access to IPMI over LAN v1.5 and null account	Permitted
	RMCP messaging cipher suite ID 0	Administrator
	Cipher suite ID 1	Administrator
	Cipher suite ID 2	Administrator
	Cipher suite ID 3	Administrator
	Cipher suite ID 6	Administrator
	Cipher suite ID 7	Administrator
	Cipher suite ID 8	Administrator
	Cipher suite ID 11	Administrator
	Cipher suite ID 12	Administrator
SVP	Port number	423
	Use	Enable
Remote console settings	Port number	21001
	Mouse Mode	Relative Mode

Table 4-16: Server Information menu items

Menu items	Description
Refresh button	Refreshes information.
Action selection button	Backs up or restores server settings. See Backup server settings , and Restore server settings .
Status	Displays current BMC status.
BMC time	Displays information of Time Synchronization Method , Timezone , and NTP server 0 to 1 . See Setting BMC date and time .
Network	Displays information of BMC network settings and Limit source IP address . See Setting BMC network .
IPMI *	Displays information of IPMI user accounts and Authentication type . See IPMI > IPMI User Account .
Security and Service	Displays the following contents: Port: Enable or Disable for each service Security settings Port number information . See Security and Service .
Remote console	Displays information of Mouse Mode . See Setting mouse mode of Remote Console .
Restart BMC button	Restarts BMC.
* When Security strength is set as High , and IPMI over LAN > Access to IPMI over LAN 1.5 and null account is set as Prohibited in Security and Service , Authentication type is not displayed.	

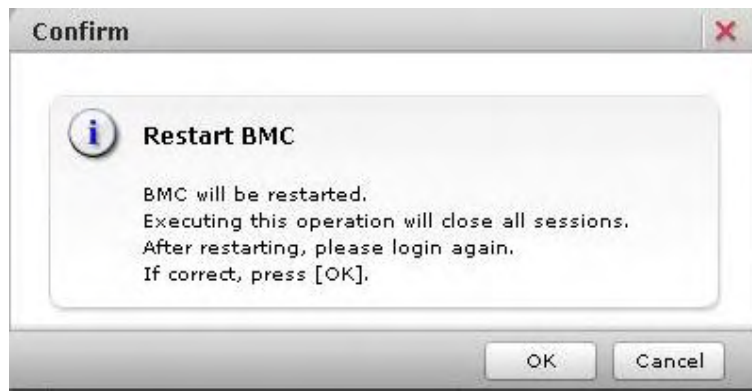
Restart BMC

Restart BMC.



BMC is usually not necessary to restart. Restart BMC, only when failures occur.

Click **Restart BMC** in the **BMC** tab, and the following **Confirm** dialog box is displayed.



Click **OK**, and BMC is restarted and disconnect from a system unit.

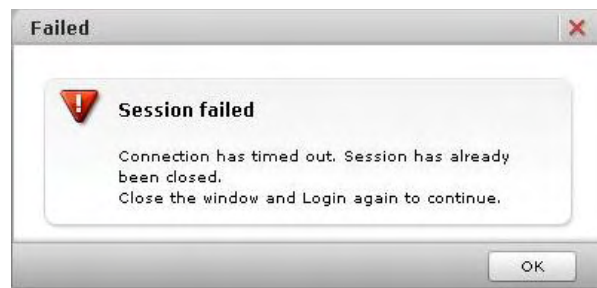


- When click **OK** in the **Confirm** dialog box while updating BMC firmware or while restoring server settings, the confirmation dialog box for restart execution is displayed again. Click **OK** to continue.
 - When the following conditions are met, click OK in the **Confirm** dialog box. The window that confirms to restart BMC is displayed again. Click **OK** to continue.
 - Running BIOS
 - Running system unit
-



- When perform the operation occurred BMC communication after disconnecting from the system unit, the **HTTP request error** or **Session failed** dialog box is displayed.

Logout and log back in Web console.



SERVIC LED flashes for 30 to 90 seconds in the system unit after restarting BMC. Cut off the power supply after SERVIC LED flashing is completed.



Communications (such as HCSM or BIOS) and BMC functions (such as Web console and Remote console) are stopped after restarting BMC. These communications and functions cannot be available while BMC restart (30 to 90 seconds).

Problem may occur such as displaying error messages due to stopping BMC communication service while restarting BMC. This problem may occur depending on a communication program.

Do not restart BMC during running BIOS or operating a setup menu. BMC cannot communicate with BIOS, and then failures may occur in a system unit. We recommend that you restart BMC while a system unit is shut down.

Resources > Systems

The following indications and setups are available in the **Network**, **IPMI**, **Power Management**, and **Firmware** window.

- Performs the network settings and connection restriction.
- Performs the DNS server settings.
- Performs the IPMI Over LAN settings.
- Performs the mode settings for power capping function. (see [Power capping settings](#))
- Displays the temperature and power consumption in BMC of system unit.
- Displays and updates the BMC firmware information. (see [BMC firmware / SDR update](#))

Network > DNS Server

For the **IP address** tab, **MAC address** tab, and **Limit Source IP Address** tab, see [Setting BMC network](#).

In the **DNS Server** tab, you can set DNS server IP address, and execute name resolution using DNS server. You can set for up to three DNS server IP address.

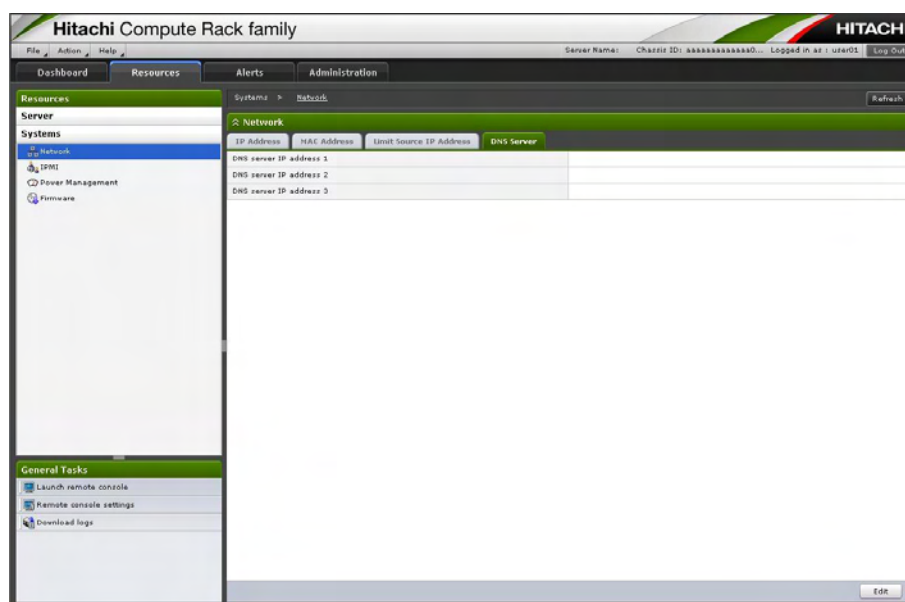
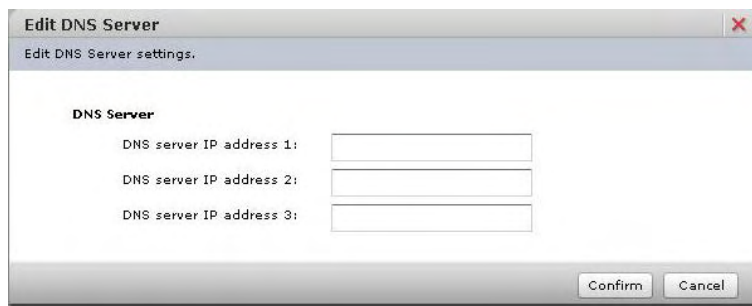


Table 4-17: Network menu items

Menu items	Description
Refresh button	Refreshes information.
DNS server IP address 1 to 3	Displays DNS server IP address. You can set for up to three DNS server IP addresses, and DNS server IP address is used in order from top to bottom. When you do not set a second or third DNS server, enter "0.0.0.0". When you do not use DNS server, enter "0.0.0.0" in all three DNS server IP addresses or leave them null.
Edit button	Edits DNS server IP address.

Click **Edit**, and the **Edit DNS Server** dialog box is displayed.



Click **Confirm** after entering each item, the **Confirm** dialog box is displayed.

Click **Back** to go back to the setting window.

Click **OK** to save the change content, and go back to the **DNS** tab.

Click **Cancel** to go back to the **DNS** tab without saving.

IPMI > IPMI User Account

Set a user account for the IPMI Over LAN function.

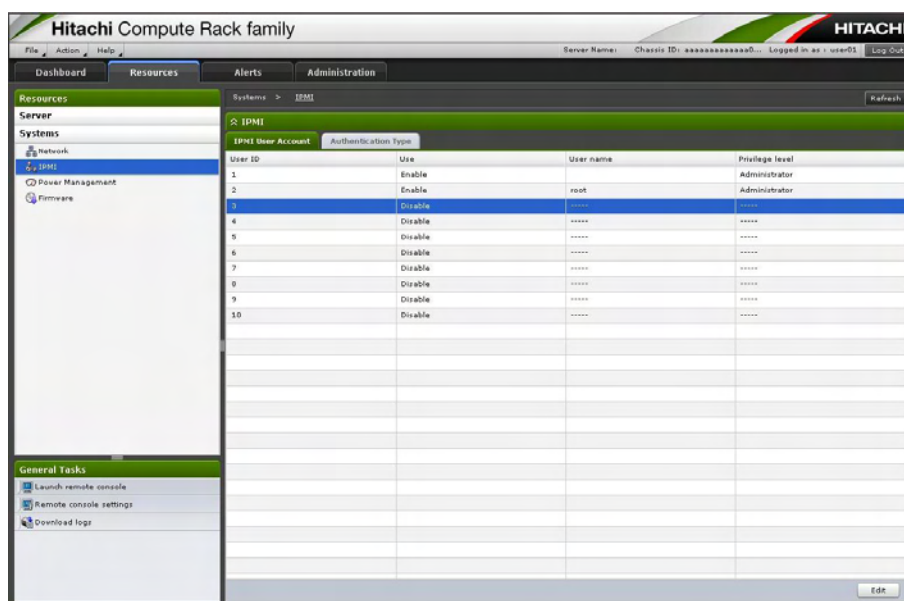


Table 4-18: IPMI menu items

Menu items	Description
Refresh button	Refreshes information.
User ID	Displays IPMI user account ID.
Use	Displays that IPMI user account is enabled or disabled.
User name	Displays IPMI user account name.
Password	Sets a password (20 numbers/characters) for IPMI user account.
Retype Password	Retype the password to confirm.
Privilege level	Displays the granted privilege level for IPMI user account.
Edit button	Edits IPMI user account.



- For User ID 1 and 2, change of condition is only available.
- User ID 1 and 2 are set at the time of factory shipment. The setting value is as follows:
 - User ID 1
Condition: Enable
User name: Blank
Password: Blank
Privilege level: Administrator
 - User ID 2
Condition: Enable
User name: root
Password: superuser
Privilege level: Administrator

Click **Edit**, and the **Edit IPMI User Account** dialog box is displayed.

- When **Use** is disabled, **User name** and **Privilege level** are displayed as "-----" in the **IPMI User Account** tab.
- **User name** is up to 32 numbers/characters
- User ID 1 and 2 cannot be changed their settings.
- User ID 8, 9, and 10 cannot be set blank as their password.
- A password that can be set is 20byte password having compatibility with IPMI 2.0.

Click **Confirm** after entering each item, the **Confirm** dialog box is displayed.

Click **Back** to go back to the setting window.

Click **OK** to save the change content, and go back to the **IPMI User Account** tab.

Click **Cancel** to go back to the **IPMI User Account** tab without saving.



- IPMI Over LAN function settings are saved even though a power code is drawn out from a system unit.
 - When a server settings are backed up and restored in the **Server Information** window (see [Server Information > Condition](#)), IPMI Over LAN function settings are not backed up and restored. When a motherboard is replaced by failure and others, set the settings again.
 - User ID is enabled when **Security strength** is set as **High**, or **IPMI over LAN > Access to IPMI over LAN v1.5 and null account** is set as **Prohibited** (see [Security and Service](#)).
-

IPMI > Authentication Type

Set Authentication Type for the IPMI Over LAN function.

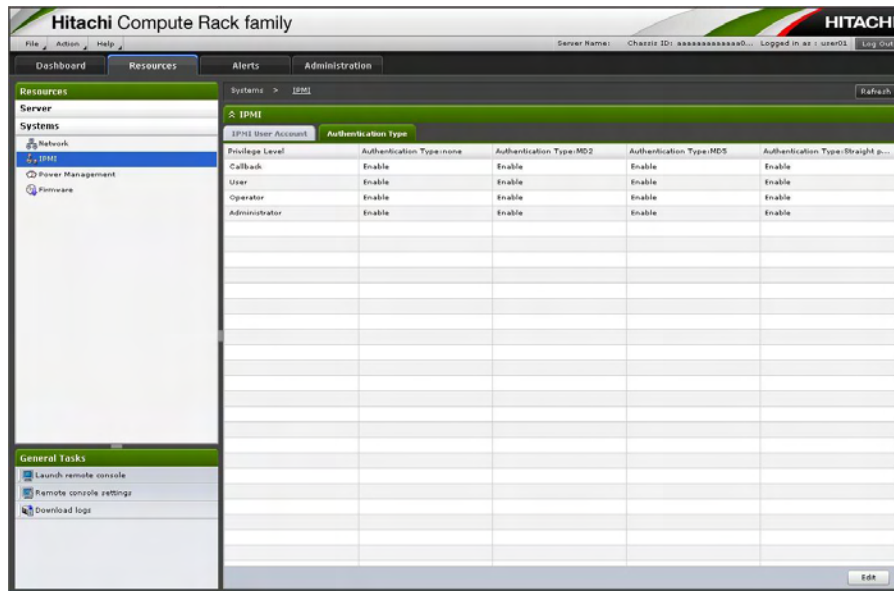


Table 4-19: IPMI menu items

Menu items	Description
Refresh button	Refreshes information.
Privilege Level	Displays the privilege level.
Authentication Type	Displays that the authentication type is enabled or disabled for the privilege level.
Edit button	Edits the authentication type for the privilege level.



IPMI > Authentication Type tab is not displayed when **Security strength** is set as **High**, or **IPMI over LAN > Access to IPMI over LAN v1.5 and null account** is set as **Prohibited** (see [Security and Service](#)).

Click **Edit**, and the **Edit Authentication Type** dialog box is displayed.

Edit Authentication Type

Edit Authentication Type settings.

Authentication Type

Privilege Level:

Callback:

Authentication Type: ☒ none ☒ MD2 ☒ MD5 ☒ Straight password

User:

Authentication Type: ☒ none ☒ MD2 ☒ MD5 ☒ Straight password

Operator:

Authentication Type: ☒ none ☒ MD2 ☒ MD5 ☒ Straight password

Administrator:

Authentication Type: ☒ none ☒ MD2 ☒ MD5 ☒ Straight password

Confirm Cancel

Click **Confirm** after entering each item, the **Confirm** dialog box is displayed.

Click **Back** to go back to the setting window.

Click **OK** to save the change content, and go back to the **Authentication Type** tab.

Click **Cancel** to go back to the **Authentication Type** tab without saving.

Power Information > Condition

Display the information of Power consumption, Intake Temperature, and Power capping for a system unit. Set the power capping settings.

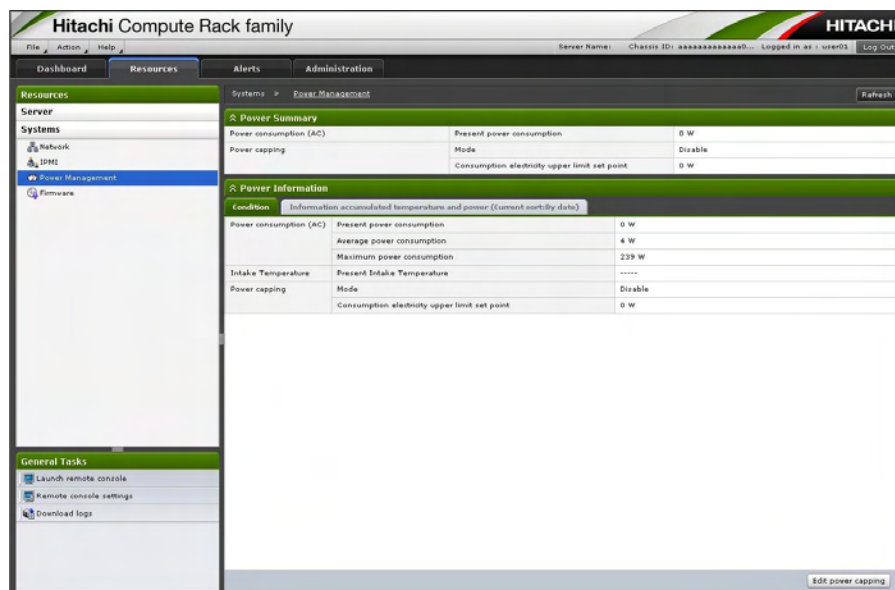


Table 4-20: Power Information menu items

Menu items	Description
Refresh button	Refreshes information.
Power consumption (AC)	<p>Displays the power consumption of system unit.</p> <ul style="list-style-type: none"> - Present power consumption Displays Present power consumption. - Average power consumption Displays Average power consumption after setting the power consumption (Mode or Consumption electricity upper limit set point). - Maximum power consumption Displays Maximum power consumption after setting the power consumption (Mode or Consumption electricity upper limit set point).
Intake Temperature	Displays Intake Temperature for system unit.
Power capping	<p>Displays the power capping settings.</p> <ul style="list-style-type: none"> - Mode Displays power capping function mode (see Power capping settings). - Consumption electricity upper limit set point Displays a target value of power consumption to reduce power consumption (see Consumption electricity upper limit value).
Edit power capping button	Edits the power capping for system unit.

Power capping settings

Set power capping settings for system unit.

Power capping is a function that reduces the maximum power consumption for system unit. The power consumption that can be reduced differs depending on the installed processor type.

Click **Edit power capping** in **Power Information > Condition**, and the **Edit power capping** dialog box is displayed.

Power capping		
Condition		
Power consumption (AC)	Present power consumption	0 W
	Average power consumption	4 W
	Maximum power consumption	239 W

Mode: Disable

Consumption electricity upper limit set point [W]:

Confirm Cancel

Select **Mode** from the pull-down menu, and enter a value in **Consumption electricity upper limit set point**. Click **Confirm**, the **Confirm** dialog box is displayed.

Click **Back** to go back to the setting window.

Click **OK** to save the change content, and go back to the **Condition** tab.

Click **Cancel** to go back to the **Condition** tab without saving.

Power capping modes

Modes that can be set for the power capping are as follows.

Table 4-21: Power capping modes menu items

Modes	Description
NM mode	It is a mode enabled Node Manager (NM) command. NM command bridges to BMC from management LAN, and NM command is published to Node Manager. When NM mode is set, a software used NM command can rewrite Policy settings of Node Manager that BMC firmware has set. However, power management functions cannot be used by BMC due to rewriting Policy settings. Do not set NM mode when normal use especially using power management functions by BMC. You can configure settings that the power source of system unit is forcedly turned off due to the value of temperature or power consumption depending on Policy parameter settings by NM command. However, if you configure incorrect settings, a normal system operation may be hindered. Therefore, we strongly recommend that use NM mode after performing evaluation of software used NM command sufficiently. When switching to other mode after using NM mode once, delete all Policy of NM that is set in the target software, and then switch to other mode. When using NM command, a software corresponded NM command is required separately.
DCMI mode	It is a mode that executes the power capping by DCMI command. When using DCMI command, a software corresponded DCMI command is required separately.
Dynamic capping mode	Enable Dynamic capping mode.
Disable	Disable Dynamic capping mode. Inhibit to NM command and DCMI command.

Consumption electricity upper limit value

For the power capping function, when you set **Consumption electricity upper limit set point** to too low value, the CPU performance may be lowered constantly due to the state of being active for the power capping.

In this state, it can not control the actual power consumption to less than or equal to the **Consumption electricity upper limit set point** setting value.

When you set a value equal to or greater than the maximum power consumption of the system unit for **Consumption electricity upper limit set point**, the power capping function will not work.

Therefore, you can use the power capping function effectively when set a **Consumption electricity upper limit set point** as follows:

Maximum power consumption of the system unit \geq
Setting value of **Consumption electricity upper limit set point** \geq
Maximum power consumption of the system unit -
Maximum value of the power consumption that can be suppressed by
power capping

- Setting value of **Consumption electricity upper limit set point** \geq
Maximum power Consumption of the system unit -
Maximum value of the power Consumption that can be suppressed by
power capping
If this condition is not satisfied, the power saving function can work using
the power capping, but the actual power consumption may exceed the
setting of **Consumption electricity upper limit set point**.
- Maximum power consumption of the system unit \geq
Setting value of **Consumption electricity upper limit set point**
If this condition is not satisfied, the actual power consumption does not
exceed the setting of **Consumption electricity upper limit set point**,
but the power saving function does not have effect.

Maximum power consumption value of the system unit

When estimating the system unit, refer to the specification of the system unit for the maximum power consumption of the system unit.

However, the power consumption of the system unit is dependent upon the operating environment (such as temperature) and running program on the system unit.

In order to make fine adjustments, we recommend you that check the maximum power consumption of system unit by trial operation in an environment that uses the system unit.

Maximum power consumption of the system unit can be found in the following procedure.

1. **Edit Power Capping Setting > Mode** set to **Disable**.
2. Continuous operation under the maximum load condition in the system unit.
3. Check the value of **Power Information > Condition > Maximum power consumption**.

Maximum power consumption value that can be suppressed by the power capping

The degree of suppression of power consumption is different depends on the model of the system unit, the CPU type of the mounted on the system unit, and the load condition of the program running on the system unit.

Approximate of the maximum value of the power consumption that can be suppressed are as follows:

Table 4-22: Approximate of the maximum value of the power consumption that can be suppressed

CPU type	Clock speed	power consumption that can be suppressed (approximate of the maximum value)*	
		1 CPU	2 CPU
Xeon processor E5-2690	2.90 GHz	120 W	240 W
Xeon processor E5-2670	2.60 GHz	85 W	170 W
Xeon processor E5-2640	2.50 GHz	55 W	110 W
Xeon processor E5-2620	2 GHz	30 W	60 W
Xeon processor E5-2603	1.80 GHz	10 W	20 W
Xeon processor E5-2630L	2 GHz	30 W	60 W
* Power consumption that can be suppressed shows the values based on the measurement result of the model. Power consumption that can be suppressed includes the effect that the power consumption of the peripheral circuit is reduced by reduced the power consumption of CPU.			

Power Information > Information accumulated temperature and power

Display an accumulated temperature and power consumption in a management module of system unit.

Hitachi Compute Rack family									
HITACHI									
Server Name: Chassis ID: aaaaaa Logged in as: user01 Log Out									
Dashboard Resources Alerts Administration									
Systems > Power Management Refresh									
Power Summary									
Power consumption (AC)		Present power consumption		0 W					
Power capping		Mode		Disable					
		Consumption electricity upper limit set point		0 W					
Power Information									
Information accumulated temperature and power (current sortby date)									
Record	Date Time	Sensor Number	Sensor Name	Power	CUR	AVE	MAX	MIN	
0075	2013/09/18 13:41:49	92	INTAKE Temp PWR Cons_A	ON	23 C	23 C	23 C	23 C	90 W
0071	2013/09/18 09:11:10	92	INTAKE Temp PWR Cons_A	OFF	23 C	23 C	23 C	23 C	110 W
0068	2013/09/17 14:38:09	92	INTAKE Temp PWR Cons_A	OFF	23 C	23 C	23 C	23 C	90 W
0062	2013/09/17 14:43:20	92	INTAKE Temp PWR Cons_A	OFF	24 C	24 C	24 C	24 C	40 W
0057	2013/09/17 13:39:08	92	INTAKE Temp PWR Cons_A	OFF	23 C	23 C	24 C	23 C	200 W
0054	2013/09/17 12:04:20	92	INTAKE Temp PWR Cons_A	OFF	23 C	23 C	23 C	23 C	10 W
0052	2013/09/17 11:08:24	92	INTAKE Temp PWR Cons_A	ON	23 C	23 C	24 C	23 C	215 W
0050	2013/09/17 08:20:13	92	INTAKE Temp PWR Cons_A	ON	23 C	23 C	23 C	23 C	210 W
0049	2013/09/17 06:19:43	92	INTAKE Temp PWR Cons_A	ON	23 C	23 C	23 C	23 C	210 W
0048	2013/09/17 04:16:48	92	INTAKE Temp PWR Cons_A	ON	23 C	23 C	23 C	23 C	210 W
0047	2013/09/17 02:14:19	92	INTAKE Temp PWR Cons_A	ON	23 C	23 C	23 C	23 C	210 W
0046	2013/09/17 00:11:50	92	INTAKE Temp PWR Cons_A	ON	23 C	23 C	23 C	23 C	210 W
****	**end data**	**	*****	**	****	****	****	****	****

Table 4-23: Power Information menu items

Menu items	Description
Refresh button	Refreshes information.
Power consumption (AC)	Displays power consumption in a system unit. -Present power consumption Displays Present power consumption.
Power capping	Displays the power capping settings. - Mode Displays power capping function mode (see Power capping settings). Consumption electricity upper limit set point - Displays a target value of power consumption to reduce power consumption (see Power consumption upper limit value).
Information accumulated temperature and power*	Displays an accumulated temperature and power consumption in a system unit.
Edit sort button	Displays temperature and power consumption in a system unit.
* Information is registered every two hours, and up to two years information can be stored.	



- When click **Refresh** after changing **Edit sort** from initial settings, the changed **Edit sort** is saved. When log out Web console after changing **Edit sort** from initial settings, **Edit sort** is backed to initial settings.
 - The type of **Edit sort** is as follows:
 - Order of date:
Displays information up to 12 items in order from the latest date in "Date time" of the accumulated information.
 - Order of power:
Displays information up to 12 items in order from the largest value of "***W" in "MAX" of the accumulated information.
 - Order of temperature:
Displays information up to 12 items in order from the largest value of "***C°" in "MAX" of the accumulated information.
-

Firmware > BMC firmware

Display and update BCM firmware.

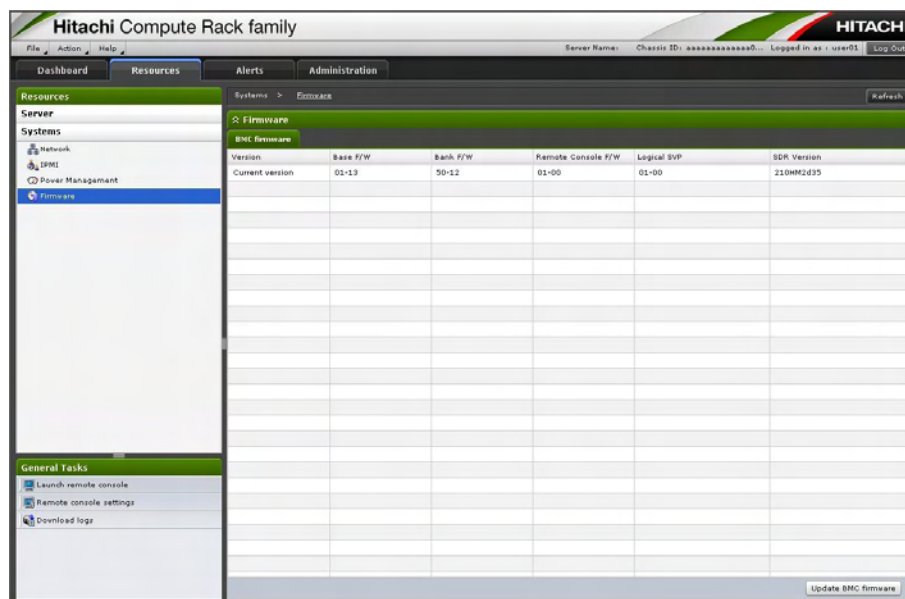


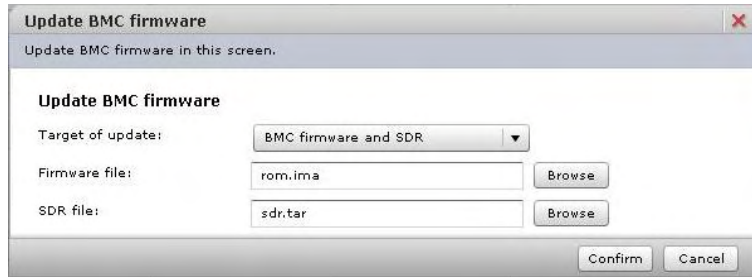
Table 4-24: Firmware menu items

Menu items	Description
Refresh button	Refreshes information.
Base F/W	Displays version of base firmware.
Bank F/W	Displays version of firmware.
Remote Console F/W	Displays version of remote console function.
Logical SVP	Displays version of logical SVP.
SDR Version	Displays SDR version.
Update BMC firmware	Updates BMC firmware.

BMC firmware / SDR update

Update BMC firmware and SDR from a Web console.

Click **Firmware** > **BMC firmware** > **Update BMC firmware**, the **Update firmware** dialog box is displayed.



Click **Browse**, and select a BMC firmware image file or SDR file.

Click **Confirm** after specifying BMC firmware image file or SDR file, and the **Confirm** dialog box is displayed.

Confirm that the selected file is correct, and click **OK**. Writing to BMC firmware image file or SDR file is started.



Do not perform other operations during writing to BMC firmware image file or SDR file. Do not write to BMC firmware image file or SDR file during running BIOS or operating a setup menu. BMC firmware image file or SDR file may not be written normally.



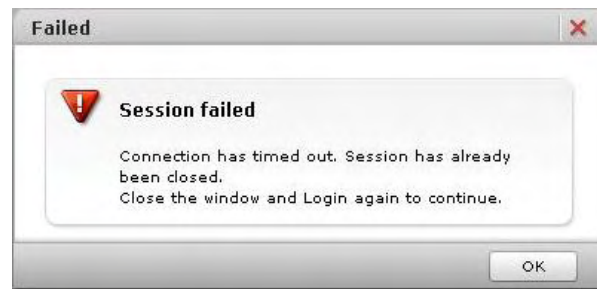
- Communications (such as HCSM or BIOS) and BMC functions (such as Web console and Remote console) are stopped during writing to BMC firmware image file or SDR file. We recommend that BMC firmware image file or SDR file is written while a system unit is shut down.
- When click **Confirm** in the **Update firmware** dialog box while updating the BMC firmware or restoring the server settings, the dialog box that content indicated "wait a little while and try again" is displayed. Click **Close** to exit.
- When the following conditions are met, click OK in the Confirm window. The window that confirms to restart BMC is displayed again. Click OK to continue.
 - Running BIOS
 - Running system unit
- When BMC firmware image file or SDR file that a system unit is not supported is specified, BMC firmware image file or SDR file is not written.
- When the system unit is not operated over 30 minutes in the **Confirm** dialog box, update is suspended. Click **Close**, and try again from the start.

After writing to BMC firmware image file or SDR file is completed, the following dialog box is displayed, and click **Close**. The connection is disconnected from the system unit due to restarting BMC.





When perform the operation occurred BMC communication after disconnecting from the system unit, the HTTP request error or Session failed dialog box is displayed. Logout and log back in Web console.



SERVIC LED flashes for 30 to 90 seconds in the system unit after restarting BMC. Cut off the power supply after SERVIC LED flashing is completed.



Communications (such as HCSM or BIOS) and BMC functions (such as Web console and Remote console) are stopped after restarting BMC. These communications and functions cannot be available while BMC restart.

Problem may occur such as displaying error messages due to stopping BMC communication service while restarting BMC. This problem may occur depending on a communication program.

Do not restart BMC during running BIOS or operating a setup menu. BMC can not communicate with BIOS, and then failures may occur in a system unit. We recommend that you restart BMC while a system unit is shut down.

Alerts

In the **System Event Log** window, accumulated system event logs (alert logs) are displayed in a management module of system unit.

Event logs are displayed up to the latest 255 logs (maximum) that are accumulated when the **System Event Log** window is displayed.

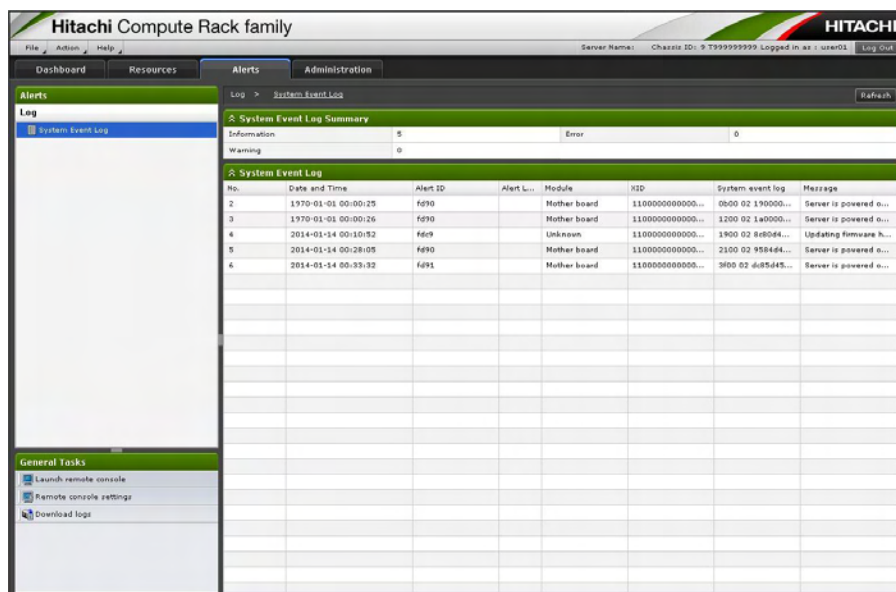




Table 4-25: Alerts menu items

Menu items	Description
Refresh button	Refreshes information.
Information	Displays a number of event log as Information level.
Warning	Displays a number of event log as Warning level.
Error	Displays a number of event log as Error level.
No.	Displays event numbers.
Date and Time	Displays the date and time on which an event occurred.
Alert ID	Displays Alert ID that indicates the type of event.
Alert Level	Alert Level is separated into 3 levels. 3 levels displays as follows: Blank: Information level  : Warning level  : Error level

Menu items	Description
Module	Displays the module that an event occurred. Mother board: temperature, power source voltage, mother board, CPU, memory, PCI Power Supply Module: Power supply unit Fan Module: Fan Front/Rear Panel: Intake temperature Unknown: Other hardware (HDD or something)
XID System event log	Displays the code that indicates the event.
Message	Displays the message of event summary.



- **No.** may not start with 1, because event logs are always displayed up to the latest 255 logs.
- When resuming the power or restarting BMC, BMC time reads and synchronizes a system clock of system unit. At this time, Date and Time of alert log recorded from BMC is displayed as [1970-01-01 00:00:XX] that is different from the actual date and time.
- When sorting **Date and Time** in increasing or decreasing order, [1970-01-01 00:00:XX] as event logs are consolidated at the top of list or the bottom of list. Therefore, context of other event log is not easily checked.
You should sort **No.** in increasing or decreasing order.

Administration

Function settings can be configured for system unit management in the **Administration** tab.

User and Roles

For details, see [Setting user account](#).

LDAP

Set a user authentication using LDAP server.

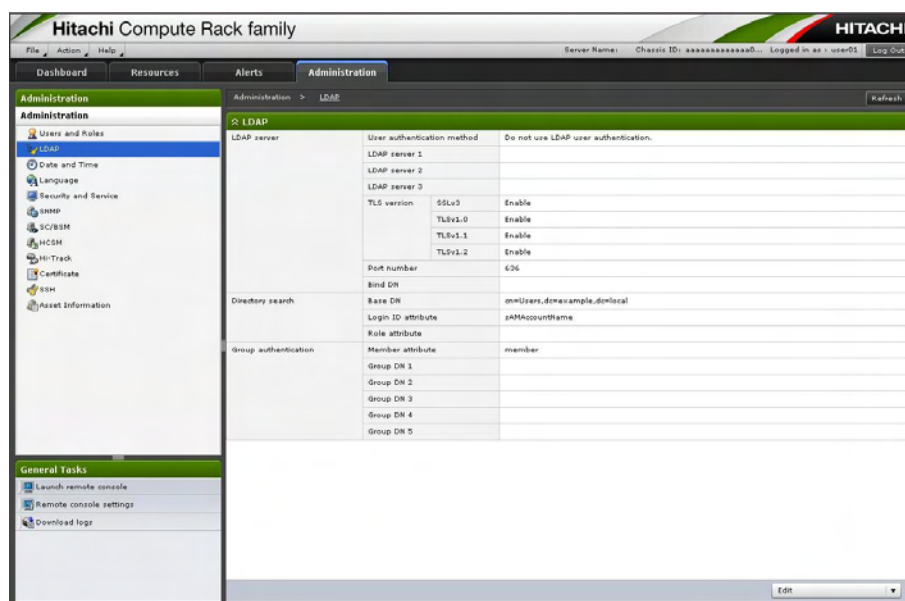


Table 4-26: LDAP menu items

No.	Menu items	Description
1	Refresh button	Refreshes information.
2	User authentication method	Sets User authentication method by User authentication method LDAP. <ul style="list-style-type: none">● No using LDAP for user authentication: Perform user authentication by specified user account.● Perform user authentication in the order of local and LDAP: Perform user authentication by specified user account. If user authentication fails, perform user authentication by user account in LDAP server.
3	LDAP server 1 to 3	Specifies LDAP servers by IP address or FQDN. (up to 127 characters)
4	TLS version	Specifies TLS version used for connecting a LDAP server.
5	Port number	Specifies Port number as a decimal number. (1 to 65535)
6	Bind DN	Specifies DN used for binding to LDAP server. (up to 256 characters) Displays "Anonymous" here when no input.

No.	Menu items	Description
7	Base DN	Specifies DN for user search. (up to 256 characters)
8	Login ID attribute	Specifies a login ID in a user entry attribute. (up to 64 characters)
9	Role attribute	Specifies a string representing a role in a user entry attribute. (up to 64 characters)
10	Member attribute	Specifies a user of member in a group entry attribute. (up to 64 characters)
11	Group DN 1 to 5	Specifies a group DN allowed login. (up to 256 characters) Group authentication is not performed when no input of all DN's.
12	Edit button	The following settings are performed from a menu. <ul style="list-style-type: none"> LDAP server settings: Performs "LDAP server settings" for item 1 to 5. Directory search settings: Performs "Directory search settings" for item 6 to 8. Group authentication settings: Performs "Group authentication settings" for item 9 and 10.



All SSL/TLS versions cannot be disabled. When security strength is set as High, SSL/TLS versions cannot be enabled or disabled. Only TLS1.2 can be enabled or disabled.

Click **Edit** and select each menu, and the following dialog box is displayed

- LDAP server settings



In **Bind password**, specify a password when binding to LDAP server.
(up to 32 characters)
A password is disabled when no input.

- Directory search settings

- Group authentication settings

Click **Confirm** after entering each item, and the **Confirm** dialog box is displayed.

Click **Back** to go back to the setting window.

Click **OK** to save the change content, and go back to the **LDAP** window.

Click **Cancel** to go back to the **LDAP** window without saving.

Date and Time

For details, see [Setting BMC date and time](#).

Language

Set a system language on Web console.

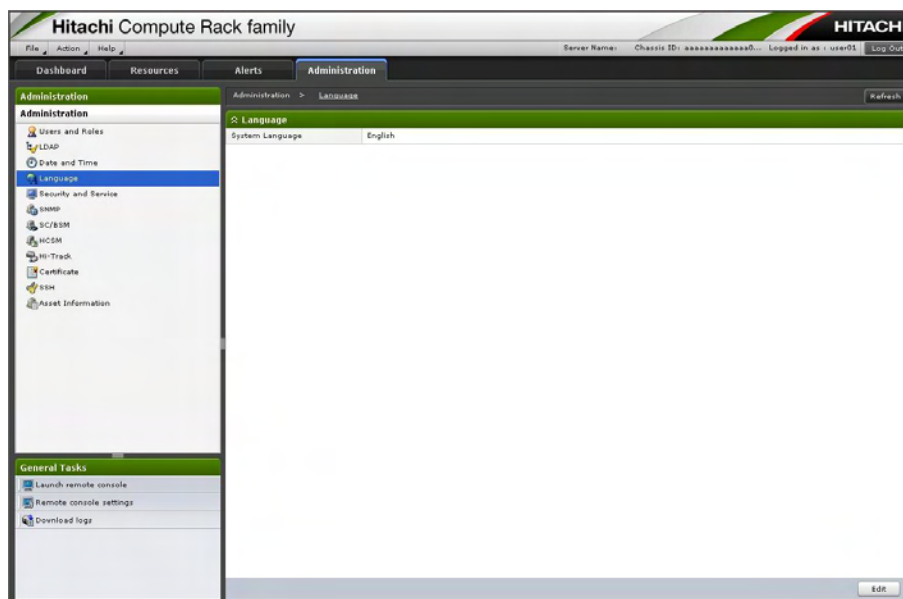


Table 4-27: Language menu items

Menu items	Description
Refresh button	Refreshes information.
System Language	Displays a language set in Web console. <ul style="list-style-type: none">English System language of Web console is set as English.Japanese System language of Web console is set as Japanese.
Edit button	Edits System Language.

Click **Edit**, the **Edit System Language** dialog box is displayed.



Click **Confirm** after selecting a system language from a pull down menu, and the **Confirm** dialog box is displayed.

Click **Back** to go back to the setting window.

Click **OK** to save the change content, and go back to the **Language** window.

Click **Cancel** to go back to the **Language** window without saving.

When change the settings, the changed settings are available after next login.

Security and Service

Set a Security and Service.

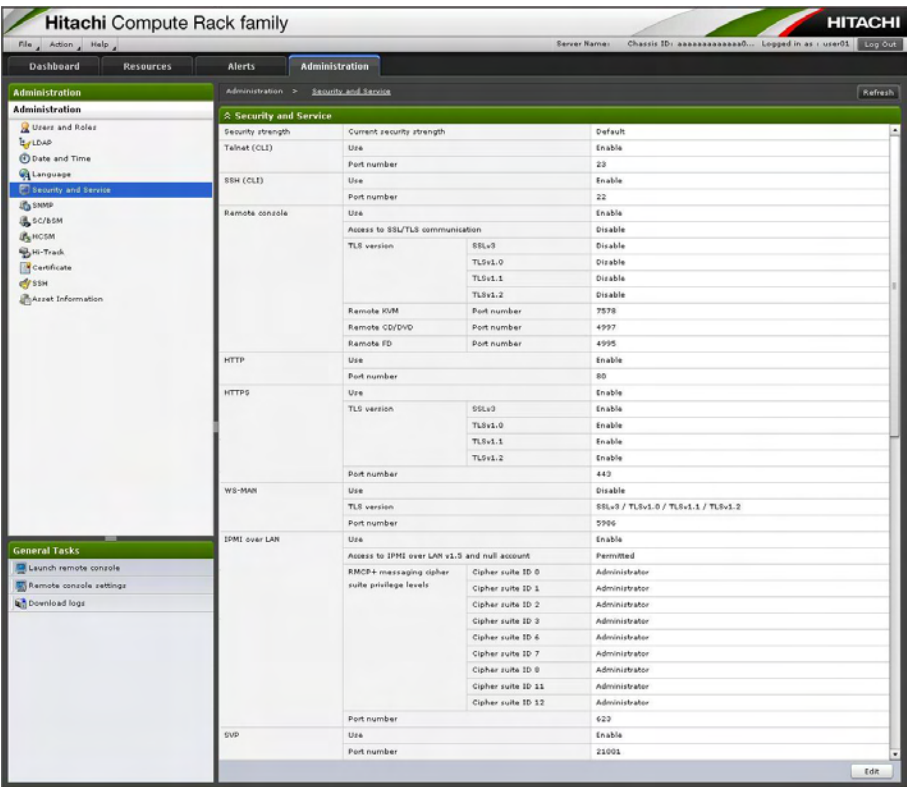


Table 4-28: Security and Service menu items

Menu items	Description
Refresh button	Refreshes information.
Security strength	Sets Security strength (see Security strength)
Telnet (CLI) SSH (CLI)	Enables or disables a port used Telnet or SSH. Not supported.
Remote Console ¹	Enables or disables a port used a Remote Console application, or set a port number. And sets Access to SSL/TLS communication or TLS version.
HTTP HTTPS	Enables or disables a HTTP port or HTTPS port used Web console And sets TLS version used HTTPS connection.
WS-MAN ²	Enables or disables a port used WS-Manager, or set a port number. And displays TLS version.
IPMI Over LAN ³	Enables or disables a port used IPMI Over LAN functions. And sets permission/ inhibition connection between IPMI over LAN v1.5 and null account, or set RMCP+ messaging cipher suite privilege levels (Cipher suite ID ⁴).
SVP	Enables or disables a port used SVP functions.
Edit button	Edits Security and Service.
Notes: 1 Only display when Remote Console application is applied. 2 While HTTPS is set as Disable, WS-MAN cannot be set as Enable. 3 IPMI Over LAN can only be available for some commands. 4 Cipher suite ID is defined IPMI specifications. Initial setting value of Cipher suite ID is compatible with setting value of conventional system unit.	

Click **Edit**, and the **Edit Security and Service** dialog box is displayed.

Edit Security and Service
Edit Security and Service settings.

Security and Service

Security strength
Current security strength: ☒ Default ☐ High

Telnet (CLI)
Use: ☐ Disable ☒ Enable
Port number: 23

SSH (CLI)
Use: ☐ Disable ☒ Enable
Port number: 22

Remote console
Use: ☐ Disable ☒ Enable
Access to SSL/TLS communication: ☒ Disable ☐ Enable
TLS version
SSLv3: ☐ Disable ☐ Enable
TLSv1.0: ☐ Disable ☐ Enable
TLSv1.1: ☐ Disable ☐ Enable
TLSv1.2: ☐ Disable ☐ Enable
Remote KVM
Port number: 7578
Remote CD/DVD
Port number: 4997
Remote FD
Port number: 4995

HTTP
Use: ☐ Disable ☒ Enable
Port number: 80

HTTPS
Use: ☐ Disable ☒ Enable
Port number: 443

WS-MAN
Use: ☒ Disable ☐ Enable
TLS version: SSLv3 / TLSv1.0 / TLSv1.1 / TLSv1.2
Port number: 5986

IPMI over LAN
Use: ☐ Disable ☒ Enable
Access to IPMI over LAN v1.5 and null account: ☐ Prohibited ☒ Permitted
RMCP+ messaging cipher suite privilege levels
Cipher suite ID 0: Administrator
Cipher suite ID 1: Administrator
Cipher suite ID 2: Administrator
Cipher suite ID 3: Administrator
Cipher suite ID 6: Administrator
Cipher suite ID 7: Administrator
Cipher suite ID 8: Administrator
Cipher suite ID 11: Administrator
Cipher suite ID 12: Administrator
Port number: 623

SVP
Use: ☐ Disable ☒ Enable
Port number: 21001

Confirm Cancel

Click **Confirm** after setting and entering each item, the **Confirm** dialog box is displayed.

Click **Back** to go back to the setting window.

Click **OK** to save the change content, and go back to the **Security and Service** window.

Click **Cancel** to go back to the **Security and Service** window without saving.



- All SSL/TLS versions cannot be disabled. When security strength is set as High, SSL/TLS versions cannot be enabled or disabled. Only TLS1.2 can be enabled or disabled.
 - Do not disable both of HTTP service and HTTPS service. If you disable both of HTTP service and HTTPS service, Web console cannot be connected. If you disable both of HTTP service and HTTPS service, start the system BIOS setup menu and then set **ServerMgmt > Reset BMC Web Connection** to **Yes, On next reset**, and save the setting in **Save & Exit**. BMC network setting (connection restriction of Web console network setting, user account setting, and HTTP service setting) is initialized. The system unit is restarted after the SERVICE LED on the system unit blinks about 30 to 60 seconds. Log in to the Web console with the factory default user name and password, and then set the Web console network setting (connection restriction of Web console network setting, user account setting, and HTTP service setting) again. When **Reset BMC Web Connection** is executed, **Service** and **Security and Service** are not initialized. When **Security strength** is set as Default in [Security and Service](#), **Reset BMC Web Connection** is executed, and then **Network and Security and Service** (without HTTP) are not initialized. When **Security strength** is set as **High**, **Reset BMC Web Connection** is executed, and then **Security strength** is set as Default, **Security and Service** is initialized. **Network** is not initialized.
 - When confirm the BMC network configuration by the system BIOS setup menu, see "BMC network configuration" of the "ServerMgmt" section in *Hitachi Compute Rack 210H/220H BIOS Guide*.
 - When click **OK** in the **Confirm** dialog box after changing **Security strength** while updating the BMC firmware or restoring the server settings, the dialog box that content indicated "wait a little while and try again" is displayed. Click **Close** to exit.
 - When click **OK** in the **Confirm** dialog box after changing **Security strength** while running BMC firmware or while turning on the system unit, the confirmation dialog box for restart execution is displayed again. Click **OK** to continue.
-



- When perform the operation occurred BMC communication after disconnecting from the system unit, the HTTP request error or Session failed dialog box is displayed. Logout and log back in Web console.



- Communications (such as HCSM or BIOS) and BMC functions (such as Web console and Remote console) are stopped after restarting BMC. These communications and functions cannot be available while BMC restart (30 to 90 seconds). Problem may occur such as displaying error messages due to stopping BMC communication service while restarting BMC. This problem may occur depending on a communication program. Do not restart BMC during running BIOS or operating a setup menu. BMC cannot communicate with BIOS, and then failures may occur in a system unit. We recommend that you restart BMC while a system unit is shut down.

SNMP > SNMP Agent

Set a SNMP Agent.

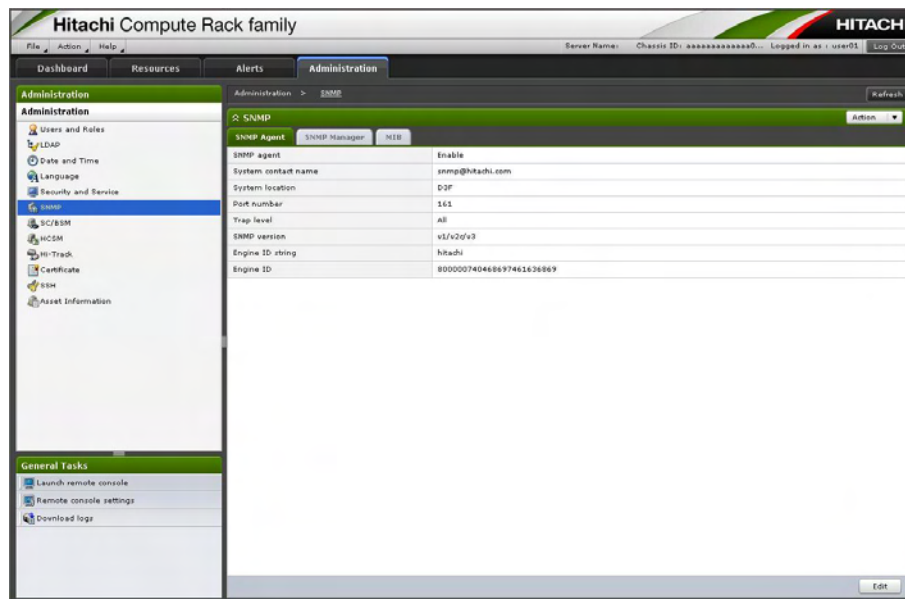


Table 4-29: SNMP Agent menu items

Menu items	Description
Refresh button	Refreshes information.
Action select button	Sends SNMP Trap. (see Send SNMP Trap)
SNMP agent	Displays enabling/disabling SNMP agent.
System contact name	Displays information of System contact name.
System location	Displays System location.
Port number	Displays a port number used SNMP agent.
Trap level	Displays Trap level.
SNMP version	Displays SNMP version of SNMP agent.
Engine ID string*	Displays Engine ID string used SNMP agent.
Engine ID*	Displays Engine ID that is created from Engine ID string.
Edit button	Sets a SNMP Agent.
* Only display when SNMP version is set as v1/v2c/v3.	



- When **Security strength** is changed from Default to High in [Security and Service](#) while SNMP agent is set as Enable and SNMP version is set as v1/v2c, SNMP agent is changed to Disable.
When **Security strength** is changed from Default to High in [Security and Service](#) while SNMP agent is set as Enable and SNMP version is set as v1/v2c/v3, SNMP agent is still set as Enable.



- When **Security strength** is changed from High to Default in [Security and Service](#), SNMP agent is changed to Disable and SNMP version is changed to v1/v2c.

Click **Edit**, the **Edit SNMP** dialog box is displayed.

Click **Confirm** after setting and entering each item, the **Confirm** dialog box is displayed.

Click **Back** to go back to the setting window.

Click **OK** to save the change content, and go back to the **SNMP Agent** window.

Click **Cancel** to go back to the **SNMP Agent** window without saving.

Send SNMP Trap

You can send SNMP Trap to all registered SNMP manager.

Click **Action** in the SNMP window, and select **Send SNMP Trap**. The following **Send SNMP Trap** window is displayed.

Click **OK** to send the SNMP Trap, and go back to the **SNMP** window.

Click **Cancel** to go back to the **SNMP** window without sending the SNMP Trap.

SNMP > SNMP Manager

Set a SNMP Manager.

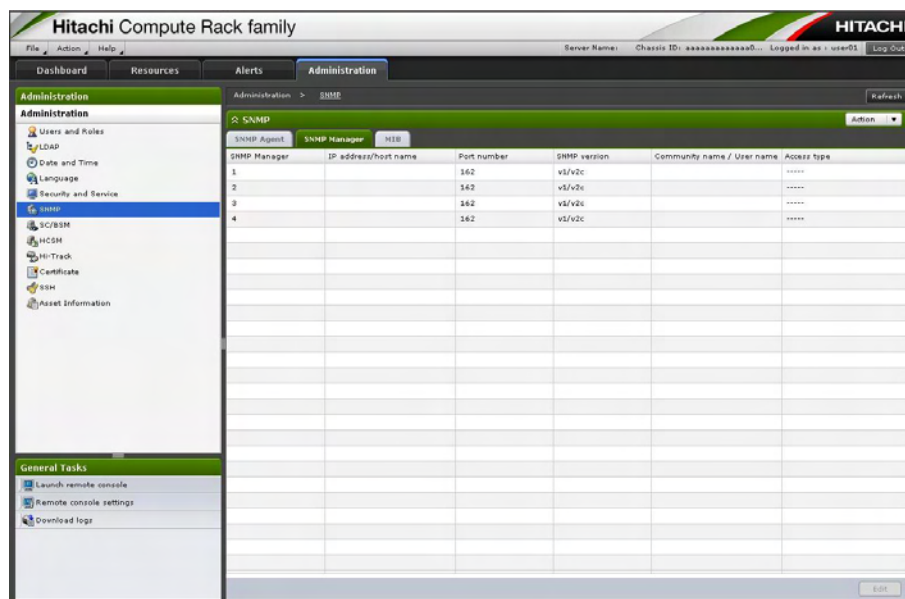


Table 4-30: SNMP Manager menu items

Menu items	Description
Refresh button	Refreshes information.
Action select button	Sends SNMP Trap. (see Send SNMP Trap)
SNMP Manager	Displays a registration Number.
IP address/host name	Displays IP address/host name.
Port number	Displays a port number of Trap report destination.
SNMP version	Displays SNMP version.
Community name/User name ^{1, 2}	Displays Community name/User name.
Access type ^{3, 4}	Displays Access type.
Edit button	Sets a SNMP Manager.
Notes: <ol style="list-style-type: none"> While SNMP version is set as "v1/v2c", "Community name" is displayed. While SNMP version is set as "v3", "User name" is displayed. While SNMP version is set as "v1/v2c", "-----" is displayed. While SNMP version is set as "v3", "Access type" is displayed. 	

Select a SNMP Manager and Click **Edit**, the **Edit SNMP Manager** dialog box is displayed.

Edit SNMP Manager

Edit SNMP Manager settings.

SNMP Manager

SNMP manager: 1

Remove setting: ☐ Remove this setting.

IP address/host name: 192.168.0.169

Port number: 20162

SNMP version: v3

User name: root

Access type: AuthPriv

Authentication type: MD5

Authentication password: *****

Encryption type: DES

Encryption password: *****

Confirm Cancel

- Community name is only displayed While SNMP version is set as "v1/v2c".
- User name and Access type are only displayed while SNMP version is set as "v3".
- Authentication type and Authentication password are only displayed while SNMP version or Access type is set as "v3", "AuthnoPriv", or "AuthPriv". Sets each Authentication type and Authentication password.
- Encryption type and Encryption password are only displayed while SNMP version or Access type is set as "v3" or "AuthPriv". Sets each Encryption type and Encryption password.

Click **Confirm** after entering each item, and the **Confirm** dialog box is displayed.

Click **Back** to go back to the setting window.

Click **OK** to save the change content, and go back to the **SNMP Manager** window.

Click **Cancel** to go back to the **SNMP Manager** window without saving.

SNMP > MIB

Download a Management Information Base (MIB) file.

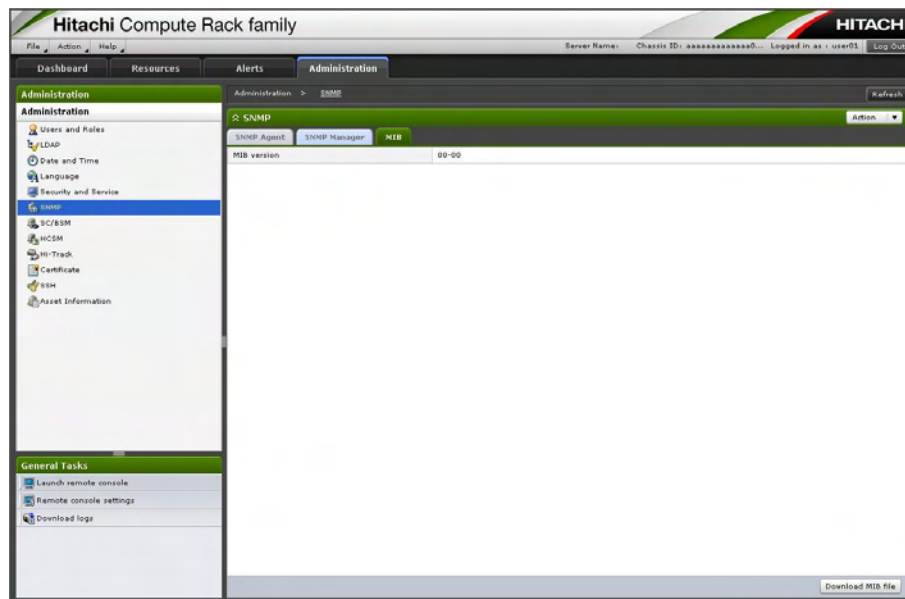
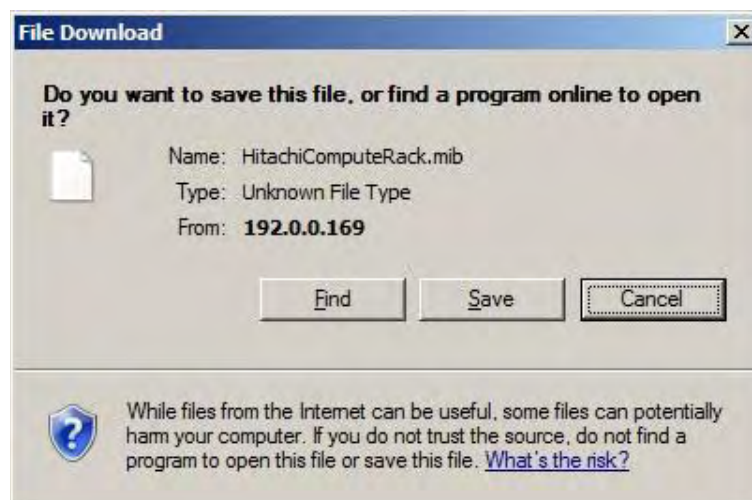


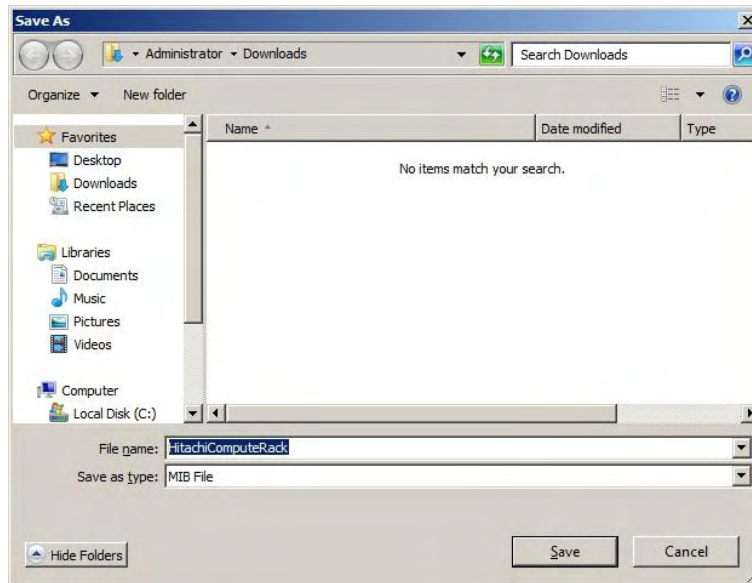
Table 4-31: MIB menu items

Menu items	Description
Refresh button	Refreshes information.
Action select button	Sends SNMP Trap. (see Send SNMP Trap)
MIB version	Displays MIB file version.
Download MIB file button	Downloads MIB file.

Click **Download MIB file**, and the following dialog box is displayed. Click **Save**.



The following dialog box is displayed, and click **Save** after selecting a destination.



MIB file is saved, and the download complete dialog box is displayed. Click **Close**.

SC / BSM Servers > SVP Alert Destination

This menu is not supported.

SC / BSM Servers > SVP Alert Notification

This menu is not supported.

HCSM Information

Set Hitachi Compute Systems Manager (HCSM).

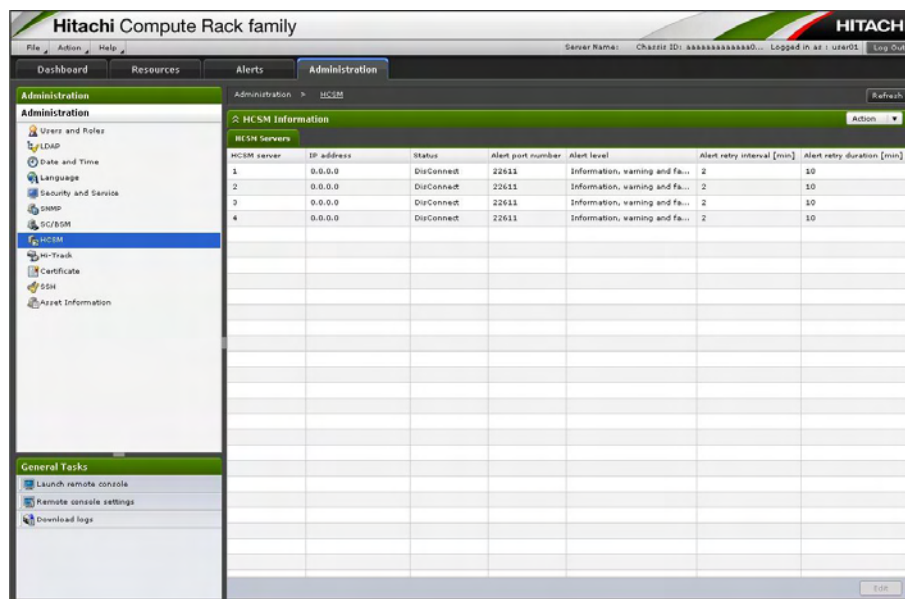
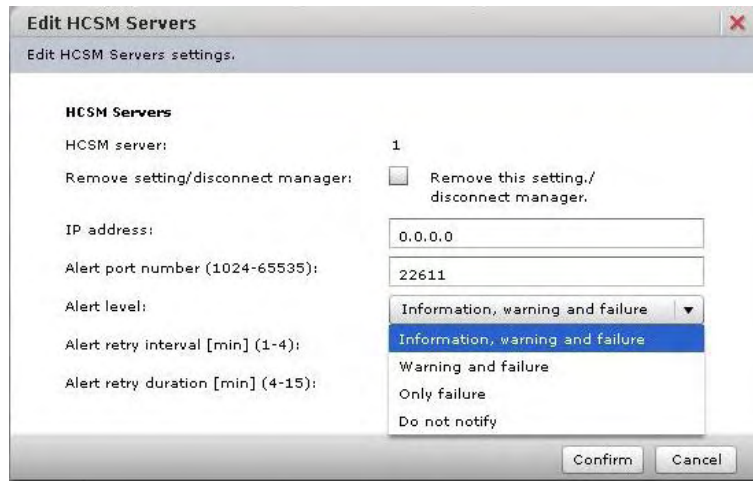


Table 4-32: HCSM Information menu items

Menu items	Description
Refresh button	Refreshes information.
Action select button	Sends HCSM test alert. (see Send HCSM Test Alert)
HCSM server	Displays a registration number of management server.
IP address	Displays IP address of management server.
Status	Displays a connection status to a management server.
Alert port number	Displays a port number used HCSM alert.
Alert level	Displays Alert level of HCSM alert. <ul style="list-style-type: none"> Do not notify: Alert is not notified. Only failure: Alert as failure level is notified. Warning and failure: Alert as warning and failure level is notified. Information, warning and failure: Alert as information, warning and failure level is notified.
Alert retry interval [min]	Displays Alert retry interval. Setting possible range is 1 to 4 minutes.
Alert retry duration [min]	Displays Alert retry duration. Setting possible range is 4 to 15 minutes.
Edit button	Sets HCSM.

Select a management server (HCSM server), and click **Edit**. The **Edit HCSM Servers** dialog box is displayed.



Click **Confirm** after entering each item, and the **Confirm** dialog box is displayed.

Click **Back** to go back to the setting window.

Click **OK** to save the change content, and go back to the **HCSM Information** window.

Click **Cancel** to go back to the **HCSM Information** window without saving.



When you forcibly disconnect to HCSM from Web console due to failure, set to check **Remove setting/disconnect manager** in the **Edit HCSM Servers** dialog box. However, all other settings are deleted in HCSM.

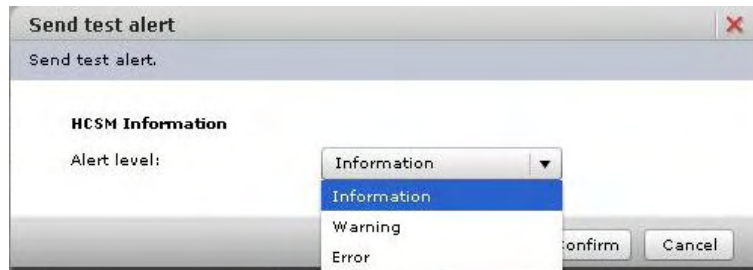


- Only when the Connection Status is "Unconnect", you can change Management server Information each setting.
- Enter Alert port number same as destination settings. Default value of Alert port number is 22611.
- VMware vSphere ESXi regards system BIOS time as UTC time, but system BIOS manages internal time as local time. So the time of BIOS is changed to the time a difference of local time and the UTC slipped off (it is not local time) when you set time by vSphere Client after installing VMware vSphere ESXi. You can confirm the difference of time on BIOS setup screen. HCSM's Alert time and BMC Web console time also refer System BIOS time, so these times also have difference of time from VMware vSphere ESXi set time.

Send HCSM Test Alert

You can send test alert to all registered management servers (HCSM).

Click the **Action** select button and select **Send HCSM Test Alert**, the following **Send HCSM Test Alert** dialog box is displayed.



Select **Alert level** as follows:

- Information: Send the alert as information level
- Warning: Send the alert as warning level
- Error: Send the alert as error level

Click **Confirm** after selecting the alert level, and the **Confirm** dialog box is displayed.

Click **OK** to send a test alert and go back to the **HCSM Information** window.
Click **Cancel** to go back to the **HCSM Information** window without sending.



Test alert is sent to all registered SNMP managers.

Hi-Track Information menu

Set Hi-Track Information menu.

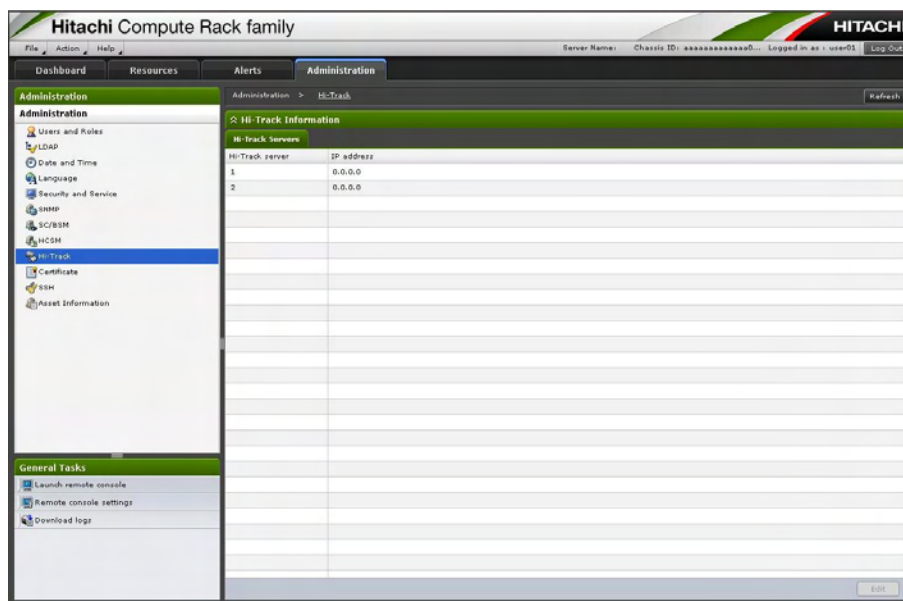
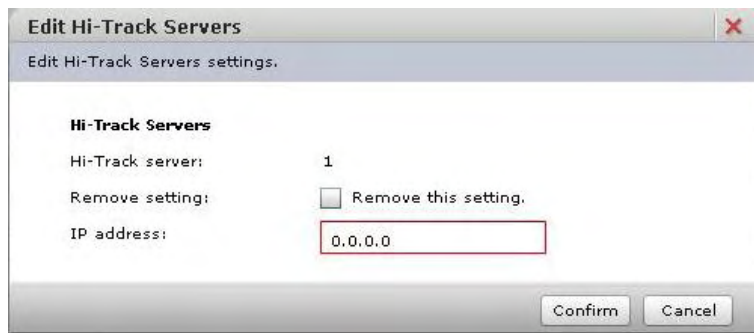


Table 4-33: Hi-Track Information menu items

Menu items	Description
Refresh button	Refreshes information.
Hi-Track server	Displays a registration number of Hi-Track server.
IP address	Displays IP address of Hi-Track server.
Edit button	Sets Hi-Track.

Select a Hi-Track server and click **Edit**, the **Edit Hi-Track Servers** dialog box is displayed.



Edit Hi-Track Servers

Edit Hi-Track Servers settings.

Hi-Track Servers

Hi-Track server: 1

Remove setting: ☐ Remove this setting.

IP address: 0.0.0.0

Confirm Cancel

Click **Confirm** after entering each item, and the **Confirm** dialog box is displayed.

Click **Back** to go back to the setting window.

Click **OK** to save the change content, and go back to the **Hi-Track Information** window.

Click **Cancel** to go back to the **Hi-Track Information** window without saving.

Certificate

Manage SSL server certificate. Display a registered server certificate, create self-signed certificate, create and down load CSR, and you can also import and download server certificate.

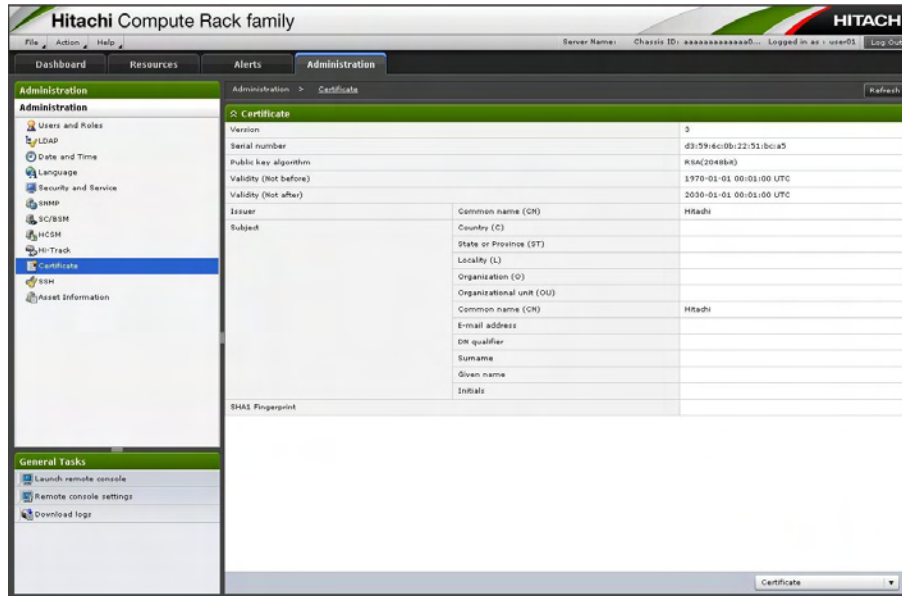


Table 4-34: Certificate menu items

Menu items	Description
Refresh button	Refreshes information.
Version	Displays server certificate version.
Serial number	Displays serial number.
Public key algorithm	Displays information for Public key algorithm.
Validity (Not before)	Displays a start day of a valid term.
Validity (Not after)	Displays a end day of a valid term.
Issuer	Displays Common name (CN).
Subject	Displays information for Subject. Country (C): Upper-case 2 alphabets. State or Province (ST), Locality (L), Organization (O), Organizational unit (OU): 1 to 60 alphanumeric characters and symbols Common Name (CN): 1 to 60 alphanumeric characters including a hyphen (-) and a period (.) Email Address: ASCII character string of up to 60 characters DN Qualifier, Surname, Given Name: 1 to 60 alphanumeric characters and symbols Initials: 1 to 30 alphanumeric characters and symbols
SHA1 Fingerprint	Displays information for SHA1 Fingerprint.

Menu items	Description
Certificate button	<p>Sets the following items from a menu.</p> <p>Create self-signed certificate: Enters required information to create self-signed certificate. (see Create self-signed Certificate)</p> <p>Create and download CSR: Enters required information to create CSR, and download CSR. (see Create and download CSR)</p> <p>Import server certificate: Specifies server certificate that is imported. (see Import server certificate)</p> <p>Download server certificate: Downs load registered server certificate. (see Download server certificate)</p>

Create self-signed Certificate

Click **Certificate**, and select **Create self-signed Certificate**. The following **Create self-signed Certificate** dialog box is displayed.

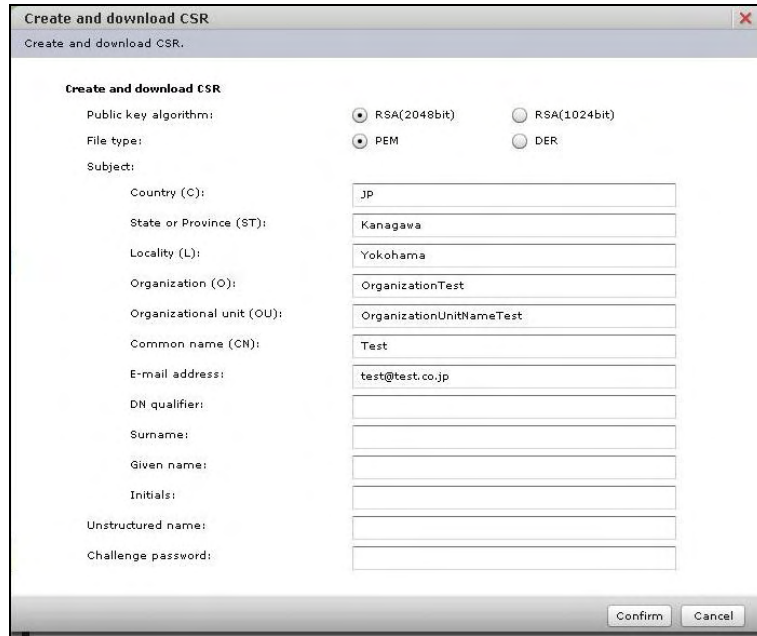
- Subject items are omissible except Common name (CN).
- The following symbols can be used for State or Province (ST), Locality (L), Organization (O), Organizational unit (OU), DN Qualifier, Surname, Given Name, Initials:
Blank symbol, ' (apostrophe), - (hyphen), , (comma), = (equal), / (slash), () (parentheses), . (period), : (colon), + (plus), and ? (question)

Click **Confirm** after entering each item, the **Confirm** dialog box is displayed.

Click **Back** to go back to the **Create self-signed Certificate** dialog box.
Click **Cancel** to go back to the **Certificate** window without saving.

Create and down load CSR

Click **Certificate**, and select **Create and down load CSR**. The following **Create and down load CSR** dialog box is displayed.



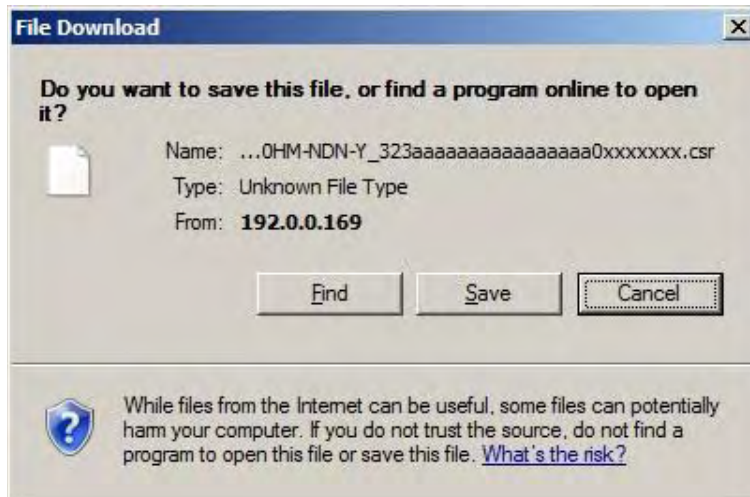
- File type: Select CSR file type that is downloaded, PEM or DER.
- Subject items are omissible except Common name (CN).
- The following symbols can be used for State or Province (ST), Locality (L), Organization (O), Organizational unit (OU), DN Qualifier, Surname, Given Name, Initials:
Blank symbol, '(apostrophe), - (hyphen), , (comma), = (equal), / (slash), ()(parentheses), . (period), : (colon), + (plus), and ? (question)
- Unstructured name: 1 to 60 alphanumeric characters and symbols (omissible)
- Challenge password: 1 to 30 alphanumeric characters and symbols (omissible)

Click **Confirm** after entering each item, and the **Confirm** dialog box is displayed.

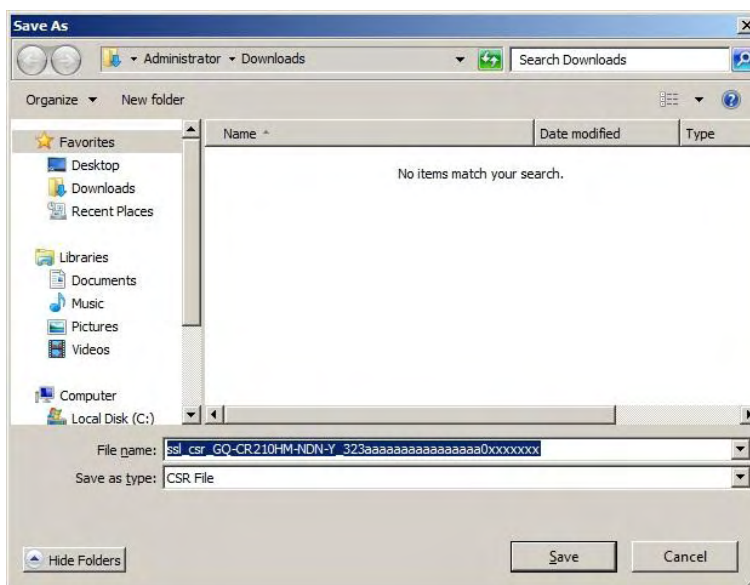
Click **Back** to go back to the **Create and down load CSR** dialog box.

Click **Cancel** to go back to the **Certificate** window without saving.

Click **OK**, and the following dialog box is displayed. Click **Save**.



The following dialog box is displayed, and click **Save** after selecting a destination.



Certificate file is saved, and the download complete dialog box is displayed. Click **Close**.

Import server certificate

Click **Certificate**, and select **Import server certificate**. The following **Import server certificate** dialog box is displayed.



- File type: Select certificate file type that is downloaded, PEM or DER.

Click **Browse** to select an imported server certificate file.

Click **Confirm** after selecting a server certificate file and file type, the **Confirm** dialog box is displayed. Confirm the selected file, and then click **OK** to start importing.

Click **Back** to go back to the **Import server certificate** dialog box.

Click **Cancel** to go back to the **Certificate** window without importing.

Download server certificate

Click **Certificate**, and select **Download server certificate**. The following **Download server certificate** dialog box is displayed.



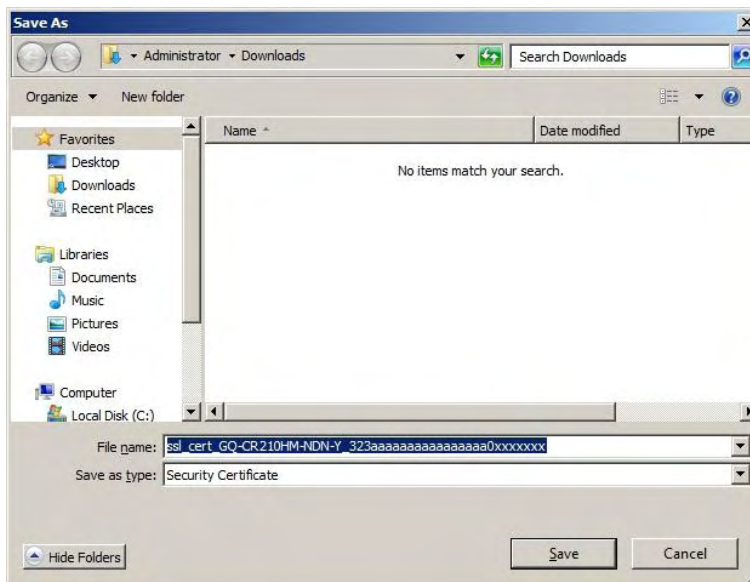
- File type: Select certificate file type that is downloaded, PEM or DER.

Click **Cancel** to go back to the **Certificate** window without downloading.

Click **Confirm** after selecting file type, and the following dialog box is displayed. Click **Save**.



The following dialog box is displayed, and click **Save**.



Certificate file is saved, and the download complete dialog box is displayed. Click **Close**.

SSH > SSH Host Key

Display and recreate SSH Host Key.

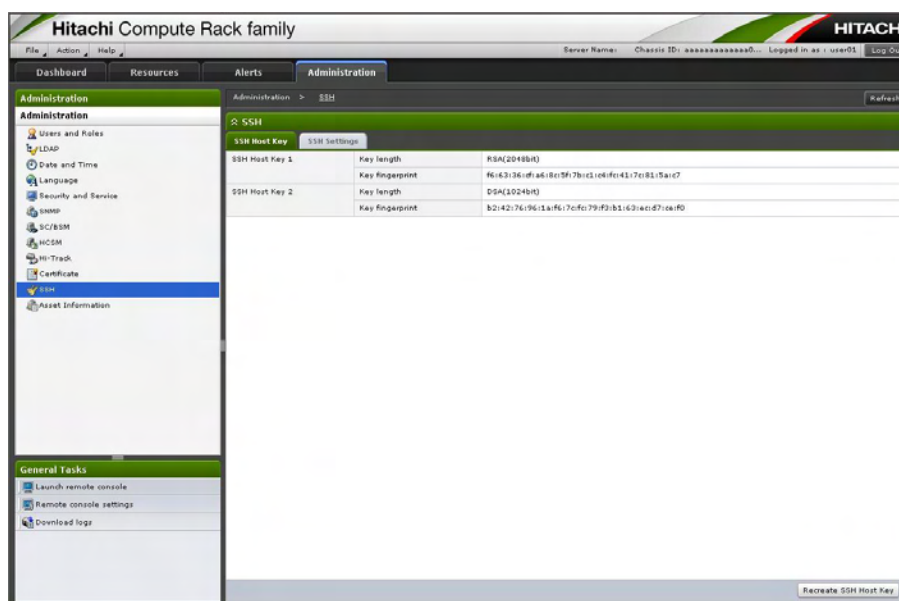


Table 4-35: SSH Host Key menu items

Menu items	Description
Refresh button	Refreshes information.
Key length	Displays host key length of SSH server.
Key fingerprint	Displays host key fingerprint of SSH server.
Recreate SSH Host Key button	Recreates host key of SSH server.

Click the **Recreate SSH Host Key** button, and the **Confirm** dialog box is displayed.

Click **OK** to recreate a host key, and go back to the **SSH Host Key** window. Click **Cancel** to go back to the **SSH Host Key** window without recreating.

SSH > SSH Settings

Set Authentication Method for SSH server.

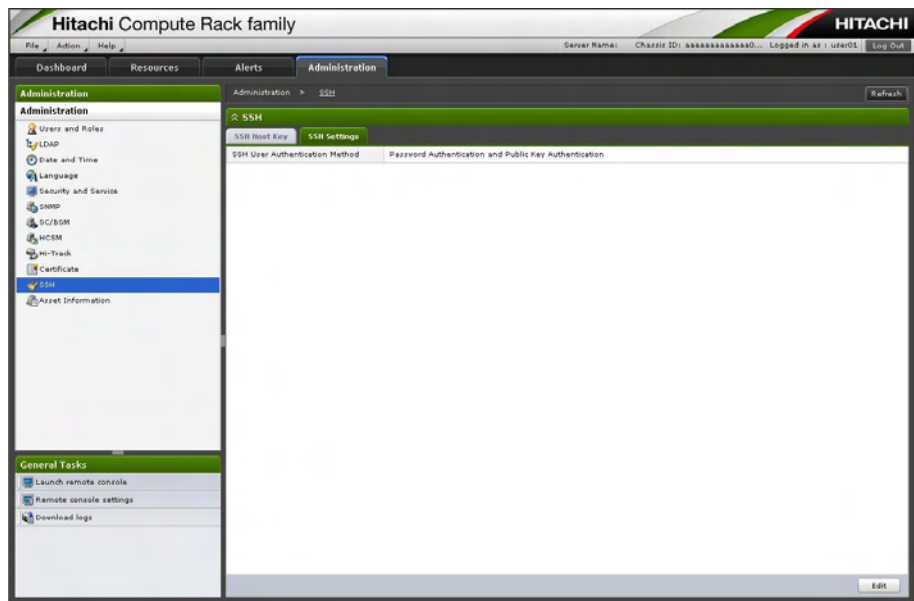


Table 4-36: SSH menu items

Menu items	Description
Refresh button	Refreshes information.
SSH User Authentication Method	Displays SSH User Authentication Method.
Edit button	Edits SSH User Authentication Method.

Click the **Edit** button, and the **Edit SSH Settings** dialog box is displayed.



Click **Confirm** after selecting **SSH User Authentication Method**, and the **Confirm** dialog box is displayed.

Click **Back** to go back to the setting window.
Click **OK** to save the change content, and go back to the **SSH Settings** window.
Click **Cancel** to go back to the **SSH Settings** window without saving.

Asset Information

Set Asset Information for a system unit.

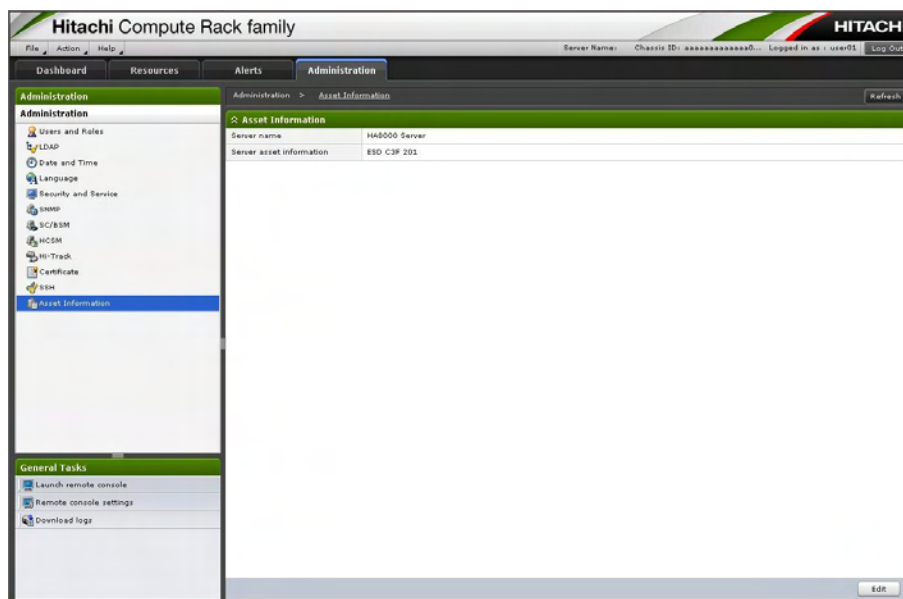
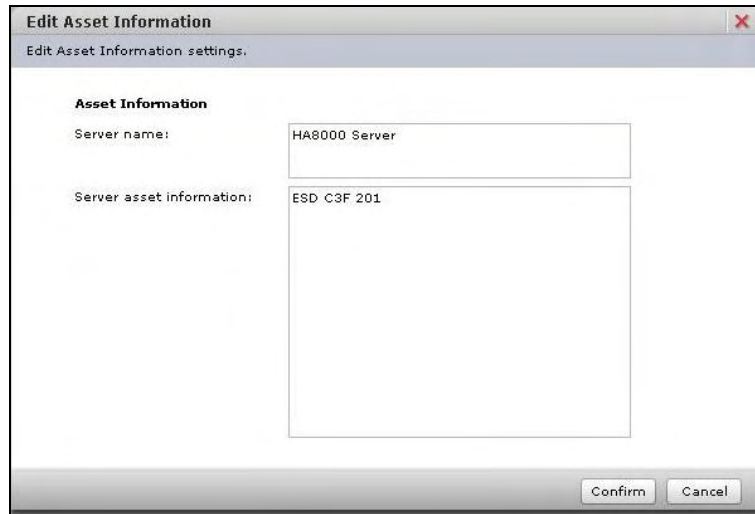


Table 4-37: Asset Information menu items

Menu items	Description
Refresh button	Refreshes information.
Server name*	Displays Server name. (1 to 63 alphanumeric characters and symbols) This information identifies a system unit as a log-in destination in Web console.
Server asset information*	Displays Server asset information. (1 to 63 alphanumeric characters and symbols) This information can be checked such as locality and administrator.
Edit button	Edits Server asset information.
* We recommend that the number of input character of Server name is 20 alphanumeric characters and symbols, and the number of input character of Server asset information is 25 alphanumeric characters and symbols. The information (such as server name, user name, and last login time) may not be displayed normally in the title.	

Click the **Edit** button, and the **Edit Asset Information** dialog box is displayed.



Edit Asset Information

Edit Asset Information settings.

Asset Information

Server name: HA8000 Server

Server asset information: ESD C3F 201

Confirm Cancel

Click **Confirm** after entering each item, and the **Confirm** dialog box is displayed.

Click **Back** to go back to the setting window.

Click **OK** to save the change content, and go back to the **Asset Information** window.

Click **Cancel** to go back to the **Asset Information** window without saving.

General Tasks

General Tasks is displayed on the left bottom pane of the **Resources** tab, the **Alerts** tab, and the **Administration** tab.

You can launch and set Web console, and download logs that BMC collected in **General Tasks**.

Launch remote console

When Remote Console application is applied to a system unit, **Launch remote console** is displayed. Remote Console is launched from this menu.

For details, see the manual attached to the Remote Console application.

Remote console settings

When Remote Console application is applied to a system unit, **Remote console settings** is displayed. Set the mouse mode for remote console operation.

For details, see [Setting mouse mode of Remote Console](#).

Download logs

Download logs that BMC collected.



Logs are used for at the time of investigating hardware failure. It is not necessary to collect logs in normal operation.

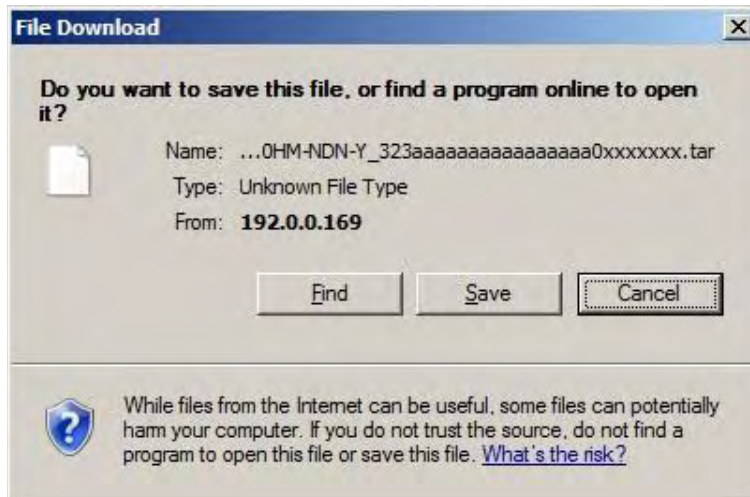
If failure occurs, we may request you to collect logs using Web console for a cause investigation.

In other ways, you can download logs from the following menus.

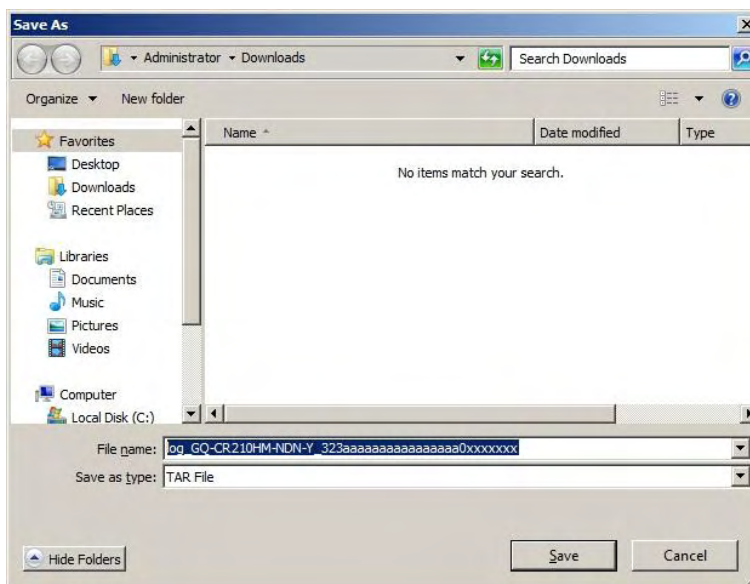
- **Dashboard** tab > **System Event Logs** > **Download logs** button
- **Operation** of menu > **Download logs**

Click **Download logs**, and the **Confirm** dialog box is displayed.

Click **Download**, and the following dialog box is displayed. Click **Save**.



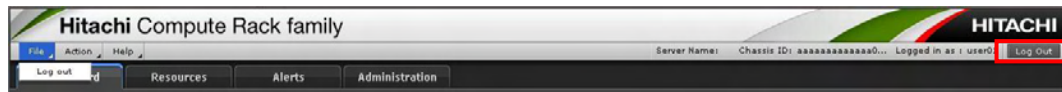
The following window is displayed, and selects the saved folder. Click **Save**.



The logs are saved, and the download complete window is displayed. Click **Close**.

Exiting Web console

By pressing **Log Out** on the right of the window or pressing **File** from menu > **Logout**, you can log out of the Web console.



If you close the Web browser without logging out, the user login state will continue until the automatic logout is performed in 30 minutes. Therefore, if you repeat this action of closing the Web browser without logging out, you cannot log in to the Web console again until a lapse of 30 minutes. Before closing the Web browser, be sure to press **Logout** and log out of the Web console.

How to use the Web console (BMC version: 09-79 or lower)

This chapter describes how to use the Web console in BMC version 09-79 or lower, and its initial setting and functionality.

- [Configuration of Web console menu](#)
- [Function of Web console](#)
- [Starting Web console](#)
- [Initializing Web console](#)
- [Web console menu items](#)
- [Exiting Web console](#)

Configuration of Web console menu

This section describes the Web console menu items. See the following chart.

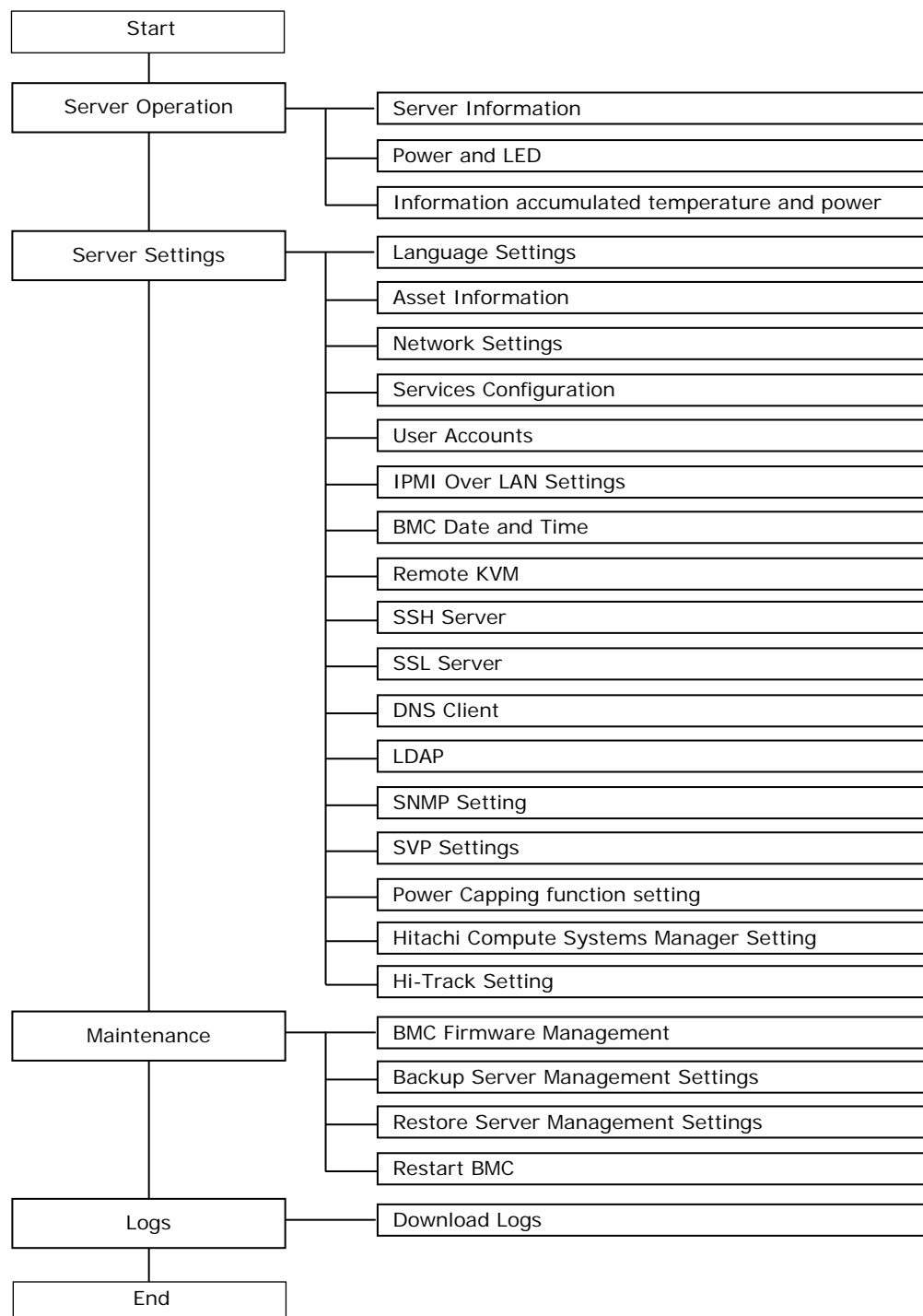


Figure 5-1: Web console menu (BMC version: 09-79 or lower)

Function of Web console

This section describes the functions that you can set from the Web console.

Functions

The Web console provides the following functions:

Table 5-1: List of functions

No.	Menu	Function
Server Operation		
1	Server Information	Displays the information of the system unit.
2	Power and LED	Displays the power, reset operation, and LED status.
3	Information accumulated temperature and power	Displays information about the temperature and the accumulation of power.
Server Settings		
4	Language Settings	Sets a language that you use on the Web console.
5	Asset Information	Sets asset information.
6	Network Settings	Displays network settings and sets connection restrictions.
7	Services Configuration	Enables or disables a service provided by the system unit and sets a port number.
8	User Accounts	Displays and sets a user account.
9	IPMI Over LAN Settings	Sets IPMI Over LAN.
10	BMC Date and Time	Displays and sets BMC time and time zone.
11	Remote KVM	Sets mouse mode of remote console.
12	SSH Server	Sets an SSH authentication method and displays a host key.
13	SSL Server	Manages an SSL server certificate.
14	DNS Client	Sets a DNS server.
15	LDAP	Sets user authentication by LDAP.
16	SNMP Setting	Sets a SNMP server.
17	SVP Settings	Displays and sets a destination where a SVP alert is reported.
18	Power Capping function setting	Sets a mode for power saving function.
19	Hitachi Compute Systems Manager Setting	Sets a Hitachi Compute Systems Manager (HCSM) server.
20	Hi-Track Setting	Sets a Hi-Track server.

No.	Menu	Function
Maintenance		
21	BMC Firmware Management	Displays and update BMC firmware information.
22	Backup Server Management Settings	Backs up the settings of system unit.
23	Restore Server Management Settings	Restores the settings of system unit.
24	Restart BMC*	Restarts BMC.
Logs		
25	Download Logs	Collects and downloads a system unit log.
* This function is available only for "ceconsl" users (users for maintenance work).		

Requiring Role

The Web console is restricted on operation according to the roles assigned to each use. The operations that can be performed on a role basis are as follows:

Table 5-2: Requiring role to operation

No.	Menu	Operation allowed by role					
		Administrator	Server Operation	User Account Management	Service Settings	IPMI Over LAN	CE
Server Operation							
1	Server Information	All	All	Information display only	Information display only	Information display only	All
2	Power and LED						
3	Information accumulated temperature and power						
Server Settings							
4	Language Settings	All	Information display only	Information display only	All	Information display only	All
5	Asset Information						None
6	Network Settings						All
7	Services Configuration						
8	User Accounts		Only own account setting	Display and setting of general users	Only own account setting	None	
9	IPMI Over LAN Settings	None	None	None	None	All	
10	BMC Date and Time	All	Information display only	Information display only	All	Information display only	All
11	Remote KVM						
12	SSH Server						None
13	SSL Server						

No.	Menu	Operation allowed by role					
		Administrator	Server Operation	User Account Management	Service Settings	IPMI Over LAN	CE
14	DNS Client	All	Information display only	Information display only	All	Information display only	All
15	LDAP		None	None	None	None	None
16	SNMP Setting		Information display only	Information display only	All	Information display only	None
17	SVP Settings		All	All			
18	Power Capping function setting		Information display only	Information display only			None
19	Hitachi Compute Systems Manager Setting						
20	Hi-Track Setting						
Maintenance							
21	BMC Firmware Management	All	Information display only	Information display only	Information display only	Information display only	All
22	Backup Server Management Settings		None	None	None	None	
23	Restore Server Management Settings						
24	Restart BMC	None					
Maintenance							
25	Download Logs	All	All	None	None	None	All



Remote Console and **Remote Media** roles do not affect on the Web console operation. Those roles are used to enabling the each function.

Starting Web console

This section describes how to log in the Web console.

1. Power on the system unit.
2. Start the console terminal's Web browser.
3. Enter the following URL into the address bar:

When the HTTP (Hypertext Transfer Protocol) is used for connection, enter the following into the address bar:

`http://<IP address of management interface>`

When the HTTPS (Hypertext Transfer Protocol over Secure Socket Layer) is used for connection, enter the following into the address bar:

`https://<IP address of management interface>`

When succeed in the connection, the login window opens.

4. Enter a user name and a password in the login window.



- When your user authentication is successful and you log in to the Web console, the **server information** is displayed.



- With the factory defaults for the system unit, you can log in as an administrator by entering `user01` and `pass01` in response to the **user name** and **password** in the login window.
If you have been changing an above user account setting, you can not log in the Web console. Enter the user name and password that have been already set to log in.
- For your security, we strongly recommend that you set a user account different from the factory default.
For details, see [Setting a user account](#).
- The **Launch Remote Console** button is displayed on the console screen when the Remote Console application is applied.
When you click **Launch Remote Console**, the Remote Console application is started and the user name and password entry window for the Remote Console is displayed.
For details on how to use the Remote Console application, see *Remote Console Application User's Guide*.
- Up to two users can log in to the Web console simultaneously. If two users have already logged in, **Could not login on the Web console since it reached max sessions**. is displayed, and you cannot log in.
- If no operation is done for 30 minutes or longer when you has logged in to the Web console, an automatic logout will be performed.

Initializing Web console

This section describes the initial setting of the Web console. You should initially set the following data:

- [Setting user account](#)
- [Setting mouse mode of Remote Console](#)
- [Setting BMC date and time](#)
- [Setting BMC network](#)

Setting user account

The setting of a user account is required for remote operation of the system unit. Each of the registered users can be given a user name, a password, and the authority for the Web console operation as well as can enable or disable own account.

For your security, we strongly recommend that you set a user account different from the factory default.

You can set above information in the **Configure User Accounts** window. Click **Server Setting** from the top tab, and then click **User Accounts** in the left pane.

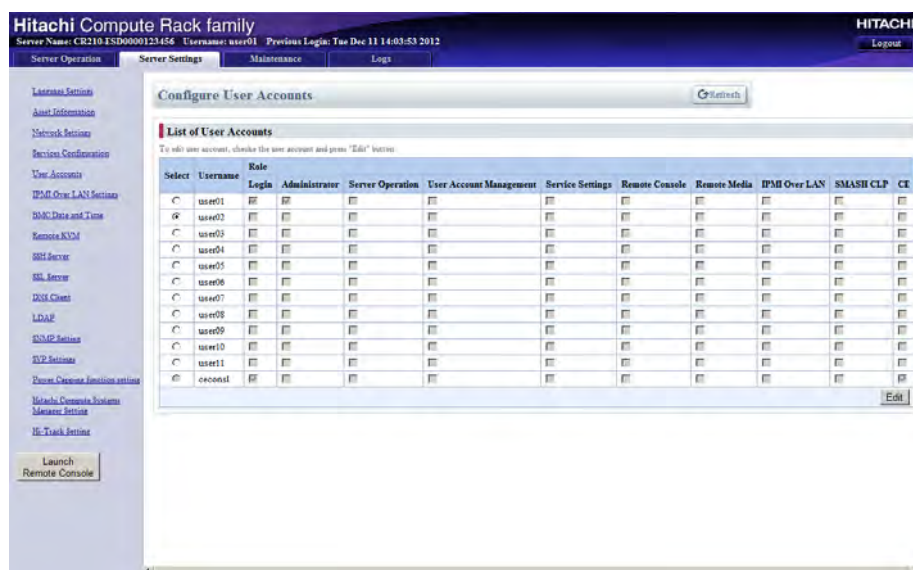


If you forget your user name and password to log in to the Web console, start the system BIOS setup menu and then set and save ServerMgmt > Reset BMC Web Connection to **Yes, On next reset**. BMC network setting is initialized.

When BMC is restarted, the SERVICE LED on the system unit blinks about 30 to 60 seconds. Log in to the Web console with the factory default user name and password after restarting BMC, and then set BMC network again.

Configure User Accounts menu

Click **Server Setting** from the top tab, and then click **User Accounts** in the left pane. The following window is displayed.



The following table shows description of menu items in the window.

Table 5-3: Configure User Accounts menu items

Menu items	Description
Refresh button	Refreshes user account information.
Select	Radio button for selecting a user account.
Username	User account name
Role	
Login	Displays the roles given to user account.
Administrator	
Server Operation	
User Account Management	
Service Settings	
Remote Console	
Remote Media	
IPMI Over LAN	
SMASH CLP	
CE	
Edit	Go to the Configure User Accounts window. However, this is valid only when the Radio button is checked.

Roles

Giving roles to a user account allows the setting of actions that the user can do. Each has the following meaning:

Table 5-4: Role allowing operation and function

Role name	Description
Login	A role for logging in to the service provided by the Web console. Any user without this role is considered invalid and cannot log in to a service.
Administrator	A role representing the user authority for an administrator. Any user with this role can perform all the functions of Web console except setting IPMI Over LAN and BMC restart.
Server Operation	A role for controlling the power to the system unit and making a reset operation.
User Account Management	A role for setting a user account.
Service Settings	A role for setting a service provided by the system unit.
Remote Console*	A role for the Remote Console function to display the system unit screen on a console terminal, and remotely manipulating both keyboard and mouse.
Remote Media*	A role for using the remote floppy disk function and remote CD/DVD function.
IPMI Over LAN	A role for setting a user account and an authentication type for IPMI Over LAN.
SMASH CLP	A role for setting user account for SMASH.
CE	A role representing the user authority for maintenance work, which can be given to cecons1 user only.
* The setting becomes valid when the Remote Console application is applied.	

Initial setting of a user account

The initial setting of a user account is as follows:

Table 5-5: Initial settings of user account

Username	Password	Role	Description
user01	pass01	Login Administrator	A user for system unit administration. This role is unchangeable.
user02	pass02	None	General users
user03	pass03		
user04	pass04		
user05	pass05		
user06	pass06		
user07	pass07		
user08	pass08		
user09	pass09		
user10	pass10		
user11	pass11		
ceconsl	Set at shipment	Login CE	A user for maintenance work. Maintenance personnel use this role during maintenance work. This setting is unchangeable.

Configure User Accounts > Edit User Accounts

To change a user account, check the radio button of a user account that you want to change in the **Configure User Accounts** window, and click **Edit**. The following window for setting the selected user account is displayed.

The screenshot shows the 'Hitachi Compute Rack family' Web console interface. The top navigation bar includes 'Server Operation', 'Server Settings', 'Maintenance', and 'Logs'. The 'Server Settings' tab is active. The left sidebar lists various configuration options, with 'User Accounts' selected. The main content area is titled 'Configure User Accounts' and contains the 'Edit User Accounts' form. The form includes fields for Username (set to 'user02'), Password (masked with '*****'), and Password (Confirm) (masked with '*****'). The Role section features a list of roles with radio buttons; 'User Account Management' is selected. Below the roles are four SSH Public Key entries, each with a 'Key Data' label and a 'Register Public Key' button. At the bottom of the form are 'Back', 'Reset', and 'Modify' buttons.

The following table shows description of menu items in the window.

Table 5-6: Configure User Accounts > Edit User Accounts menu items

Menu items		Description
Username		User account name (up to 32 characters)
Password		Entry of a password (up to 32 characters)
Password (Confirm)		Re-entry of a password
Role		
	Login	A checked role is given to a user account.
	Administrator	
	Server Operation	
	User Account Management	
	Service Settings	
	Remote Console	
	Remote Media	
	IPMI Over LAN	
	SMASH CLP	
SSH Public Key1, SSH Public Key2, SSH Public Key3, SSH Public Key4		
	Key Data	Display information of a public key data. If a public key data is not registered, display Not Registered .
	Key Type	
	Fingerprint	
	Options	
	Comment	
	Update Public Key	Update a specified public key data.
	Delete Public Key	Delete a public key data.
	Register Public Key	Register a specified public key.
Back button		Disables what you edited, and returns to the Configure User Accounts window.
Reset button		Disables what you edited, and returns to the status before editing.
Modify button		Enables what you edited, and goes to the confirming window.



- **Username** is a mandatory input item.
- When you set a password, enter the same value for both **password** and **password (Confirm)**.
- When you edit a user account, a password is not a mandatory item. When you do not enter a password, the BMC decides that the password remains unchanged.
- You can register a SSH public key file made with OpenSSH.
- A maximum size of a SSH public key file which you can register is 2 KB.
- The **user01**, which the administrator user's role is unchangeable.
- Only the user with Administrator role can change a role.
- The **cecons1** is a user for maintenance personnel. Maintenance personnel use this role when a maintenance service is offered. This setting is unchangeable.

Changes the settings of a user account.

And then click **Modify**. The following Confirm window is displayed.

Hitachi Compute Rack family
Server Name: CR210-ESD0000123456 Username: user01 Previous Login: Tue Dec 11 14:03:53 2012

Server Operation Server Settings Maintenance Logs

Launches Settings
Asset Information
Network Settings
Services Configuration
User Accounts
IPMI Over LAN Settings
BMC Date and Time
Remote KVM
SSH Server
SSH Server
SSH Client
LDAP
SNMP Settings
VTP Settings
Power, Chassis, Sensor settings
Hitachi Compute Rack Family
Management Settings
Hi-Track Settings

Launch Remote Console

Configure User Accounts

Edit User Account (Confirm)

If "Confirm" button is pressed, the user account will be modified as follows.

Username	user02
Password	Will be modified
Role	Login User Account Management
SSH Public Key1	Will not be modified
SSH Public Key2	Will not be modified
SSH Public Key3	Will not be modified
SSH Public Key4	Will not be modified

Back Confirm

Click **Confirm** to save the change settings of a user account.

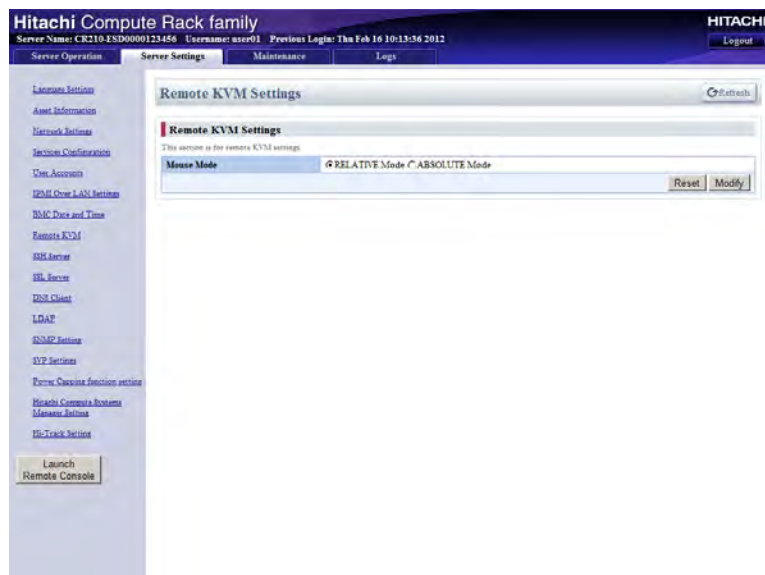


If you want to return to the status before editing, click **Back**.

Setting mouse mode of Remote Console

When the Remote Console application is applied to the system unit, set the mouse mode for remote console operation.

Click **Server Setting** from the top tab, and then click **Remote KVM** in the left pane. The following window is displayed.



The following table shows description of menu items in the window.

Table 5-7: Remote KVM Settings menu items

Menu items	Description
Refresh button	Refreshes information.
Mouse Mode	RELATIVE Mode: A mode for manipulating the mouse of remote console using the mouse cursor on the system unit screen. For use of a non-Windows OS. ABSOLUTE Mode: A mode for manipulating the mouse of remote console using the mouse cursor of a console terminal. Use this mode when the OS of the system unit is Windows.
Reset button	Disables what you edited, and returns to the status before editing.
Modify button	Enables what you edited, and goes to the confirming window.

Set mouse mode in accordance with the OS that you install.
And then click **Modify**. The following Confirm window is displayed.



Click **Confirm** to save the change settings of mouse mode.



When changing the mouse mode, terminate the remote console first. An attempt to change the mouse mode while the remote console is active, the mouse cursor may not work normally.



- If you want to return to the status before editing, click **Back**.
- For details on how to use the Remote Console application, see *Remote Console Application User's Guide*.

Setting BMC date and time

The setting of BMC date and time is required for time stamp of an error log.

Before operating the system unit, set the date and time of both Web console and system BIOS. For the setting of the system BIOS, see *Hitachi Compute Rack 210H/220H BIOS Guide*.

Click **Server Setting** from the top tab, and then click **BMC Date and Time** in the left pane. The following window is displayed.

The screenshot shows the 'Hitachi Compute Rack family' web interface. The top bar includes the server name 'CR210-ESD0000123456', username 'user01', and previous login time 'Thu Feb 16 10:05:14 2012'. The 'Server Settings' tab is active. The left navigation pane lists various settings, with 'BMC Date and Time' selected. The main content area is titled 'BMC Time' and contains 'Time and Timezone Settings'. This section includes a 'Time Synchronization Method' dropdown (set to 'Do Not Use NTP'), 'Month/Day/Year' fields (02/16/12), 'Time' fields (10:47:07), 'NTP Server 1' and 'NTP Server 2' fields, and a 'Timezone' dropdown (set to '+00:00'). A 'Refresh' button is in the top right, and 'Reset' and 'Modify' buttons are at the bottom right.

The following table shows description of menu items in the window.

Table 5-8: BMC Time menu items

Menu items	Description
Refresh button	Refreshes information.
Time Synchronization Method	<ul style="list-style-type: none"> • Do Not Use NTP: BMC reads and synchronizes the system clock of the system unit periodically. • Use NTP: BMC time is synchronized with the time distributed by an external NTP server. Set an NTP server address according to NTP Settings.
Month/Day/Year Time	Enter a date and local time.
NTP Settings	When setting Time Synchronization Method to Use NTP , enter the IP address of NTP server.
Timezone (from -12:00 to +14:00)	Set the time zone of the local area where the system unit is installed, according to its OS.
Reset button	Disables what you edited, and returns to the status before editing.
Modify button	Enables what you edited, and goes to the confirming window.

Set BMC date and time, and then click **Modify**. The following Confirm window is displayed.

Hitachi Compute Rack family
Server Name: CR210-ESD0000123456 Username: user01 Previous Login: Thu Feb 16 10:05:14 2012

BMC Time

Time and Timezone Settings (Confirm)

If "Confirm" button is pressed, time and timezone setting is modified as follows.

Time Synchronization Method	Do Not Use NTP
Month/Day/Year	02/16/12
Time	10:47:07
NTP Settings	NTP Server 1 NTP Server 2
Timezone (from -12:00 to +14:00)	+00:00

[Back](#) [Confirm](#)

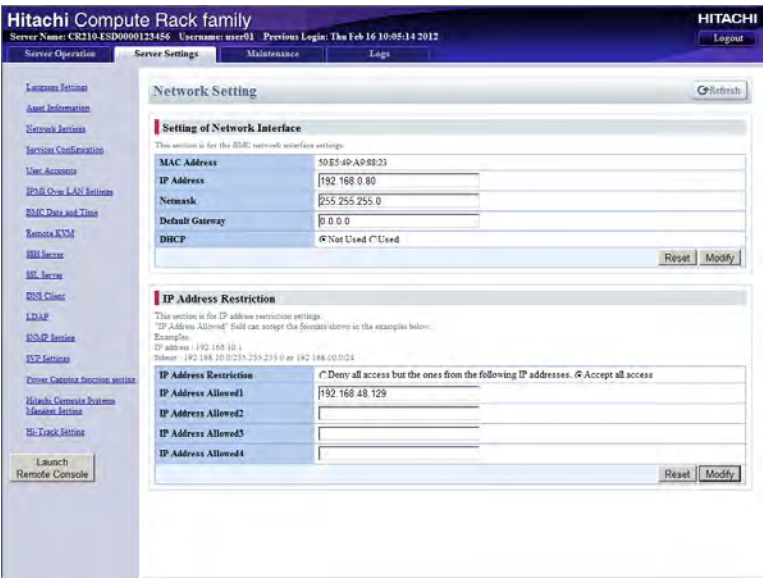
Click **Confirm** to save the change settings of BMC date and time.

Setting BMC network

You can change the BMC network setting of the system unit from the factory defaults in accordance with your system environment.
When the BMC network setting is changed, the network is shut off and restarts.
After that, you can connect to the BMC network only in the environment changed in setting. Confirm that the settings are correct when changing the BMC network setting.

You can make setting to restrict the IP address of network device allowed connecting to the system unit. Up to four IP addresses of the network devices that permits connection to the system unit.

Click **Server Setting** from the top tab, and then click **Network Settings** in the left pane. The following window is displayed.



The following table shows description of menu items in the window.

Table 5-9: Network Setting menu items

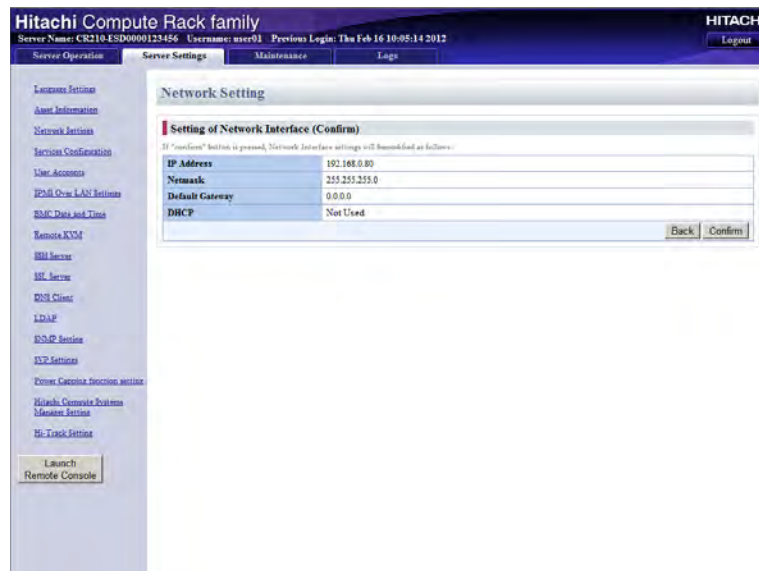
Menu items	Description
Refresh button	Refreshes information.
MAC Address IP Address Netmask Default Gateway	Sets the BMC network. For the factory defaults of BMC network settings which are IP address, subnet mask, and default gateway, see Considering BMC network setting . For the DNS setting, see DNS Client Settings menu .
DHCP	Enables or disables the DHCP*.
IP Address Restriction	Enables or disables the connection IP address restriction function.
IP Address Allowed1 IP Address Allowed2 IP Address Allowed3 IP Address Allowed4	Enter an IP address to permit connection to the system unit. You can set a single IP address or subnet. (Example) Single IP address: 192.168.10.1 Subnet: 192.168.10.0/255.255.255.0 or 192.168.10.0/24
Reset button	Disables what you edited, and returns to the status before editing.
Modify button	Enables what you edited, and goes to the confirming window.
* When you set DHCP to Used , settings of IP Address , Netmask , and Default Gateway are disabled.	



When you set **DHCP** to **Used**, an IP address of the BMC network may be changed depending on the DHCP server.
We recommend you use a DHCP only as temporary use to initialization of an IP address.

Set BMC network items and restriction IP address. And then click Modify. The following Confirm window is displayed.

- When changing **Setting of Network Interface** items:



- When changing **IP Address Restriction** items:

The screenshot shows the Hitachi Compute Rack family Web console interface. The top header includes the server name 'CR210-ESD0000123456', username 'user01', and previous login time 'Thu Feb 16 10:05:14 2012'. The main navigation menu on the left lists various settings categories: Language Settings, Asset Information, Network Settings, Service Configuration, User Accounts, IPMI Over LAN Settings, BMC Data and Time, Remote KVM, BMC Server, MSL Server, DNS Client, LDAP, SNMP Settings, VTY Settings, Power Control/Shutdown settings, Hitachi Compute Rack System Monitor Settings, and Hit-Track Settings. The 'Network Setting' section is currently selected, displaying the 'IP Address Restriction' configuration. A note states: 'If "confirm" button is pressed, IP address restriction settings will be modified as follows'. The configuration table is as follows:

IP Address Restriction	Accepts all access
IP Address Allowed1	192.168.48.129
IP Address Allowed2	
IP Address Allowed3	
IP Address Allowed4	

At the bottom right of the table, there are 'Back' and 'Confirm' buttons.

Click **Confirm** to save the change settings of BMC network.

When you change **Setting of Network Interface** items, the BMC terminates the Web console, and shuts off the network to change the network settings.

After that, enter the changed IP address to the Web browser, and then log in to the Web console.

Web console menu items

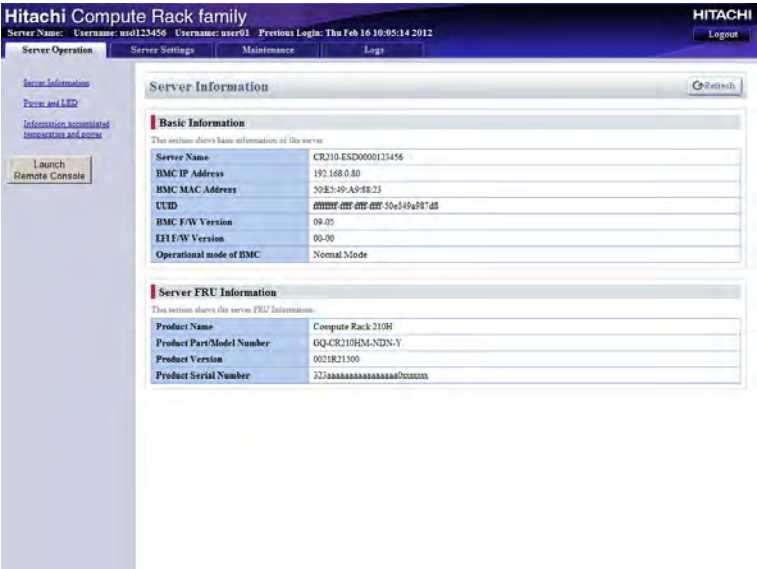
This section describes the Web console menus and setting items.

Server Operation tab

Server Operation tab enables you to refer to the system unit identification information and set remote power operations.

Server Information menu

Click **Server Operation** from the top tab, and then click **Server Information** in the left pane. The following window is displayed.



The following table shows description of menu items in the window.

Table 5-10: Server Information menu items

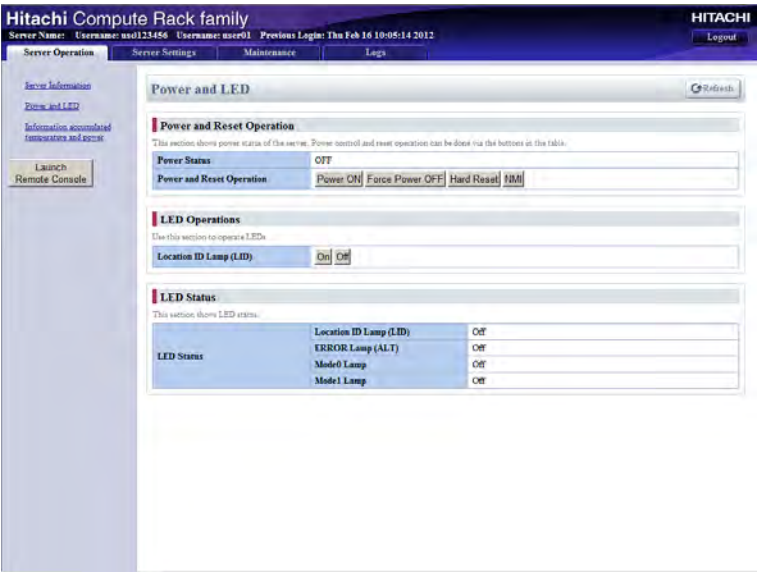
Menu items	Description
Refresh button	Refreshes information.
Server Name	Displays a server name set in Asset Information menu
BMC IP Address	Displays a BMC's IP address for system unit. For BMC's IP address factory defaults, see Considering BMC network setting . For the change of BMC's IP address, see Setting BMC network .
BMC MAC Address	Displays a BMC's MAC address.
UUID	Displays a UUID.
BMC F/W Version	Displays a BMC's firmware version.
EFI F/W Version	Displays an EFI's firmware version.
Operational mode of BMC	Displays BMC's operating mode.
Product Name*	Displays the product name of system unit.
Product Part/Module Number*	Displays the model information of system unit.
Product Version*	Displays the hardware version of system unit.
Product Serial Number*	Displays the product serial number of system unit.
* Those items are displayed about Field-Replaceable Unit information (FRU). When the information has not been set, "N/A" is displayed.	



Types of BMC's operating modes are Normal Mode and Maintenance Mode. Maintenance Mode is used only by maintenance personnel during maintenance work. If **Maintenance Mode** is displayed in **Operational mode of BMC**, press the FUNCTION switch for at least 10 seconds with the tip of a ballpoint pen to cancel that mode.

Power and LED menu

Click **Server Operation** from the top tab, and then click **Power and LED** in the left pane. The following window is displayed.



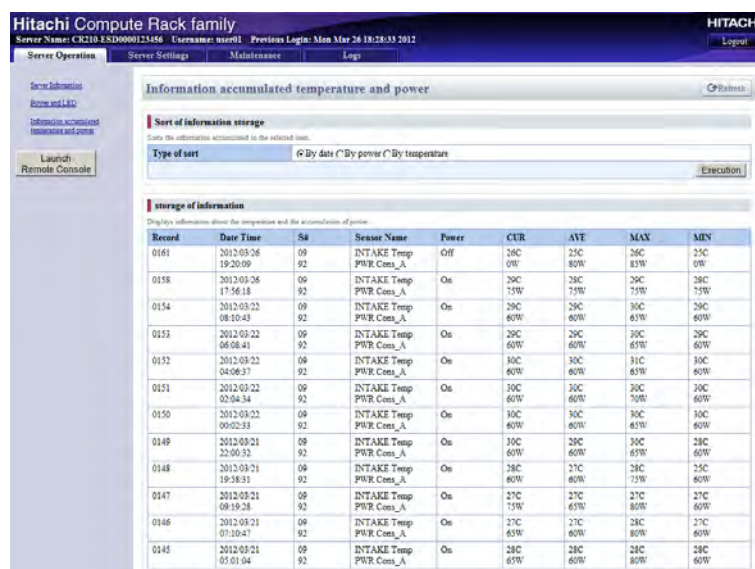
The following table shows description of menu items in the window.

Table 5-11: Power and LED menu items

Menu items	Description
Refresh button	Refreshes information.
Power Status	<p>Displays the power supply status of the current system unit.</p> <ul style="list-style-type: none"> • OFF: Power-OFF status • ON: Power-ON status • OFF (Power-ON suppressed): Power cannot be turned on due to a power failure.
Power and Reset Operation	<p>Operations the power to the system unit.</p> <ul style="list-style-type: none"> • Power ON Turns on the power to system unit. • Force Power OFF Forcibly turns off the power to system unit. OS shutdown is not performed. To turn off the power normally, shut down the system in the OS window. • Hard Reset Applies a hardware reset to the system unit. This button is enabled with the power to system ON. • NMI Issues an NMI interrupt signal. A dump process is activated according to the OS setting. This button is enabled with the power to system unit ON.
Location ID Lamp (LID)	<ul style="list-style-type: none"> • On Turns on the ID LED. Clicking this button provides the same operation as pressing the SERVICE switch. • Off Turns off the ID LED. Clicking this button provides the same operation as pressing the SERVICE switch.
LED Status *	<p>Displays following the LED status of the system unit.</p> <ul style="list-style-type: none"> • Location ID Lamp (LID) • ERROR Lamp (ALT) • Mode0 Lamp • Mode1 Lamp
<p>* The correspondence between the LEDs displayed in LED status and the system unit's LEDs is as follows:</p> <p>Location ID Lamp (LID) SERVICE LED</p> <p>ERROR Lamp (ALT): ERROR LED</p> <p>Mode0 Lamp : Dot LED on the left of MAINTENANCE LED (CR 220H) : MODE0 LED (CR 210H)</p> <p>Mode1 Lamp : Dot LED on the right of MAINTENANCE LED (CR 220H) : MODE1 LED (CR 210H)</p> <p>For details on LEDs, see each model's <i>Getting Started Guide</i>.</p>	

Information accumulated temperature and power

Click **Server Operation** from the top tab, and then click **Information accumulated temperature and power** in the left pane. The following window is displayed.



Hitachi Compute Rack family
Server Name: CR210-ESD0000125456 Username: user01 Previous Login: Mon Mar 26 18:28:33 2012

Server Operation Server Settings Maintenance Logs

Server Information
Power and I/O
Information accumulated temperature and power

Launch Remote Console

Information accumulated temperature and power

Sort of information storage

Sort the information accumulated in the selected item.

Type of sort: By date By power By temperature

Execution

Storage of information

Displays information about the temperature and the accumulation of power.

Record	Date Time	Ss	Sensor Name	Power	CUR	AVT	MAX	MIN
0161	2012-03-26 19:20:09	09 92	INTAKE Temp PWR Cons_A	Off	26C 0W	26C 80W	26C 83W	25C 0W
0158	2012-03-26 17:56:18	09 92	INTAKE Temp PWR Cons_A	On	29C 15W	28C 15W	29C 15W	28C 15W
0154	2012-03-22 08:10:43	09 92	INTAKE Temp PWR Cons_A	On	29C 60W	29C 60W	30C 60W	29C 60W
0153	2012-03-22 06:08:41	09 92	INTAKE Temp PWR Cons_A	On	29C 60W	29C 60W	30C 65W	29C 60W
0152	2012-03-22 04:06:37	09 92	INTAKE Temp PWR Cons_A	On	30C 60W	30C 60W	31C 65W	30C 60W
0151	2012-03-22 02:04:34	09 92	INTAKE Temp PWR Cons_A	On	30C 60W	30C 60W	30C 70W	30C 60W
0150	2012-03-22 00:02:33	09 92	INTAKE Temp PWR Cons_A	On	30C 60W	30C 60W	30C 65W	30C 60W
0149	2012-03-21 22:00:32	09 92	INTAKE Temp PWR Cons_A	On	30C 60W	29C 60W	30C 65W	28C 60W
0148	2012-03-21 19:26:51	09 92	INTAKE Temp PWR Cons_A	On	28C 60W	27C 60W	28C 70W	25C 60W
0147	2012-03-21 09:19:26	09 92	INTAKE Temp PWR Cons_A	On	27C 15W	27C 65W	27C 80W	27C 60W
0146	2012-03-21 07:10:47	09 92	INTAKE Temp PWR Cons_A	On	27C 65W	27C 60W	28C 80W	27C 60W
0145	2012-03-21 05:01:04	09 92	INTAKE Temp PWR Cons_A	On	28C 65W	28C 60W	28C 80W	28C 60W

The following table shows description of menu items in the window.

Table 5-12: Information storage temperature power menu items

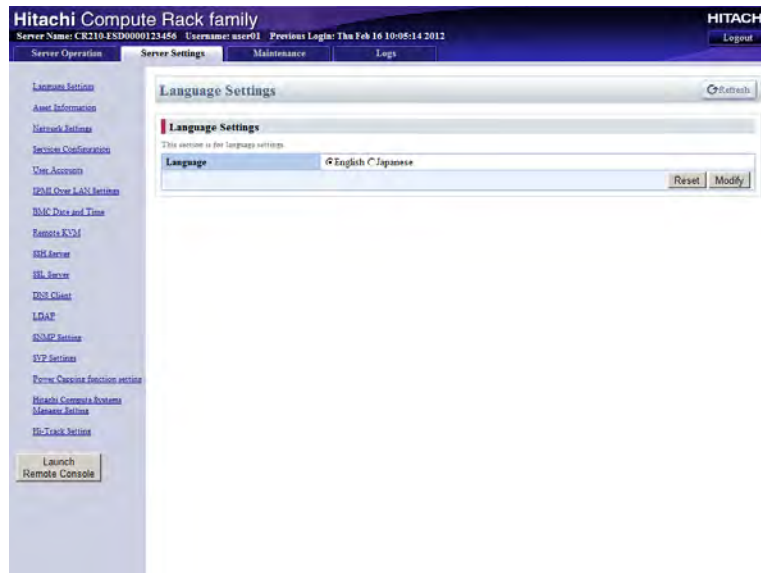
Menu items	Description
Refresh button	Refreshes information.
Type of sort	Sorts the information accumulated in the selected item (maximum twelve). <ul style="list-style-type: none"> • By date: Sorts the information by date. • By Power: Sorts the information by power consumption. • By Temperature: Sorts the information by temperature.
Execution	Perform the sort by selected item.
storage of information*	Displays the information of the system unit about intake temperature, power status and power consumption.
* The information is recorded automatically every two hours and is accumulated for up to two years.	

Server Settings

Server Settings tab enables you to set the functions for managing the system unit.

Language Settings menu

Click **Server Settings** from the top tab, and then click **Language Settings** in the left pane. The following window is displayed.



The following table shows description of menu items in the window.

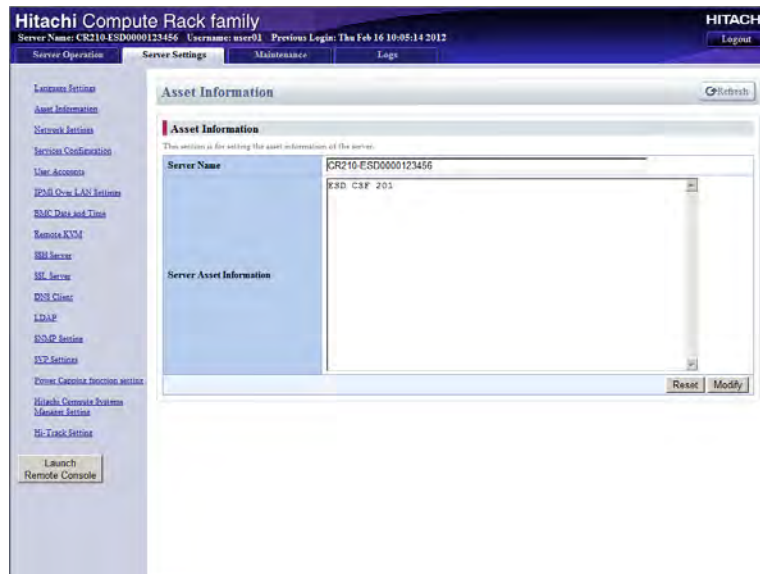
Table 5-13: Language Settings menu items

Menu items	Description
Refresh button	Refreshes information.
Language	<ul style="list-style-type: none">• English Sets English as a Web console display language.• Japanese Sets Japanese as a Web console display language.
Reset button	Disables what you edited, and returns to the status before editing.
Modify button	Enables what you edited, and goes to the confirming window.

If you change settings, click **Modify** to go to confirming window. And then, click **Confirm** to save the change settings.

Asset Information menu

Click **Server Settings** from the top tab, and then click **Asset Information** in the left pane. The following window is displayed.



The following table shows description of menu items in the window.

Table 5-14: Asset Information menu items

Menu items	Description
Refresh button	Refreshes information.
Server Name	Sets a system unit name. This setting is displayed in the Server Name column at top of the window, and in the Server Information window on the Server Operation tab.
Server Asset Information	Enables you to register sentences including information on the system unit installation site or administrators.
Reset button	Disables what you edited, and returns to the status before editing.
Modify button	Enables what you edited, and goes to the confirming window.

If you change settings, click **Modify** to go to confirming window. And then, click **Confirm** to save the change settings.

Network Settings menu

See [Setting BMC network](#) on page 5-18.

Service Settings menu

Click **Server Settings** from the top tab, and then click **Service Configuration** in the left pane. The following window is displayed.



The following table shows description of menu items in the window.

Table 5-15: Service Settings menu items

Menu items	Description
Refresh button	Refreshes information.
Telnet (CLI)	Sets a permission to use the port for the telnet (CLI) functions. And displays a port number used by the telnet (CLI) functions.
SSH (CLI)	Sets a permission to use the port for the SSH (CLI) functions. And displays a port number used by the SSH (CLI) functions.
Remote KVM	Sets a permission to use the port for the Remote Console application. And sets a port number used by the Remote Console application.
HTTP HTTPS	Sets a permission to use the port for the HTTP and HTTPS. And displays the HTTP port number and HTTPS port number that are used by the Web console.
WS-MAN ¹	Sets a permission to use the port for WS-MAN. And sets a port number used by WS-MAN.
IPMI Over LAN ²	Sets a permission to use the port for the IPMI Over LAN functions. And displays a port number used by the IPMI Over LAN functions.
SVP	Sets a permission to use the port for the SVP functions. And displays a port number used by the SVP functions.
Reset button	Disables what you edited, and returns to the status before editing.
Modify button	Enables what you edited, and goes to the confirming window.
Notes: 1 If HTTPS setting is set to "Disallow", WS-MAN setting cannot be set to "Allow". 2 The IPMI Over LAN function is enabled only for part of commands.	

If you change settings, click **Modify** to go to confirming window. And then, click **Confirm** to save the change settings.

Configure User Accounts menu

See [Setting user account](#) on page 5-8.

IPMI Over LAN Settings menu

Click **Server Settings** from the top tab, and then click **IPMI Over LAN Settings** in the left pane. The following window is displayed.

The screenshot shows the 'IPMI Over LAN Settings' window. It has a top bar with 'Hitachi Compute Rack family', 'Server Name: CR210-ESD0000123456', 'Username: user01', and 'Previous Login: Thu Feb 16 10:05:14 2012'. Below this are tabs for 'Server Operation', 'Server Settings', 'Maintenance', and 'Logs'. A left sidebar contains a tree view with categories like 'License Settings', 'Asset Information', 'Network Settings', 'Service Configuration', 'User Accounts', 'IPMI Over LAN Settings', 'NIC Data and Time', 'Remote KVM', 'HIL Jumper', 'HIL Jumper', 'DNS Client', 'LDAP', 'SNMP Settings', 'VFP Settings', 'Power Capable Injection setting', 'Hitachi Compute Rack System Monitor Setting', and 'BioTrack Setting'. The main area is titled 'IPMI Over LAN Settings' and contains a 'Refresh' button. Below is a section 'List of IPMI Over LAN User Accounts' with a table. At the bottom is an 'Authentication Type setting' section with checkboxes for various authentication types.

Select	User ID	Status	Username	Privilege Level
<input type="radio"/>	1	Enable		Administrator
<input type="radio"/>	2	Enable	root	Administrator
<input checked="" type="radio"/>	3	Enable	user03	Operator
<input type="radio"/>	4	Disable		
<input type="radio"/>	5	Disable		
<input type="radio"/>	6	Disable		
<input type="radio"/>	7	Disable		
<input type="radio"/>	8	Disable		
<input type="radio"/>	9	Disable		
<input type="radio"/>	10	Disable		

Authentication Type setting

Callback Enable Authentication Type: ☒ none ☐ MD5 ☐ MD5 Straight Password ☐ OEM proprietary

User Enable Authentication Type: ☒ none ☐ MD5 ☐ MD5 Straight Password ☐ OEM proprietary

Operator Enable Authentication Type: ☒ none ☐ MD5 ☐ MD5 Straight Password ☐ OEM proprietary

Administrator Enable Authentication Type: ☒ none ☐ MD5 ☐ MD5 Straight Password ☐ OEM proprietary

OEM Enable Authentication Type: ☐ none ☐ MD5 ☐ MD5 Straight Password ☐ OEM proprietary

The following table shows description of menu items in the window.

Table 5-16: IPMI Over LAN Settings menu items

Menu items	Description
Refresh button	Refreshes user account information.
Select	Radio button for user account selection
User ID	User account ID
Status	Displays whether a user account is enabled or disabled.
Username*	User account name
Privilege Level*	Displays a privilege granted to a user account.
Edit button	Goes to the Edit IPMI Over LAN User Accounts window, except when the radio button is checked.
Authentication Type	Sets an authentication type on each privilege level.
Modify button	Goes to the Authentication Type setting (Confirm) window.
* N/A is displayed if the user account status is set to disabled.	



- UserID 1 and 2 are enabled only for status change.
- UserID 1 and 2 are set to factory defaults as follows:
 - UserID 1
Status is Enable, Username is (blank), password is (blank), and Privilege Level is Administrator.
 - UserID 2
Status is Enable, Username is "root", password is "superuser", and Privilege Level is Administrator.

If you change **Authentication Type setting** items, click **Modify** to go to confirming window. And then, click **Confirm** to save the change settings.

If you change **List of IPMI Over LAN User Accounts** items, click **Edit** to go to following editing window.

Table 5-17: Edit IPMI Over LAN User Accounts menu items

Menu items	Description
UserID	Displays a user ID.
Status ¹	Enables or disables a user account.
Username ²	User account name (up to 32 alphanumeric characters)
Password ^{2 3 4}	Entry of a password (up to 16 alphanumeric characters)
Password(Confirm) ^{2 3 4}	Re-entry of a password
Privilege Level ²	Sets a privilege level.
Back button	Disables what you edited, and returns to the IPMI Over LAN Settings window.
Reset button	Disables what you edited, and returns to the status before editing.
Modify button	Enables what you edited, and goes to the confirming window.

Menu items	Description
Notes: <ol style="list-style-type: none"> 1 If this item is set to Disable, the user name and privilege level in the IPMI Over LAN Settings window are displayed as N/A. 2 UserID 1 and 2 cannot be changed. 3 For userID 8, 9, and 10, a blank cannot be set as a password. 4 A 16-byte password compatible with IPMI1.5 can be set. 	

If you change **Edit IPMI Over LAN User Accounts** items, click **Modify** to go to confirming window. And then, click **Confirm** to save the change settings.



- IPMI Over LAN function setting information is retained even when the AC cables are disconnected.
- Setting information of the IPMI Over LAN is not included in Backup or restored the Management settings data with a Web console. When restore the Management settings, set an IPMI Over LAN again.

BMC Date menu

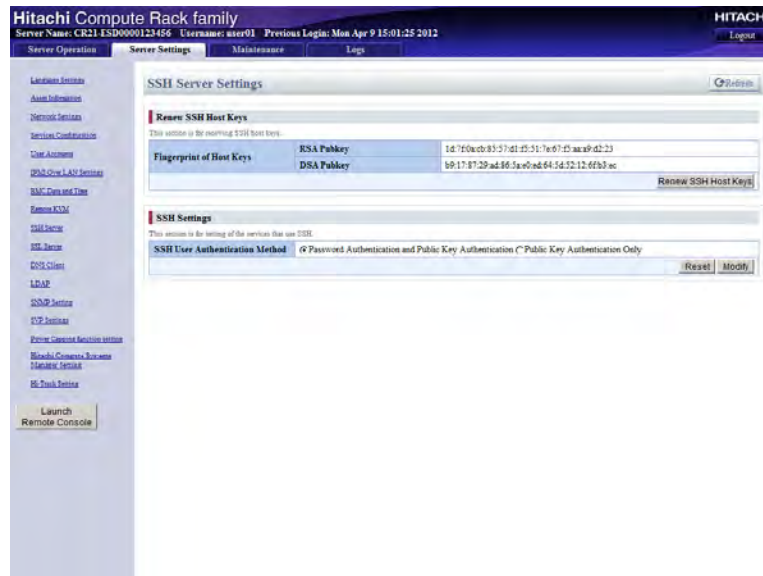
See [Setting BMC date and time](#) on page 5-16.

Remote KVM Settings menu

See [Setting mouse mode of Remote Console](#) on page 5-14.

SSH Server menu

Click **Server Settings** from the top tab, and then click **SSH Server** in the left pane. The following window is displayed.



The following table shows description of menu items in the window.

Table 5-18: SSH Server menu items

Menu items	Description
Refresh button	Refreshes user account information.
Fingerprints of Host Keys	Displays the fingerprint of a host key (public key) used by an SSH server.
Renew SSH Host Keys button	Renewal the SSH host keys.
SSH User Authentication Method	Selects an authentication method used by an SSH server.
Reset button	Disables what you edited, and returns to the status before editing.
Modify button	Enables what you edited, and goes to the confirming window.

If you want to renew the SSH keys, click **Renew SSH Host Keys** to go to confirming window. And then, click **Confirm** to save the change settings.

If you change settings, click **Modify** to go to confirming window. And then, click **Confirm** to save the change settings.

SSL Server menu

Click **Server Settings** from the top tab, and then click **SSL Server** in the left pane. The following window is displayed.

Hitachi Compute Rack family
 Server Name: CR210-ESD0000123456 Username: user01 Previous Login: Thu Feb 16 10:05:14 2012
 Server Operation Server Settings Maintenance Log Logout

SSL Server

Server Certificate Information
 This section displays the server certificate currently used.

Version	3
Serial Number	aa:af:d2:d1:f2:cc:f1:eb
Public Key Algorithm and Key Size	RSA(2048bit)
Validity (Not Before)	Feb 16 11:00:06 2012 UTC
Validity (Not After)	Feb 16 11:00:06 2012 UTC
Issuer	
Common Name (CN)	Test
Country Name (C)	JP
State or Province Name (ST)	Kanagawa
Locality Name (L)	Yokohama
Organization Name (O)	Organization Test
Organizational Unit Name (OU)	Organizational Unit Name Test
Subject	
Common Name (CN)	Test
Email Address	test@test.co.jp
DN Qualifier	
Surname	
Given Name	
Initials	
SHA1 Fingerprint	3C:7D:FC:7E:26:39:D0:92:11:8B:34:13:BD:4B:C1:CD:A8:C4:AC:C8

Create Self-signed Certificate
 Use this section to create a self-signed server certificate. Creating a self-signed server certificate may take a few minutes.

Public Key Algorithm and Key Size: RSA(2048bit) / RSA(1024bit)

Country Name (C): JP
 State or Province Name (ST): Kanagawa
 Locality Name (L): Yokohama

Organization Name (O): Organization Test
 Organizational Unit Name (OU): Organizational Unit Name Test

Subject: Common Name (CN): Test
 Email Address: test@test.co.jp
 DN Qualifier:
 Surname:
 Given Name:
 Initials:

Create CSR
 Use this section to create a CSR and download it. Creating a CSR may take a few minutes.

Public Key Algorithm and Key Size: RSA(2048bit) / RSA(1024bit)
 Format: PEM / DER

Country Name (C): JP
 State or Province Name (ST): Kanagawa
 Locality Name (L): Yokohama
 Organization Name (O): Organization Test
 Organizational Unit Name (OU): Organizational Unit Name Test

Subject: Common Name (CN): Test
 Email Address: test@test.co.jp
 DN Qualifier:
 Surname:
 Given Name:
 Initials:

Unstructured Name:
 Challenge Password:

Import Server Certificate
 Use this section to import a server certificate created from a CSR downloaded.

Format: PEM / DER
 Certificate to Import:
 Import Server Certificate

Download Server Certificate
 Use this section to download the server certificate currently used.

Format: PEM / DER
 Download Server Certificate

The following table shows description of menu items in the window.

Table 5-19: SSL Server menu items

Menu items		Description
Server Certificate Information		
Refresh button		Refreshes user account information.
Version		Displays the version of a server certificate.
Serial Number		Displays a serial number.
Public key Algorithm and key Size		Displays information on public key.
Validity (Not Before)		Displays a start date of validity period.
Validity (Not After)		Displays an end date of validity period.
Issuer		
	Common Name (CN)	Displays information on common names (CN).
Subject		
	Country Name (C)	Displays information on a target of issuance
	State or Province Name (ST)	
	Locality Name (L)	
	Organization Name (O)	
	Organizational Unit Name (OU)	
	Common Name (CN)	
	Email Address	
	DN Qualifier	
	Surname	
	Given Name	
	Initials	
SHA1 fingerprint		Displays SHA1 fingerprint information.

Menu items		Description
Create Self-signed Certificate		
Public key Algorithm and key Size		Selects information on public key.
Subject		
	Country Name (C) ¹	Entry country name. You can enter upper-case 2 alphabets.
	State or Province Name (ST) ¹	Entry state or province name (ST), locality name (L), organization name (O), and organizational unit name (OU). You can specify 1 to 60 alphanumeric characters and symbols ² .
	Locality Name (L) ¹	
	Organization Name (O) ¹	
	Organizational Unit Name (OU) ¹	
	Common Name (CN)	Entry common name (CN). You can specify 1 to 60 alphanumeric characters including a hyphen (-) and a period (.).
	Email Address ¹	Entry Email address. You can enter an ASCII character string of up to 60 characters.
	DN Qualifier ¹	Entry DN qualifier, surname and given name. You can enter 1 to 60 alphanumeric characters and symbols ² .
	Surname ¹	
	Given Name ¹	
	Initials ¹	Entry initials. You can enter 1 to 30 alphanumeric characters and symbols ² .
Reset button		Disables what you edited in Server Certificate Information column, and returns to the status before editing.
Create Self-signed Certificate button		Enables what you edited in Server Certificate Information column, and goes to the confirming window.
Create CSR		
Public key Algorithm and key Size		Selects information on public key.
Format		Selects the format of CSR to be downloaded.
	Country Name (C) ¹	Entry country name. You can enter upper-case 2 alphabets.
	State or Province Name (ST) ¹	Entry state or province name (ST), locality name (L), organization name (O), and organizational unit name (OU). You can specify 1 to 60 alphanumeric characters and symbols ² .
	Locality Name (L) ¹	
	Organization Name (O) ¹	
	Organizational Unit Name (OU) ¹	
	Common Name (CN)	Entry common name (CN). You can specify 1 to 60 alphanumeric characters including a hyphen (-) and a period (.).
	Email Address ¹	Entry Email address. You can enter an ASCII character string of up to 60 characters.
	DN Qualifier ¹	Entry DN qualifier, surname and given name. You can enter 1 to 60 alphanumeric characters and symbols ² .
	Surname ¹	
	Given Name ¹	
	Initials ¹	Entry initials. You can enter 1 to 30 alphanumeric characters and symbols ² .

Menu items	Description
Unstructured Name ¹	You can specify 1 to 60 alphanumeric characters and symbols ² .
Challenge Password ¹	You can specify 1 to 30 alphanumeric characters and symbols ² .
Reset button	Disables what you edited in Create CSR column, and returns to the status before editing.
Create and Download CSR button	Enables what you edited in Create CSR column, and goes to the confirming window.
Import Server Certificate	
Format	Selects the format of a server certificate to be imported.
Certificate to Import	Specifies a server certificate file.
Import Server Certificate button	Goes to the confirming window to imports the server certificate file specified in Certificate to Import .
Download Server Certificate	
Format	Selects the format of a server certificate to be downloading.
Download Server Certificate button	Downloads a registered server certificate in the format specified in Format .
Notes: 1 This Item is omissible. 2 The following symbols can be used: Blank symbol, ' (apostrophe), - (hyphen), , (comma), = (equal), / (slash), () (parentheses), . (period), : (colon), + (plus), and ? (question)	

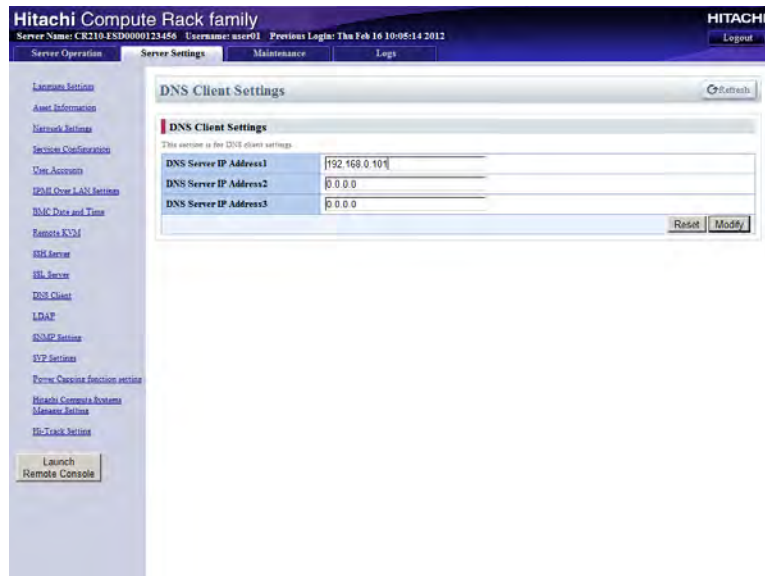
If you change **Create Self-signed Certificate** items, click **Create Self-signed Certificate** to go to confirming window. And then, click **Confirm** to save the change settings.

If you change **Create CSR** items, click **Create and Download CSR** to go to confirming window. And then, click **Confirm** to save the change settings.

If you select an importing server certificate file, click **Import Server Certificate** to go to confirming window. And then, click **Confirm** to perform the file importation.

DNS Client Settings menu

Click **Server Settings** from the top tab, and then click **DNS Client** in the left pane. The following window is displayed.



The following table shows description of menu items in the window.

Table 5-20: DNS Client Settings menu items

Menu items	Description
Refresh button	Refreshes information.
DNS Server IP Address1 DNS Server IP Address2 DNS Server IP Address3	Used to enter an IP address for DNS server. Up to three IP addresses for DNS server can be set, each of which is used beginning at the top. If you do not set second and third DNS servers, enter "0.0.0.0". If you do not use DNS, set all of three IP addresses to "0.0.0.0".
Reset button	Disables what you edited, and returns to the status before editing.
Modify button	Enables what you edited, and goes to the confirming window.

If you change settings, click **Modify** to go to confirming window. And then, click **Confirm** to save the change settings.

LDAP menu

Click **Server Settings** from the top tab, and then click **LDAP** in the left pane. The following window is displayed.

The screenshot shows the Hitachi Compute Rack family web console. The top bar displays the server name (CR210-ESD0000123456), username (user01), and previous login time (Thu Feb 16 10:05:14 2012). The main navigation tabs are Server Operation, Server Settings, Maintenance, and Logs. The left sidebar contains links for License Settings, Asset Information, Network Settings, Service Configuration, User Accounts, IPMI Over LAN Settings, BMC Data and Time, Remote KVM, iDRAC, iDRAC Server, iDRAC Client, LDAP, SNMP Settings, VFP Settings, Remote Access Session settings, Hitachi Compute Rack Remote Management Settings, and Hitachi Track Settings. The LDAP configuration page is active, showing fields for User Authentication Method, LDAP Server 1, LDAP Server 2, LDAP Server 3, Port Number, Bind DN, Bind Password, Base DN, Attribute for Login ID, Attribute for Role, Attribute for Group Member, Group DN 1, Group DN 2, Group DN 3, Group DN 4, and Group DN 5. The 'Do not use LDAP user authentication' checkbox is checked.

Field	Value
User Authentication Method	<input checked="" type="checkbox"/> Do not use LDAP user authentication. <input type="checkbox"/> When local user authentication fails, do LDAP user authentication.
LDAP Server 1	192.168.0.129
LDAP Server 2	192.168.0.130
LDAP Server 3	192.168.0.131
Port Number	636
Bind DN	cn=admin,dc=example,dc=local
Bind Password	*****
Bind Password (Confirm)	*****
Base DN	cn=Users,dc=example,dc=local
Attribute for Login ID	sAMAccountName
Attribute for Role	test
Attribute for Group Member	member
Group DN 1	cn=admins,dc=example,dc=local
Group DN 2	cn=admins,dc=example,dc=local
Group DN 3	cn=admins,dc=example,dc=local
Group DN 4	cn=admins,dc=example,dc=local
Group DN 5	cn=admins,dc=example,dc=local

The following table shows description of menu items in the window.

Table 5-21: LDAP menu items

Menu items	Description
Refresh button	Refreshes information.
User Authentication Method	<p>Sets a user authentication method using LDAP.</p> <ul style="list-style-type: none"> • Do not use LDAP user authentication. A set user account is used for user authentication. • When local user authentication fails, do LDAP user authentication. A set user account is used for user authentication. If the user authentication is not successful, a user account for LDAP server is used for user authentication.
LDAP Server 1 LDAP Server 2 LDAP Server 3	Specifies an LDAP server using an IP address or FQDN (up to 127 characters).
Port Number	Specifies a destination port number as a decimal number (1 to 65535).
Bind DN	Specifies DN used when binding to an LDAP server (up to 256 characters). If nothing is entered, Anonymous bind is specified.
Bind Password	Specifies a password used when binding to an LDAP server (up to 32 characters). If nothing is entered, no password is used.
Bind Password (Confirm)	Used to enter confirmation of a bind password.
Base DN	Specifies basic DN for user search (up to 256 characters).
Attribute for Login ID	Specifies a user entry attribute used as a login ID (up to 64 characters).
Attribute for Role	Specifies a user entry attribute in which a character string representing a role is embedded (up to 64 characters).
Attribute for Group Member	Specifies a group entry attribute that represents user membership (up to 64 characters).
Group DN 1 Group DN 2 Group DN 3 Group DN 4 Group DN 5	Specifies DN of a group authorized for login (up to 256 characters). If no DN is entered, no group authentication is performed.
Reset button	Disables what you edited, and returns to the status before editing.
Modify button	Enables what you edited, and goes to the confirming window.

If you change settings, click **Modify** to go to confirming window. And then, click **Confirm** to save the change settings.

SNMP settings menu

Click **Server Settings** from the top tab, and then click **SNMP Setting** in the left pane. The following window is displayed.

Hitachi Compute Rack family
Server Name: CR210-ESD0000123456 Username: user01 Previous Login: Thu Feb 16 10:05:14 2012

Server Operation Server Settings Maintenance Logs

System Settings
Asset Information
Network Settings
Security Configuration
User Accounts
IPMI Over LAN Settings
BMC Data and Time
Remote KVM
BIOS Setup
RAID Setup
DNS Client
LDAP
SNMP Settings
NTP Settings
Power Operation Function settings
Hitachi Compute Rack System Manager Settings
HiTrack Settings

Launch Remote Console

SNMP settings

The settings of SNMP Agent

You can use this window to configure SNMP agent.

SNMP Agent Function	Valid
System Contact Name	192.168.48.192
System Location	SystemLocation
Port number	161
Trap level	All
SNMP version	v1-v2c

The settings of SNMP Manager

This window displays the SNMP manager settings.

Manager 0

SNMP version	v3
IP address/host name	192.168.48.193
Port number	162
User Name	TestUser01
Access type	noAuthPriv

Manager 1

SNMP version	v3
IP address/host name	192.168.48.194
Port number	162
User Name	TestUser02
Access type	AuthPriv
Authentication type	MD5
Authentication password	(Hide)

Manager 2

SNMP version	v3
IP address/host name	192.168.48.195
Port number	162
User Name	TestUser03
Access type	AuthPriv
Authentication type	MD5
Authentication password	(Hide)
Encryption type	DES
Encryption password	(Hide)

Manager 3

SNMP version	v1-v2c
IP address/host name	192.168.48.196
Port number	162
Community Name	TestUser04

MIB information

Revision	00.00.00.01
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Operation

Download MIB file

Download the MIB file.

Download

Send SNMP trap

Send a SNMP run trap.

Send

The following table shows description of menu items in the window.

Table 5-22: SNMP settings menu items

Menu items	Description
Refresh button	Refreshes information.
Edit Setting button	Goes to the edit settings window.
The settings of SNMP Agent	
SNMP Agent Function	Displays enable or disable the SNMP agent.
System Contact Name	Displays system administrator's contact information.
System Location	Displays a system installation site.
Port number	Displays a port number that the SNMP uses.
Trap level	Displays a trap notification level. <ul style="list-style-type: none"> • Disable: Disables every trap notification. • Alert: Enables an alert trap notification. • Information: Enables an information trap notification. • All: Enables every trap notification.
SNMP version	Displays an SNMP version that the SNMP agent uses. You can choose v1/v2c or v1/v2c/v3 .
Engine ID string ¹	Sets a character string for creating an engine ID that is used by the SNMP agent (1 to 27 lowercase alphanumeric characters and symbols).
Engine ID ¹	Represents an engine ID that is used by the SNMP agent and created from a character string for creating an engine ID.
The settings of SNMP Manager	
Manager 0, Manager 1, Manager 2, Manager 3	
SNMP version	Displays an SNMP version that the SNMP manager uses. You can choose v1/v2c or v3 .
IP address/host name	Displays an IP address for the SNMP manager.
Port number	Displays a port number a trap notification destination for the SNMP manager.
Community Name ²	Displays a community name for the SNMP manager.
User Name ³	Displays a user name for the SNMP manager.
Access type ³	Displays an access type for the SNMP manager. You can choose noAuthnoPriv , AuthnoPriv or AuthPriv .
Authentication type ⁴	Displays an authentication type for the SNMP manager. You can choose MD5 or SHA .
Authentication password ⁴	Displays an authentication password for the SNMP manager.
Encryption type ⁵	Displays an encryption type for the SNMP manager. You can choose DES or AES .
Encryption password ⁵	Displays an encryption password for the SNMP manager.
MIB Information	
Revision	Displays a revision of the MIB file.

Menu items	Description
Operation	
Download button	Goes to the save window to downloads a MIB file.
Send button	Sends a SNMP test file.
Notes: <ol style="list-style-type: none"> 1 This item is displayed when SNMP version in The settings of SNMP Agent is set v1/v2c/v3. 2 This item is displayed and enabled when SNMP version in The settings of SNMP Manager is set v1/v2c. 3 This item is displayed and enabled when SNMP version in The settings of SNMP Manager is set v3. 4 This item is displayed and enabled when SNMP version and Access type in The settings of SNMP Manager are each set v3 and Authnopriv or Authpriv. 5 This item is displayed and enabled when SNMP version and Access type in The settings of SNMP Manager are each set v3 and Authpriv. 	

If you want to change settings, click **Edit Setting** to go to following editing window.

Hitachi Compute Rack family
Server Name: CR210-ESD0000123456 Username: user01 Previous Login: Thu Feb 16 10:05:14 2012

SNMP settings

The settings of SNMP Agent
You can use this window to configure SNMP agent.

SNMP Agent Function: [Valid]
System Contact Name: [192.168.48.192]
System Location: [SystemLocation]
Port number: [161]
Trap level: [All]
SNMP version: [v1/v2c]

The settings of SNMP Manager
This window displays the SNMP manager settings.

Manager 0
SNMP version: [v3]
IP address/host name: [192.168.48.193]
Port number: [162]
User Name: [TestUser01]
Access type: [noAuthnPriv]

☐ To remove this setting.

Manager 1
SNMP version: [v3]
IP address/host name: [192.168.48.194]
Port number: [162]
User Name: [TestUser02]

☐ To remove this setting.

Manager 2
Access type: [AuthnPriv]
Authentication type: [MD5]
Authentication password: [*****]
☐ To remove this setting.

Manager 3
SNMP version: [v3]
IP address/host name: [192.168.48.195]
Port number: [162]
User Name: [TestUser03]
Access type: [AuthPriv]
Authentication type: [MD5]
Authentication password: [*****]
Encryption type: [DES]
Encryption password: [*****]
☐ To remove this setting.

Manager 4
SNMP version: [v1/v2c]
IP address/host name: [192.168.48.196]
Port number: [162]
Community Name: [TestUser04]
☐ To remove this setting.

[Back] [Modify]

Table 5-23: SNMP settings > Edit Setting menu items

Menu items	Description
The settings of SNMP Agent	
SNMP Agent Function	Enables or disables the SNMP agent.
System Contact Name	Sets system administrator's contact information (up to 60 lower-case alphanumeric characters).
System Location	Sets a system installation site (up to 60 lower-case alphanumeric characters).
Port number	Sets a port number that the SNMP uses (1 to 65535).
Trap level	Sets a trap notification level. <ul style="list-style-type: none"> • Disable: Disables every trap notification. • Alert: Enables an alert trap notification. • Information: Enables an information trap notification. • All: Enables every trap notification.
SNMP version	Sets an SNMP version that the SNMP agent uses. You can choose v1/v2c or v1/v2c/v3 .
Engine ID string ¹	Sets a character string for creating an engine ID that is used by the SNMP agent (1 to 27 lowercase alphanumeric characters and symbols).
Engine ID ¹	Represents an engine ID that is used by the SNMP agent and created from a character string for creating an engine ID.
The settings of SNMP Manager	
Manager 0, Manager 1, Manager 2, Manager 3	
SNMP version	Sets an SNMP version that the SNMP manager uses. You can choose v1/v2c or v3 .
IP address/host name	Sets an IP address for the SNMP manager.
Port number	Sets a port number a trap notification destination for the SNMP manager (1 to 65535).
Community Name ²	Sets a community name for the SNMP manager (up to 60 lowercase alphanumeric characters and symbols).
User Name ³	Sets a user name for the SNMP manager (1 to 31 lowercase alphanumeric characters and symbols).
Access type ³	Sets an access type for the SNMP manager. You can choose noAuthnoPriv , AuthnoPriv or AuthPriv .
Authentication type ⁴	Sets an authentication type for the SNMP manager. You can choose MD5 or SHA .
Authentication password ⁴	Sets an authentication password for the SNMP manager (8 to 64 lowercase alphanumeric characters and symbols).
Encryption type ⁵	Sets an encryption type for the SNMP manager. You can choose DES or AES .
Encryption password ⁵	Sets an encryption password for the SNMP manager (8 to 64 lowercase alphanumeric characters and symbols).

Menu items	Description
Notes: 1 This item is displayed when SNMP version in The settings of SNMP Agent is set v1/v2c/v3 . 2 This item is displayed and enabled when SNMP version in The settings of SNMP Manager is set v1/v2c . 3 This item is displayed and enabled when SNMP version in The settings of SNMP Manager is set v3 . 4 This item is displayed and enabled when SNMP version and Access type in The settings of SNMP Manager are each set v3 and Authnopriv or Authpriv . 5 This item is displayed and enabled when SNMP version and Access type in The settings of SNMP Manager are each set v3 and Authpriv .	

If you change setting, click **Modify** to go to confirming window. And then, click **Confirm** to save the change settings.

SVP Settings menu

Click **Server Settings** from the top tab, and then click **SVP Setting** in the left pane. The following window is displayed.

Hitachi Compute Rack family

Server Name: CR210-ESD0000123456 Username: user01 Previous Login: Thu Feb 16 10:05:14 2012

Logout

Server Operation

Server Settings

Maintenance

Logs

License Settings

Asset Information

Network Settings

System Configuration

User Accounts

IPMI Over LAN Settings

NIC Policy and Time

Remote KVM

SSH Access

Web Access

POST Client

LDAP

SMP Settings

SVP Settings

Power Capable Action setting

Hitachi Compute Rack Systems

Message Settings

MC/Tool Settings

Launch Remote Console

SVP Settings

Set up SVP alert destination settings

Set up the address that SVP alert is reported to.

Destination address 1	Destination Name	TestSVP01
	IP address	192.168.0.113
	Alert Port	6556
Destination address 2	Destination Name	TestSVP02
	IP address	192.168.0.114
	Alert Port	6556
Destination address 3	Destination Name	TestSVP03
	IP address	192.168.0.115
	Alert Port	6557
Destination address 4	Destination Name	TestSVP04
	IP address	192.168.0.116
	Alert Port	6558

Reset Modify

SVP alert notification settings

This section is for setting notification of the SVP Alert.

SVP Alert Notification	<input checked="" type="radio"/> Alert <input type="radio"/> Information <input type="radio"/> All <input type="radio"/> Disable
------------------------	--

Reset Modify

The following table shows description of menu items in the window.

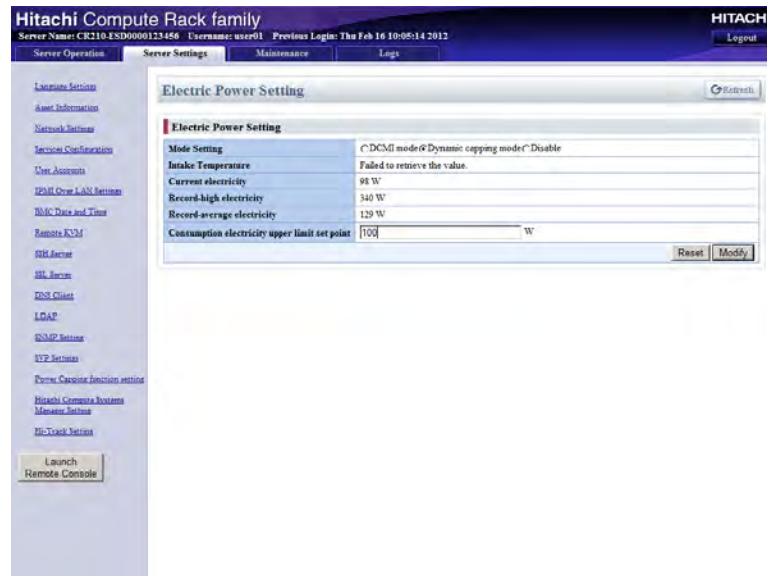
Table 5-24: SVP Settings menu items

Menu items	Description
Refresh button	Refreshes information.
Set up SVP alert destination settings	
Destination address1, Destination address2, Destination address3, Destination address4	
Destination Name	Sets a name to SVP alert notification destination.
IP address	Sets an IP address to SVP alert notification destination.
Alert Port	Sets a port number to SVP alert notification destination.
Reset button	Disables what you edited in Set up SVP alert destination settings column, and returns to the status before editing.
Modify button	Enables what you edited in Set up SVP alert destination settings column, and goes to the confirming window.
SVP alert notification settings	
SVP Alert Notification	<p>Sets an SVP alert notification level.</p> <ul style="list-style-type: none"> • Alert: Notifies an alert of caution, warning or failure level. • Information: Notifies an alert of information level. • All: Notifies an alert of every level. • Disable: Notifies no alert.
Reset button	Disables what you edited in SVP alert notification settings column, and returns to the status before editing.
Modify button	Enables what you edited in SVP alert notification settings column, and goes to the confirming window.

If you change settings, click each **Modify** to go to confirming window. And then, click **Confirm** to save the change settings.

Electric Power Setting

Click **Server Settings** from the top tab, and then click **Power Capping function setting** in the left pane. The following window is displayed.



The following table shows description of menu items in the window.

Table 5-25: Electric Power Setting menu items

Menu items	Description
Refresh button	Refreshes information.
Mode setting	Sets a power saving mode. <ul style="list-style-type: none"> • DCMI mode: Electric power is controlled by the DCMI command. When sets DCMI mode, application software to use DCMI command is required. • Dynamic capping mode: Enables the dynamic power capping. • Disable: Disables the DCMI command and the dynamic power capping.
Intake Temperature	Displays an intake temperature.
Current electricity	Displays current power consumption.
Record-high electricity	Displays highest power consumption after Mode setting or Consumption electricity upper limit set point item is set (changed).
Record-Average electricity	Displays a mean power consumption after Mode setting or Consumption electricity upper limit set point item is set (changed).
Consumption electricity upper limit set point	Sets an upper limit of power consumption.
Reset button	Disables what you edited, and returns to the status before editing.
Modify button	Enables what you edited, and goes to the confirming window.

If you change settings, click **Modify** to go to confirming window. And then, click **Confirm** to save the change settings.

Consumption electricity upper limit set point

For the power capping function, when you set **Consumption electricity upper limit set point** to too low value, the CPU performance may be lowered constantly due to the state of being active for the power capping. In this state, it can not control the actual power consumption to less than or equal to the **Consumption electricity upper limit set point** setting value.

When you set a value equal to or greater than the maximum power consumption of the system unit for **Consumption electricity upper limit set point**, the power capping function will not work.

Therefore, you can use the power capping function effectively when set a **Consumption electricity upper limit set point** as follows:

Maximum power consumption of the system unit \geq
Setting value of **Consumption electricity upper limit set point** \geq
Maximum power consumption of the system unit -
Maximum value of the power consumption that can be suppressed by
power capping

- Setting value of **Consumption electricity upper limit set point** \geq
Maximum power Consumption of the system unit -
Maximum value of the power Consumption that can be suppressed by
power capping

If this condition is not satisfied, the power saving function can work using the power capping, but the actual power consumption may exceed the setting of **Consumption electricity upper limit set point**.

- Maximum power consumption of the system unit \geq
Setting value of **Consumption electricity upper limit set point**

If this condition is not satisfied, the actual power consumption does not exceed the setting of **Consumption electricity upper limit set point**, but the power saving function does not have effect.

Maximum power consumption of the system unit

When estimating the system unit, refer to the specification of the system unit for the maximum power consumption of the system unit.

However, the power consumption of the system unit is dependent upon the operating environment (such as temperature) and running program on the system unit.

In order to make fine adjustments, we recommend you that check the maximum power consumption of system unit by trial operation in an environment that uses the system unit.

Maximum power consumption of the system unit can be found in the following procedure.

1. **Power Capping Function Setting > Mode setting** set to **Disable**.
2. Continuous operation under the maximum load condition in the system unit.
3. Check the value of **Power Capping Function Setting > Record-High electricity**.

The power consumption of the system unit may increase due to the rotational speed of FAN increased dependent upon the operating environment. You should check the value of **Power Capping Function Setting** in the environment that the temperature is near the actual temperature.

Maximum value of the power consumption that can be suppressed by power capping

The degree of suppression of power consumption is different depends on the model of the system unit, the CPU type of the mounted on the system unit, and the load condition of the program running on the system unit.

Approximate of the maximum value of the power consumption that can be suppressed are as follows:

Table 5-26: Approximate of the maximum value of the power consumption that can be suppressed

CPU type	Clock speed	power consumption that can be suppressed (approximate of the maximum value)*	
		1 CPU	2 CPU
Xeon processor E5-2690	2.90 GHz	120 W	240 W
Xeon processor E5-2670	2.60 GHz	85 W	170 W
Xeon processor E5-2640	2.50 GHz	55 W	110 W
Xeon processor E5-2620	2 GHz	30 W	60 W
Xeon processor E5-2603	1.80 GHz	10 W	20 W
Xeon processor E5-2630L	2 GHz	30 W	60 W
* Power consumption that can be suppressed shows the values based on the measurement result of the model. Power consumption that can be suppressed includes the effect that the power consumption of the peripheral circuit is reduced by reduced the power consumption of CPU.			

Hitachi Compute Systems Manager Setting menu

Click **Server Settings** from the top tab, and then click **Hitachi Compute Systems Manager Setting** in the left pane. The following window is displayed.

Hitachi Compute Rack family
 Server Name: CR210-ESD0000123456 Username: user01 Previous Login: Fri Dec 21 11:38:49 2012
 Server Operation Server Settings Maintenance Log

Hitachi Compute Systems Manager Setting

Management Server Setting

Management Server Count: 4

Management Server Information	Entry Number	Server Name	IP Address	Alert Port Number	Notice of Alert Policy	Alert Retry Interval(s)	Alert Retransmission Duration (min)	Connection Status
Management Server1 Information	0	TestServerA	192.168.0.214	22611	Information, Warning and Failure	120	10	Unconnect
Management Server2 Information	1	TestServerB	192.168.0.215	22611	Information, Warning and Failure	120	10	Unconnect
Management Server3 Information		TestServerC	192.168.0.172	22611	Information, Warning and Failure	120	10	Unconnect
Management Server4 Information		TestServerD	192.168.0.173	22611	Information, Warning and Failure	120	10	Unconnect

Reset Modify

The following table shows description of menu items in the window.

Table 5-27: Hitachi Compute Systems Manager Setting menu items

Menu items		Description
Refresh button		Refreshes information.
Management server Count		Displays the number of Hitachi Compute Systems Manager (HCSM) servers.
Management server1 Information, Management server2 Information, Management server3 Information, Management server4 Information		
	Entry Number	Displays a registration number.
	Server Name	Sets a server name.
	IP Address*	Used to enter an IP address.
	Alert Port Number	Sets a port number to be used.
	Notice of Alert Policy	Sets an alert policy. <ul style="list-style-type: none"> • Do not notify: Issues no alert notification. • Only Failure: Notifies an alert of failure level • Warning and Failure: Notifies an alert of warning or failure level. • Information, Warning and Failure: Notifies an alert of information, warning or failure level
	Alert Retry Interval(s)	Sets an alert retry interval within an allowable range from 60 to 240 seconds.
	Alert Retransmission Duration(min)	Sets an alert retry duration time within an allowable range from 4 to 15 minutes.
	Connection Status	Displays the HCSM server connection status.
Reset button		Disables what you edited, and returns to the status before editing.
Modify button		Enables what you edited, and goes to the confirming window.
* If you forcibly disconnect HCSM server because of HCSM connection problem reason, you set 0.0.0.0 to this IP address item. In this case, other information of the HCSM server is also cleared.		

If you change settings, click **Modify** to go to confirming window. And then, click **Confirm** to save the change settings.



- Only when the Connection Status is “Unconnect”, you can change Management server Information each setting.
- VMware vSphere ESXi regards system BIOS time as UTC time, but CR 210H/CR 220H's BIOS manages internal time as local time.
 So the time of BIOS is changed to the time a difference of local time and the UTC slipped off (it is not local time) when you set time by vSphere Client after installing VMware vSphere ESXi.
 You can confirm the difference of time on BIOS setup screen.
 HCSM's Alert time and BMC Web console time also refer System BIOS time, so these times also have difference of time from VMware vSphere ESXi set time.

Hi-Track Setting menu

Click **Server Settings** from the top tab, and then click **Hi-Track Setting** in the left pane. The following window is displayed.

The following table shows description of menu items in the window.

Table 5-28: Hi-Track Setting menu items

Menu items		Description
Refresh button		Refreshes information.
Management server Count		Displays the number of Hi-Track servers.
Management server1 Information, Management server2 Information		
	Entry Number	Displays a registration number.
	Server Name	Sets a server name.
	Language	Sets a language to be used. <ul style="list-style-type: none"> • System: Uses a language configured by the system unit. • English: Uses English. • Japanese: Uses Japanese.
	IP Address	Used to enter an IP address.
	Port Number	Sets a port number to be used.
Reset button		Disables what you edited, and returns to the status before editing.
Modify button		Enables what you edited, and goes to the confirming window.

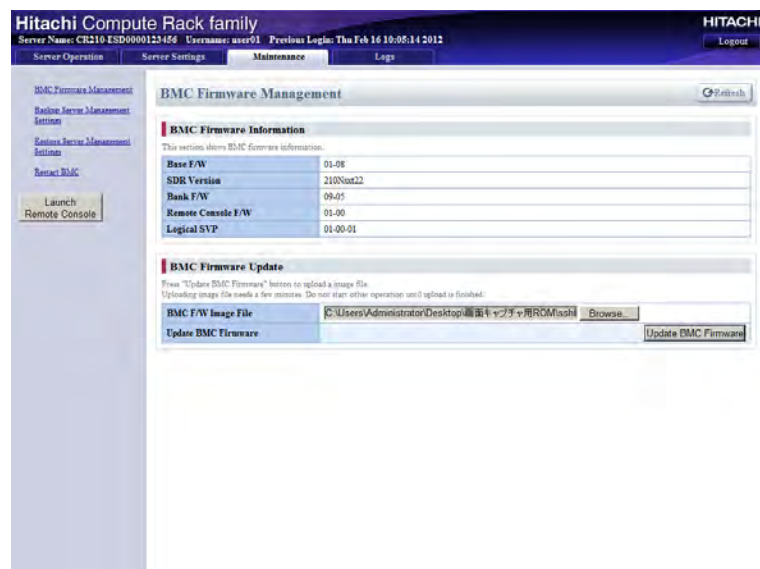
If you change settings, click **Modify** to go to confirming window. And then, click **Confirm** to save the change settings.

Maintenance

Maintenance tab enables you to update the firmware, backs up and restores the data that is managed by the firmware, and restarts BMC.

BMC Firmware Management menu

Click **Maintenance** from the top tab, and then click **BMC Firmware Management** in the left pane. The following window is displayed.



The following table shows description of menu items in the window.

Table 5-29: BMC Firmware Management menu items

Menu items	Description
Refresh button	Refreshes information.
Base F/W	Displays the version of base firmware.
SDR Version	Displays the SDR version.
Bank F/W	Displays the version of firmware.
Remote Console F/W	Displays the version of a remote console function.
Logical SVP	Displays the version of the logical SVP function.
Browse button	Specifies a BMC firmware image file to be uploaded.
Update BMC Firmware button	Uploads a specified image file. It takes a few minutes to upload the file. After the end of uploading, the confirming window is displayed.

If you want to update the BMC firmware, click **Browse** to select an image file. And then, click **Update BMC Firmware** to go to following the confirming window.



Confirm the information of updating firmware version, and then click **Confirm** to update the firmware.



Do not start other operation until firmware update is finished. Otherwise, updating firmware may not finish properly.



While a BMC firmware is updating, communication with the BIOS is shut off. Therefore, you must turn off the system unit before updating a BMC firmware.

If the system unit does not boot after updating a BMC firmware, turn off the system unit, shut down the AC power by disconnecting the AC cable, wait 30 seconds or more, and then reconnect AC power and turn on the system unit.

After the updating is completed, BMC is restarted. Therefore, the system unit is logged out of the Web console and disconnected.

When BMC is restarted, the SERVICE LED on the system unit blinks about 30 to 60 seconds.

Wait until the SERVICE LED stops blinking, and then turn off the system unit.



- Restarting the BMC terminates both Web console and Remote Console application, also disconnects from these services. The above services cannot be restart until restarting the BMC is finished.
 - If you specify a BMC firmware image file which is not supported by the system unit, the BMC will be restarted without updating the firmware.
-

Backup Management Settings menu

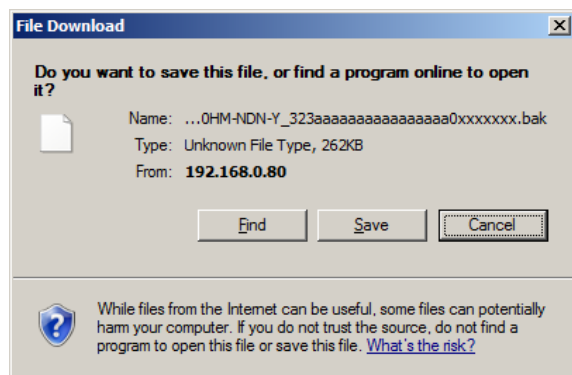
Click **Maintenance** from the top tab, and then click **Backup Management Settings** in the left pane. The following window is displayed.



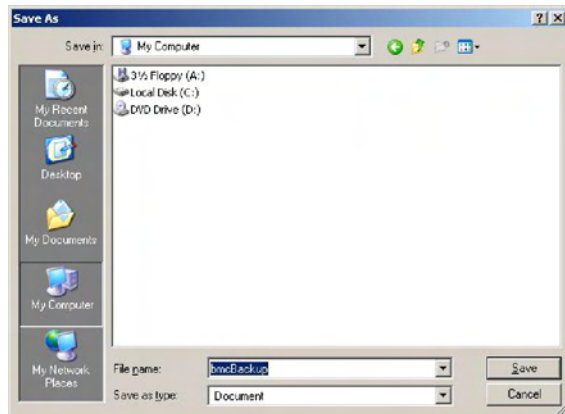
Table 5-30: Backup Management Settings menu item

Menu items	Description
Create and Download Backup Data	Creates and downloads a backup data file.

If you want to update the BMC firmware, click **Create and Download Backup Data**. Following the dialog box is displayed.



Click **Save**. Following the window is displayed.



Select a saving location and then click **Save**.

Backup data is saved. When The **Download Complete** window is displayed, click **Close**.

Restore Server Management Settings menu

Click **Maintenance** from the top tab, and then click **Restore Server Management Settings** in the left pane. The following window is displayed.

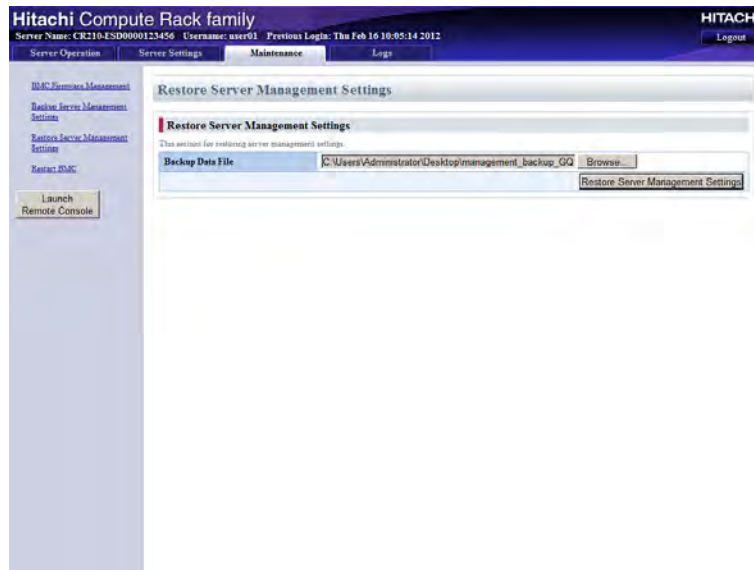


Table 5-31: Restore Server Management Settings items

Menu items	Description
Browse button	Specifies a backup data file downloaded in the Backup Management Settings menu .
Restore Server Management Settings	Uploads a specified backup data file and goes to the confirming window.

Hitachi Compute Rack family

Server Name: CR210-ESD0000123456 Username: user01 Previous Login: Thu Feb 16 10:05:14 2012 Logout

Server Operation Server Settings Maintenance Logs

BMC Firmware Management
Backup Server Management Settings
Restore Server Management Settings

Restore Server Management Settings

Restore Server Management Settings (Confirm)

If "Confirm" button is pressed, server management settings is overwritten the specified backup file.
BMC will be restarted after restore is done.

Backup Data File	management_backup_0Q-CR210MS-LNUN-Y_3234aaaaaaabbbbbbcccccc.bak
------------------	---

Back Confirm

Launch Remote Console

Choose file

Look in: Local Disk (C:)

- Documents and Settings
- Intel
- Program Files
- WINDOWS
- wmpub
- bmcbackup**

File name: bmcBackup

Files of type: All Files (*.*)

Open

Cancel

Tip

If the system unit does not boot after restoring a management setting, turn off the system unit, shut down the AC power by disconnecting the AC cable, wait 30 seconds or more, and then reconnect AC power and turn on the system unit.

After the restoring is completed, BMC is restarted. Therefore, the system unit is logged out of the Web console and disconnected.

When BMC is restarted, the SERVICE LED on the system unit blinks about 30 to 60 seconds.

Wait until the SERVICE LED stops blinking, and then turn off the system unit.



Restarting the BMC terminates both Web console and Remote Console application, also disconnects from these services.
The above services cannot be restart until restarting the BMC is finished.

Restart BMC menu

This window is available only with "ceconsI" users (users for maintenance work), and inaccessible to unauthorized personnel.

Logs

Logs tab enables you to download log taken by BMC.

Download Logs menu

Click **Logs** from the top tab, and then click **Download Logs** in the left pane. The following window is displayed.

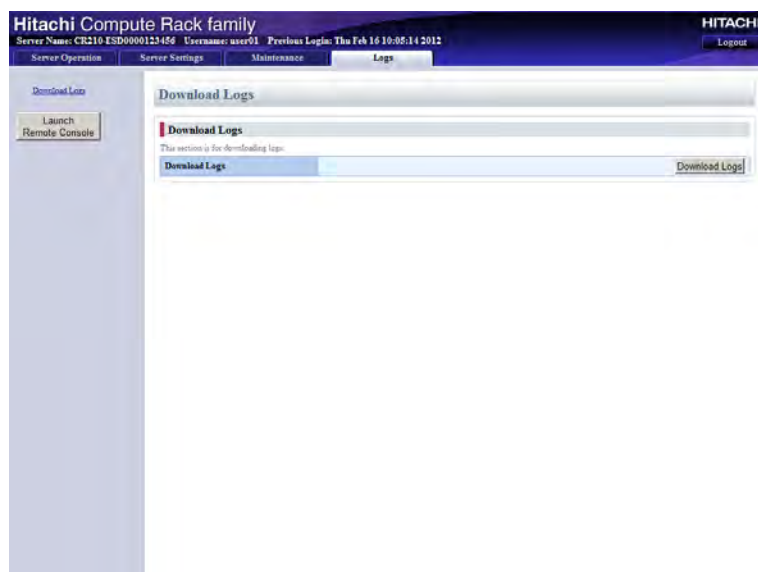


Table 5-32: Download Logs menu item

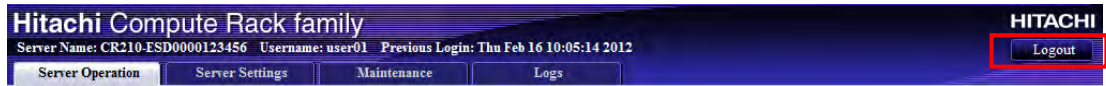
Menu items	Description
Download Logs button	Downloads a log taken by BMC.

This log is used to investigate a hardware failure.
Under normal operation, you do not need to take a log.

Exiting Web console

If you changed any settings, perform the backup of Management settings before exiting the Web console. See [Backup Management Settings menu](#) on page 5-57.

By pressing **Logout** on the right of the window, you can log out of the Web console.



If you close the Web browser without logging out, the user login state will continue until the automatic logout is performed in 30 minutes. Therefore, if you repeat this action of closing the Web browser without logging out, you cannot log in to the Web console again until a lapse of 30 minutes. Before closing the Web browser, be sure to press **Logout** and log out of the Web console.

Notice for setting up BMC network

This chapter describes the notice for setup of a BMC network.

- [Types and settings of BMC network setup methods](#)

Types and settings of BMC network setup methods

This section describes the types and settings of BMC network setup methods.

Types of BMC network setup methods

The following two types of BMC network setup methods are available when you use the remote management functions:

- Setup by the system BIOS setup menu
- Setup by the Web console
(Setup from the client by connecting to a BMC network according to initial network setup)

The following table lists the relationship between the main items of remote management function and the tools used for setup. The thick frame displays the tools recommended setting the function.

Particularly, multiple BMC network setup methods are available but we recommend that you adopt the same setup method as other setting items.

Table 5-1: Types of BMC network setup methods

Function	Main setup items	Methods that can be set	
		Web console	System BIOS
SVP Emulation ¹	BMC network setup	√	√
	SVP alert connection destination setting	√	-
	SVP alert notification level	√	-
	Detailed setting of error monitoring	√	-
Web console	BMC network setup	√	√
	Restrictions on connection destination address	√	-
	User account setup	√	-
Remote console	BMC network setup	√	√
	Mouse mode setup	√	-
	Restrictions on connection destination address	√	-
	User account setup	√	-
IPMI Over LAN	BMC network setup	√	√
	Restrictions on connection destination address	√	-

Function	Main setup items	Methods that can be set	
		Web console	System BIOS
Setup recovery when network connections are disabled	BMC network setup	-	√
	Restrictions on connection destination address	-	√
	User account setup	-	√
Notes: √ Available - N/A 1 The SVP emulation function is a function that supports emulating on the BMC firmware, such as remote power supply control, power supply control scheduling, and remote failure monitoring.			

BMC network settings

Properly configure the BMC network settings (IP addresses, subnet masks and default gateway) according to your network environment.

For setting items, the following values are specifiable: The IP address of each setting tool is noted as a decimal number of IPv4's IP address.

- IP address

An IP address can be set within the range from 1.0.0.0 to 223.255.255.255, except the following addresses:

- An address whose value becomes all "1" when the host part is expressed in a binary number (Because overlapping with a broadcast address)
- An address whose value becomes all "0" when the host part is expressed in a binary number (Because overlapping with the network address)
- Addresses ranging from 127.0.0.0 to 127.255.255.255

If Windows systems exist within the same network, **do not use** any address whose low-order 8 bites become all "1" in binary notation, such as "xxx.xxx.xxx.**255**".

For example, if an IP address is "192.168.0.0" and a subnet mask is "255.255.252.0", this address cannot be used because a broadcast address becomes "192.168.3.**255**". Similarly, do not use such addresses as "xxx.xxx.0.255", "xxx.xxx.1.255", and "xxx.xxx.2.255".

- Subnet mask

You can set a value having continuous mask bits in binary notation within the range from "255.0.0.0" to "255.255.255.255".

For instance, you cannot set 255.255.255.64 (binary notation: 1111 1111 1111 1111 1111 1111 1111 1111 **0100** 0000) because its mask bits are not successive.

Also, you cannot set any value not having two or more IP addresses which can be set at a specified host part (in a subnet).

For instance, you cannot set 255.255.255.254 (binary notation: 1111 1111 1111 1111 1111 1111 1111 1110) because there is no value which can be set as an IP address at the host part (in a subnet).

No IP address for specifying a host cannot be assigned because both of a network address and a broadcast address are used.

- Default gateway

You can set a value which can be specified as an IP address existing in a network (subnet) defined by an IP address and a subnet mask.

For example, the following combinations cannot be set:

- An address not existing in a network (subnet) defined by an IP address and a subnet mask.

- IP address 192.168.0.1
- Subnet mask 255.255.255.0
- Default gateway **192.168.10.20**

Because addresses that can be set within a subnet must range from 192.168.0.1 to 192.168.0.254.

- An address that cannot be set as an IP address

- IP address 192.168.0.1
- Subnet mask 255.255.255.0
- Default gateway **192.168.0.255**

Because 192.168.0.255 is a broadcast address.

Also 192.168.0.0 cannot be set because it is a network address.

The setup tool does not always determine whether any value other than the above can be set if specified. If a wrong value is specified, however, the setup tool accepts such a value normally but the value is judged abnormal when you attempt to set it on the BMC side. The value may not be set normally.

If a BMC network does not work normally after setup, reconfirm the network setup with the setup tool and try to specify normal values.



Software license

This chapter describes the license information of the software embedded into components of the system unit.

- [Software license information](#)

Software license information

Software embedded in this product consists of independent multiple pieces of software. Each of them is copyrighted by Hitachi, Ltd. or third parties.

The property rights and the intellectual property rights of software embedded in this product, which Hitachi, Ltd. itself has developed or created, are owned by Hitachi, Ltd. The property rights and the intellectual property rights of documents related to the software are owned by Hitachi, Ltd. Those are protected by the copyright and other laws.

This product uses the following open source software in compliance with each software license agreement as well as software developed or created by Hitachi, Ltd.

Table 7-1: BSD license

Embedded software	Software license agreement
XML_RPC	BSD-style License Refer to the next URL: http://xmlrpc-c.svn.sourceforge.net/viewvc/xmlrpc-c/trunk/doc/COPYING?view=markup
Net-SNMP	BSD License Refer to the next URL: http://www.net-snmp.org/about/license.html

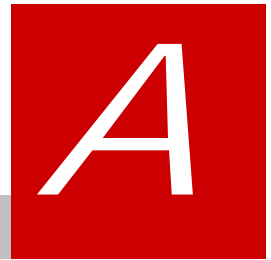
Table 7-2: GNU General Public License (GPL)

Embedded software	Software license agreement
Linux kernel U-Boot busybox iptables mii-tool gawk rsync liblzo cron ethtool logrotate mtd-utils e2fsprogs	GNU General Public License version 2 Refer to the next URL: http://www.gnu.org/licenses/gpl-2.0.html
zlib	zlib license Refer to the next URL: http://www.zlib.net/zlib_license.html

Embedded software	Software license agreement
openssl	OpenSSL License Refer to the next URL: http://www.openssl.org/source/license.html
openssh	BSD License Refer to the next URL: http://www.openbsd.org/cgi-bin/cvsweb/src/usr.bin/ssh/LICENCE?rev=HEAD
openldap	The OpenLDAP Public License Refer to the next URL: http://www.openldap.org/software/release/license.html
pam_ldap	GNU LESSER GENERAL PUBLIC LICENSE Refer to the next URL: http://www.gnu.org/copyleft/lesser.html
perl	GNU General Public License/Artistic License Refer to the next URL: http://dev.perl.org/licenses/
netkit-tftp syslogd	BSD License Refer to the next URL: http://www.freebsd.org/copyright/license.html
stunnel	stunnel license Refer to the next URL: https://www.stunnel.org/sdf_copying.html
ntp ntpd	NTP License Refer to the next URL: http://opensource.org/licenses/NTP

We provide you with source code of software licensed under the terms of the license, such as GNU General Public License (GPL), which says that we must distribute the source code, on CD-ROM/DVD-ROM by your request. Please take note that you will be charged for the media, shipping fee, and commission then. When you need to have source code media, check the BMC firmware version, jot it down, and contact your reseller to give them the version.

For the above open source software, consult your reseller.



SMASH

This Appendix-A describes the functions of SMASH.

- ☐ [Overview](#)
- ☐ [Setting up SMASH](#)
- ☐ [SMASH-CLP](#)
- ☐ [WS-Management](#)
- ☐ [SMASH operation](#)
- ☐ [CIM classes, properties and methods](#)
- ☐ [Troubleshooting](#)

Overview

This section overviews what is SMASH and what you can do with SMASH functions.

What SMASH is

SMASH is a management standard tool for server hardware provided by DMTF.

What you can do with SMASH

You can use SMASH to perform operations including powering on or off a server system and referring to FRU information. Both SMASH-CLP and WS-Management are supported. See DMTF web site shown below for details about SMASH-CLP and WS-Management.

<http://dmtf.org/>

Operations

The following operations are available for SMASH with CR 210H/CR 220H.

Table A-1: SMASH Operations

#	Operation
1	Server System operation (Retrieving status, powering on/off and rebooting)
2	Retrieving processor status
3	Retrieving memory status
4	Retrieving power supply module status
5	Retrieving fan module status
6	Retrieving sensor information
7	Retrieving FRU information
8	Changing boot device
9	Retrieving account information
10	Restarting BMC

Profiles

SMASH can perform many types of operations defined by CIM profiles. CR 210H/CR 220H support the profiles in the following table. For details, see the following DMTF web site:

<http://dmtf.org/standards/profiles>

Table A-2: Supported CIM Profiles

DSP#	Profile	Organization	Version
DSP1004	Base Server	DMTF	1.0.0 or later
DSP1006	SMASH Collections	DMTF	1.0.0 or later
DSP1007	SM CLP Admin Domain	DMTF	1.0.0 or later
DSP1009	Sensors	DMTF	1.0.0 or later
DSP1011	Physical Asset	DMTF	1.0.0 or later
DSP1012	Boot Control	DMTF	1.0.0 or later
DSP1013	Fan	DMTF	1.0.0 or later
DSP1015	Power Supply	DMTF	1.0.0 or later
DSP1018	Service Processor	DMTF	1.0.0 or later
DSP1022	CPU	DMTF	1.0.0 or later
DSP1026	System Memory	DMTF	1.0.0 or later
DSP1033	Profile Registration	DMTF	1.0.0 or later
DSP1034	Simple Identity Management	DMTF	1.0.0 or later

Setting up SMASH

This section describes how to set up SMASH before starting to use it.

Setting user account

Configure user accounts to operate the server system remotely. Privileges to operate the server system, validity, username and password can be configured for each user account.

Give the roles of "Login" and "SMASH CLP" to a user account that you use the SMASH.

For details, see [Setting user account](#).

Enabling ports for SMASH

After setting up a user account, set up a port for SMASH. For details of how to enable ports.

Set the **WS-MAN > Use > Enable** on **Security and Service**.

For details, see [Security and Service](#).



WS-Management and SMASH-CLP default port number are as following.

- SMASH (WS-Management) to its default (5986).
 - SMASH (CLP) to its default (Telnet(23)/SSH(22)).
-

Importing digital certificate

Connection via WS-Management requires installing the digital certificate on the client PC prior to the connection. For details on the how to use the digital certificate, see [Certificate](#).



To download the digital certificate from the BMC directly, run the web browser on the client PC, and then, enter "https://<BMC's IP address>"; for example, "https://192.168.0.1/" . For details on how to download and how to install the digital certificate, see help for web browser.

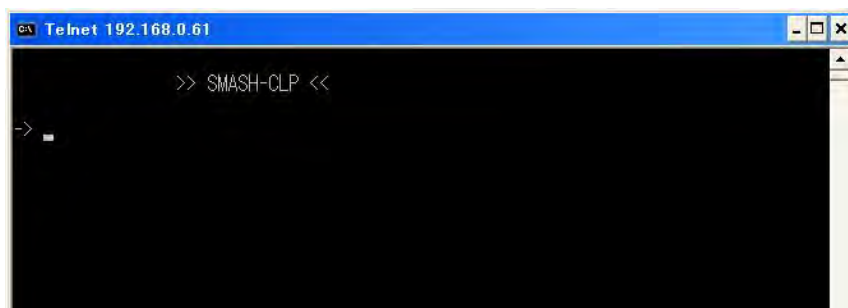
SMASH-CLP

This section describes how to use SMASH-CLP.

Connecting SMASH-CLP

You can use SMASH-CLP (Command Line Protocol) using terminal software on a console terminal connected via Telnet or SSH. To connect SMASH-CLP, follow these steps:

1. Start the terminal software on a console terminal, and connect to a server system, on which you use SMASH-CLP, via Telnet or SSH.
2. Enter a user name and a password via Telnet or SSH to connect to SMASH-CLP. Successful authentication displays the following prompt.



When using SMASH-CLP, check if there is SMASH-CLP role in the user account. If not, the terminal software directly connects to CLI.

If your user account includes either roles: "Administrator and SMASH-CLP" or "Service Setting and SMASH-CLP", the following console menu screen is displayed for selection.



Using SMASH-CLP

With SMASH-CLP, you can operate “target” shown in a hierarchical structure using “verb”. Type the following string in SMASH-CLP command line to operate an item shown in the table: SMASH Operations.

```
<verb> [<options>] [<target>] [<properties>]
```

For the SMASH-CLP, see Table A-3 Verbs and Their Options. For the targets corresponding to items in Table A-1 SMASH Operations, see Table A-4 Targets for Operations. To view verb option details, enter the following command.

```
help <verb>
```

Example:

```
->help show
Description:
    The show command is used to display information about Managed
    Elements. It can be used to view information about a single Managed
    Element, a tree of Managed Elements, or Managed Elements matching
    a property value filter.
Syntax:
    show [{options}] [{target}] [{properties}] [{propertyname}==
    {propertyvalue}]
Options:
-a, all
    The all option instructs the Command Processor to select all values
    :
    :
```

To view target properties, move to a target and enter the following.

```
cd <target>
show -display properties
```

Example:

```
-> cd /admin1/system1
-> show -display properties
Command Status: COMMAND COMPLETED
ufip=/admin1/system1
Properties:
HealthState=5
RequestedState=0
EnabledState=2
ElementName=IPMI BMC DeviceID.32
    CreationClassName=CIM_ComputerSystem
    Name=IPMI BMC DeviceID.32
    Dedicated={0}
    OperationalStatus={2}
```



```
OtherIdentifyingInfo={HITACHI::GQxT20xM-xxxxxxx:
                      323aaaaaaaaaaaaaaaa0xxxxxxx}
IdentifyingDescriptions={CIM:Model:SerialNumber}
```

Table A-3: Verbs and Their Options

Verb	Options	Description
cd	-default, -examine, -help, -output, -version	Changes the current default target.
show	-all, -default, -display, -examine, -help, -level, -output, -version	Views properties and verbs for a target.
exit	-help, -output, -version	Finishes SMASH-CLP.
help	-examine, -help, -output, -version	Shows help for a target.
version	-examine, -help, -output, -version	Shows a version of a target.
set	-examine, -help, -output, -version	Sets properties for a target.
start	-examine, -force, -help, -output, -version	Requests the target to start.
stop	-examine, -force, -help, -output, -state, -version, -wait	Requests the target to stop.
reset	-examine, -help, -output, -version	Requests the target to reset.

Table A-4: Targets for Operations

Target	Object	Operation
/admin1/system1	Server system	Displays the server system status, powers on/off, or reboots.
/admin1/hdwr1/mainchassis1	Server system	Displays FRU information.
/admin1/system1/cpu<N> /admin1/hdwr1/mainchassis1/card1/chip<N> /admin1/system1/capabilities1/cpucap<N>	Processor	Displays the processor status.
/admin1/system1/memory1 /admin1/hdwr1/mainchassis1/card1/pmem<N>	Memory	Displays the memory status.
/admin1/system1/pwrsupply<N>	Power supply module	Displays the power supply status.
/admin1/system1/fan<N>	Fan module	Displays the fan status.
/admin1/system1/sensors1/sensor<N> /admin1/system1/sensors1/currentsensor<N> /admin1/system1/sensors1/tachsensorn<N> /admin1/system1/sensors1/tempsensorn<N> /admin1/system1/sensors1/voltsensorn<N>	Sensor	Displays the sensor status.
/admin1/system1/sp1	BMC	Displays the BMC status or restarts BMC.
/admin1/system1/settings1/bootcfgsetting1/bootsrcsetting<N>	Boot device	Changes the boot device.
/admin1/system1/sp1/account<N>	Account	Displays account information.

WS-Management

This section describes how to use WS-Management.

Connecting WS-Management

Use software which supports WS-Management protocol. In this chapter, WinRM is used as an example.



You can download Windows management framework including WinRM from Microsoft web site.

Using WinRM

To perform operations shown in the table OPERATION below, enter the following command line at the command prompt on the WinRM-installed console terminal or in Windows PowerShell.

```
winrm <OPERATION> <RESOURCE_URI> [-SWITCH:VALUE] [@{KEY=VALUE}]
```

For available WinRM operations, see the tables below: Table A-5 OPERATION, Table A-6 RESOURCE_URI, and Table A-7 –SWITCH:VALUE. For WinRM details, see help for WinRM.

Table A-5: OPERATION

OPERATION	Description
g(et)	Retrieves management information.
s(et)	Sets management information.
c(reate)	Creates a new instance of management resources.
d(elte)	Deletes an instance of management resources.
e(umerate)	Enumerates all instances of management resources.
i(nvoke)	Invokes a method to management resources.
id(entify)	Identifies if WS-Management is executed on the server system connected.

Table A-6: RESOURCE_URI

RESOURCE	Description
cimv2/CIM_ComputerSystem	Powers on/off, reboots server systems, or restarts the BMC.
cimv2/CIM_Processor	Retrieves the processor status.
cimv2/CIM_Chip	
cimv2/CIM_ProcessorCapabilities	

RESOURCE	Description
cimv2/CIM_Memory	Retrieves the memory status.
cimv2/CIM_PhysicalMemory	
cimv2/CIM_PowerSupply	Retrieves the power status.
cimv2/CIM_Fan	Retrieves the fan status.
cimv2/CIM_Sensor	Retrieves sensor information.
cimv2/CIM_NumericSensor	
cimv2/CIM_Chassis	Retrieves FRU information.
cimv2/CIM_BootConfigSetting	Switches boot device.
cimv2/CIM_Account	Retrieves account information.

Table A-7: -SWITCH:VALUE

-SWITCH	VALUE	Description
-r(emote)	[TRANSPORT]	Sets a URI scheme: HTTP or HTTPS. The default value is HTTP but select HTTPS.
	HOST	Sets a host address. Valid formats: DNS name, NetBIOS name or IP address.
	[PORT]	By default, 5985 is used for HTTP; 5986 for HTTPS.
	[PREFIX]	By default, wsman is set.
-u(sername)	USERNAME	Specifies the user name for a server system connected.
-p(assword)	PASSWORD	Specifies the user password for a server system connected.
-a(uthentication)	VALUE	Specifies authentication mechanism used for server connection - None - Basic - Digest - Negotiate
-encoding	VALUE	Specifies the encoding for communication with a server system connected.
-file	VALUE	Specifies an XML file read from a file when s(et), c(reate) and i(nvoke) operations are executed.

The following shows an example of command for using WinRM. The example assumes that you have created an account with user name "user02" and password "pass02". Also assumes BMC's IP address is "192.168.0.1".

To view sensor information, start WinRM by a command like the following.

```
C:\>winrm e cimv2/CIM_Sensor -r:https://192.168.0.1:5986/wsman
-u:user02 -p:pass02 -a:basic -encoding:utf-8
```

Example:

```
C:\>winrm e cimv2/CIM_Sensor -r:https://192.168.0.1:5986/wsman
-u:user01 -p:pass01 -a:basic -encoding:utf-8
CIM_NumericSensor
  Accuracy = null
  Availability = null
  BaseUnits = 2
  Caption = Temperature(206.0.32)
  CommunicationStatus = null
  CreationClassName = CIM_NumericSensor
  CurrentReading = 2800
  CurrentState = Normal
  Description = HDD PLT2 TEMP1(206.0.32):Temperature for Drive
Backplane 3
  DetailedStatus = null
  DeviceID = 1.206.0.32.1.99
  ElementName = HDD PLT2 TEMP1(206.0.32)
  EnabledDefault = null
  EnabledState = 1
  EnabledThresholds = 3, 1, 2, 0
  ErrorCleared = null
  ErrorDescription = null
  HealthState = 5
  Hysteresis = null
  InstallDate = null
  IsLinear = TRUE
  LastErrorCode = null
  LocationIndicator = null
  LowerThresholdCritical = 0
  LowerThresholdFatal = null
  LowerThresholdNonCritical = 300
  MaxQuiesceTime = null
  MaxReadable = 12700
  MinReadable = 12800
  Name = null
  NominalReading = 4500
  NormalMax = null
  NormalMin = null
  OperatingStatus = null
  :
  :
```



When an error message saying that the envelope is too large is displayed, enter the following command to avoid troubles.

```
C:\>winrm s winrm/config @{MaxEnvelopeSizekb="4096"}
```

SMASH operation

This section describes how to operate SMASH.

Retrieving server system information

You can retrieve identification and status of server systems by SMASH.; for example, to know the product serial number .You can extract them from **OtherIdentifyingInfo** property in the instance of CIM_ComputerSystem class.

WS-Management

By using WS-Management to retrieve server system information, you can find the information in the instance of which **Dedicated** property is 0 (Not dedicated) among the instances in the CIM_ComputerSystem class.

SMASH-CLP

Enter the following command.

```
cd /admin1/system1
show
```

Properties

Table A-8: CIM_ComputerSystem class properties for server system

Property	Description
EnabledState	Shows the power status of the server system. 2 (Enabled) : Power is ON. 3 (Disabled) : Power is OFF.
HealthState	Shows whether a failure occurred or not. 5 (OK) : Normal 10 (Degraded/Warning) : Warning 25 (Critical error) : Failure
OperationalStatus	Shows whether a failure occurred or not. 2 (OK) : Normal 3 (Degraded) : Warning 6 (Error) : Failure
IdentifyingDescriptions	Shows the character string that represents the OtherIdentifyingInfo property. The order of items corresponds to that of OtherIdentifyingInfo property.
OtherIdentifyingInfo	Shows the server identifying character string. The format corresponds to IdentifyingDescriptions "HITACHI::LocationID" is "<Chassis serial number>".

Powering on/off or rebooting server system

You can power on/off and reboot server system. Note that SMASH does NOT shut down the OS automatically in powering off or rebooting.

WS-Management

1. Find the instance of which **Dedicated** property is 0 (Not dedicated) among the instances in the CIM_ComputerSystem class.
2. Invoke **RequestStateChange()** method of the instance with appropriate **RequestedState** parameter shown below.

Table A-9: RequestedState parameters

RequestedState parameter	Operation
2 (Enabled)	Powers on.
3 (Disabled)	Powers off.
11 (Reset)	Reboots.

SMASH-CLP

You can power on/off and reboot server systems by entering the following commands:

To power on

```
start /admin1/system1
```

To power off

```
stop /admin1/system1
```

To reboot

```
reset /admin1/system1
```

Retrieving processor status

You can retrieve the processor status.

WS-Management

You can get the status by retrieving the CIM_Processor class instances.

SMASH-CLP

You can get the status by entering the following command.

```
cd /admin1/system1/cpu<N>  
show
```

Properties

Table A-10: CIM_Processor class properties

Property	Description
ElementName	Shows the name of the processor. If the value is "Unknown", the processor is not installed.
HealthState	Shows whether a failure occurred or not. 5 (OK) : Normal 10 (Degraded/Warning) : Warning 25 (Critical error) : Failure
OperationalStatus	Shows whether a failure occurred or not. 2 (OK) : Normal 3 (Degraded) : Warning 6 (Error) : Failure

Retrieving memory status

You can retrieve the memory status.

WS-Management

You can get the status by retrieving the CIM_PhysicalMemory class instances.

SMASH-CLP

You can get the status by entering the following command.

```
cd //admin1/hdwr1/mainchassis1/card1/pmem<N>  
show
```

Properties

Table A-11: CIM_PhysicalMemory class properties

Property	Description
Capacity	Shows the memory capacity. If the value is "0" (zero), memory module is not installed.
HealthState	Shows whether a failure occurred or not. 5 (OK) : Normal 10 (Degraded/Warning) : Warning 25 (Critical error) : Failure
OperationalStatus	Shows whether a failure occurred or not. 2 (OK) : Normal 3 (Degraded) : Warning 6 (Error) : Failure

Retrieving power supply module status

You can retrieve the power supply module status.

WS-Management

You can get the status by retrieving the CIM_PowerSupply class instances.

SMASH-CLP

You can get the status by entering the following command.

```
cd /admin1/system1/pwrsupply<N>  
show
```

Properties

Table A-12: CIM_PowerSupply class properties

Property	Description
HealthState	Shows whether a failure occurred or not. 5 (OK) : Normal 10 (Degraded/Warning) : Warning 25 (Critical error) : Failure
OperationalStatus	Shows whether a failure occurred or not. 2 (OK) : Normal 3 (Degraded) : Warning 6 (Error) : Failure

Retrieving fan module status

You can retrieve the fan module status.

WS-Management

You can get the status by retrieving the CIM_Fan class instances.

SMASH-CLP

You can get the status by entering the following command.

```
cd /admin1/system1/fan<N>  
show
```

Properties

Table A-13: CIM_Fan class properties

Property	Description
HealthState	Shows whether a failure occurred or not. 5 (OK) : Normal 10 (Degraded/Warning) : Warning 25 (Critical error) : Failure
OperationalStatus	Shows whether a failure occurred or not. 2 (OK) : Normal 3 (Degraded) : Warning 6 (Error) : Failure

Retrieving fan rotating speed

You can retrieve the fan rotating speed.

WS-Management

You can get the information in the following steps:

1. Find the CIM_Fan class instance.
2. Extract the sensor number (<SensorNumber>) from the **DeviceID** property in the instance.
3. Find the instance corresponding to the <SensorNumber> from among the CIM_NumericSensor class instances.
4. The **CurrentReading** property in the instance found in the step 3 shows the rotating speed.

The format of the **DeviceID** property in the CIM_Fan class is:

`<EntityID> ":" <EntityInstance> ":" <SensorNumber> ":Fan"`

<SensorNumber> is surrounded by second and third colons(":").

The format of the **DeviceID** property in the CIM_NumericSensor class is:

`<1 or 2>.<SensorNumber>.<OwnerLUN>.<OwnerID>.<Event/Reading Type Code>.<Sensor Specific Offset or 99>`

<SensorNumber> is surrounded by first and second periods(".").

SMASH-CLP

You can get the rotating speed from the target **/admin1/system1/sensors1/tachsensord<N>** of which **ElementName** property begins with "FAN".

Retrieving FRU information

You can retrieve FRU information.

WS-Management

You can get FRU information by retrieving the CIM_Chassis class instance.

SMASH-CLP

You can get the status by entering the following command.

```
cd //admin1/hdwr1/mainchassis1  
show
```

Properties

Table A-14: CIM_Chassis class properties

Property	Description
Manufacturer	Shows manufacturer of the server system.
Model	Shows model name of the server system.
PartNumber	Shows part number of the server system.
SerialNumber	Shows serial number of the server system

Changing boot device

You can change boot device for next single boot.

WS-Management

You can change the boot device in the following steps:

1. Find the CIM_BootSourceSetting class instance that containing the **StructuredBootString** property for the boot device you want to use.
2. Find the CIM_BootConfigSetting class instance and invoke **ChangeBootOrder()** method, designating the CIM_BootSourceSetting class instance found above as a parameter.

To use WinRM, execute the following command:

```
C:\>winrm i ChangeBootOrder cimv2/CIM_BootConfigSetting?InstanceID=CIM:bcs1 -r:https://192.168.0.1:5968/wsman -a:basic -u:userA -p:password01 -encoding:utf-8 -file:input-ChangeBootOrder.xml
```

The contents of the input-ChangeBootOrder.xml are shown below:

```
<n1:ChangeBootOrder_INPUT
  xmlns:n1="http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/CIM_BootConfigSetting"
  xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
  xmlns:wsman="http://schemas.dmtf.org/wbem/wsman/1/wsman.xsd">
  <n1:Source>
    <wsa:ReferenceParameters>
      <wsman:ResourceURI>http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/CIM_BootSourceSetting</wsman:ResourceURI>
      <wsman:SelectorSet>
        <wsman:Selector Name="InstanceID">BootSource</wsman:Selector>
      </wsman:SelectorSet>
    </wsa:ReferenceParameters>
  </n1:Source>
</n1:ChangeBootOrder_INPUT>
```

Replace **BootSource** in the file by **InstanceID** property value of the CIM_BootSourceSetting instance which you want to use.

SMASH-CLP

You can change the boot device in the following steps:

1. Find the target **bootsrcsetting<N>** under **/admin1/system1/settings1/bootcfgsetting1**, which **StructuredBootString** property is the device you want to boot from.
2. Execute the following command.

```
cd /admin1/system1/settings1/bootcfgsetting1
set bootorder="/admin1/system1/settings1/bootcfgsetting1/bootsrcsetting
<N>"
```

The following table shows the relationship between **StructuredBootString** property values and the boot device.

Table A-15: StructuredBootString property values

StructuredBootString property	Boot device
HITACHI:None:1	None. Cancels the boot device designation.
CIM:Network:1	PXE boot
CIM:Hard-Disk:1	Hard disk
CIM:CD/DVD:1	CD/DVD ROM

Restarting BMC

You can restart BMC. Note that this operation terminates current SMASH session immediately.

WS-Management

You can restart BMC in the following steps:

1. Find the instance of which **Dedicated** property is 28 (Management Controller) among the instances in the CIM_ComputerSystem class.
2. Execute the **RequestStateChange()** method in the instance, designating 11 (Reset) as a **RequestedState** parameter.

SMASH-CLP

You can restart BMC by entering the following command.

```
reset /admin1/system1/sp1
```

CIM classes, properties and methods

This section provides the list of CIM classes, properties and methods.

List of CIM classes, properties and methods

The following tables show supported CIM classes, properties and methods. This list covers only major ones.

Table A-16: Support Profiles Classes

Profile	Class	Element Name
Base Server	CIM_ComputerSystem	Name
		CreationClassName
		EnabledState
		RequestedState
		OperationalStatus
		HealthState
		ElementName
		Dedicated
		IdentifyingDescriptions
		OtherIdentifyingInfo
		RequestStateChange()
	CIM_ComputerSystemPackage	Dependent
		Antecedent
	CIM_ElementCapabilities	ManagedElement
		Capabilities
	CIM_EnabledLogicalElementCapabilities	RequestedStatesSupported
	CIM_PhysicalPackage	Tag
		CreationClassName
		PackageType
		ChassisPackageType
		Manufacturer
		Model
		SerialNumber
		PartNumber
		VendorCompatibilityStrings
		ElementName
	CIM_RegisteredProfile	RegisteredName
		RegisteredVersion
		RegisteredOrganization

Profile	Class	Element Name
SMASH Collection	CIM_ConcreteCollection	InstanceID
		ElementName
	CIM_MemberOfCollection	Collection
		Member
	CIM_OwningCollectionElement	OwningElement
		OwnedElement
	CIM_RegisteredProfile	RegisteredName
		RegisteredVersion
		RegisteredOrganization
SM CLP Admin Domain	CIM_AdminDomain	Name
	CIM_ConcreteCollection	InstanceID
		ElementName
	CIM_MemberOfCollection	Collection
		Member
	CIM_OwningCollectionElement	OwningElement
		OwnedElement
	CIM_RegisteredProfile	RegisteredName
		RegisteredVersion
		RegisteredOrganization
Sensors	CIM_Sensor	SystemCreationClassName
		SystemName
		CreationClassName
		DeviceID
		SensorType
		PossibleStates
		CurrentStates
		ElementName
		OtherSensorTypeDescription
		EnabledState
		RequestedState
		OperationalStatus
		HealthState
		SystemCreationClassName
	CIM_NumericSensor	SystemCreationClassName
		SystemName
		CreationClassName

Profile	Class	Element Name
Sensors	CIM_NumericSensor	DeviceID
		BaseUnits
		UnitModifier
		RateUnits
		CurrentReading
		LowerThresholdNonCritical
		UpperThresholdNonCritical
		LowerThresholdCritical
		UpperThresholdCritical
		LowerThresholdFatal
		UpperThresholdFatal
		SupportedThresholds
		SettableThresholds
		SensorType
		PossibleStates
		CurrentStates
		ElementName
		OtherSensorTypeDescription
		EnabledState
		RequestedState
		OperationalStatus
		HealthState
	CIM_SystemDevice	GroupComponent
		PartComponent
	CIM_AssociatedSensor	Antecedent
		Dependent
	CIM_RegisteredProfile	RegisteredName
		RegisteredVersion
		RegisteredOrganization
Physical Asset	CIM_Chassis	Tag
		CreationClassName
		PackageType
		ChassisPackageType
		Manufacturer
		Model
		SerialNumber
		PartNumber
		VendorCompatibilityStrings

Profile	Class	Element Name
Physical Asset	CIM_Chassis	ElementName
	CIM_ComputerSystemPackage	PlatformGUID
	CIM_Container	GroupComponent
		PartComponent
	CIM_PhysicalMemory	Tag
		CreationClassName
		FormFactor
		MemoryType
		Speed
		Capacity
		BankLabel
		ElementName
		HealthState
		OperationalStatus
	CIM_PhysicalAssetCapabilities	InstanceID
		ElementName
		FRUInfoSupported
	CIM_PhysicalPackage	Tag
		CreationClassName
		PackageType
		ChassisPackageType
		Manufacturer
		Model
		SerialNumber
		PartNumber
		VendorCompatibilityStrings
		ElementName
	CIM_Realizes	Antecedent
		Dependent
	CIM_RegisteredProfile	RegisteredName
		RegisteredVersion
		RegisteredOrganization
Boot Control	CIM_RegisteredProfile	RegisteredName
		RegisteredVersion
		RegisteredOrganization
	CIM_BootService	CreationClassName
		Name
		SystemCreationClassName

Profile	Class	Element Name
Boot Control	CIM_BootService	SystemName
		ElementName
	CIM_BootConfigSetting	InstanceID
		ElementName
		ChangeBootOrder()
	CIM_BootSourceSetting	InstanceID
		ElementName
		BootString
		BIOSBootString
		StructuredBootString
		FailThroughSupported
	CIM_ElementCapabilities	ManagedElement
		Capabilities
	CIM_ElementSettingData	
	CIM_HostedService	Antecedent
		Dependent
	CIM_OrderedComponent	GroupComponent
		PartComponent
		AssignedSequence
	CIM_ServiceAffectsElement	AffectingElement
		AffectedElement
		ElementEffects
Fan	CIM_Fan	SystemCreationClassName
		SystemName
		CreationClassName
		DeviceID
		OperationalStatus
		HealthState
		VariableSpeed
		DesiredSpeed
		ActiveCooling
		EnabledState
		RequestedState
		ElementName
	CIM_NumericSensor	SensorType
		BaseUnits
		RateUnits
	CIM_RegisteredProfile	RegisteredName

Profile	Class	Element Name
Fan	CIM_RegisteredProfile	RegisteredVersion
		RegisteredOrganization
	CIM_Sensor	SensorType
	CIM_SystemDevice	GroupComponent
		PartComponent
Power Supply	CIM_PowerSupply	SystemCreationClassName
		SystemName
		CreationClassName
		DeviceID
		TotalOutputPower
		ElementName
		OperationalStatus
		HealthState
		EnabledState
		RequestedState
	CIM_RegisteredProfile	RegisteredName
		RegisteredVersion
		RegisteredOrganization
	CIM_SystemDevice	GroupComponent
		PartComponent
Service Processor	CIM_ComputerSystem	Dedicated
		Name
		CreationClassName
		OtherIdentifyingInfo
		IdentifyingDescriptions
		EnabledState
		RequestedState
		OperationalStatus
		HealthState
		ElementName
		RequestStateChange()
	CIM_ElementCapabilities	ManagedElement
		Capabilities
	CIM_EnabledLogicalElementCapabilities	RequestedStatesSupported
	CIM_RegisteredProfile	RegisteredName
		RegisteredVersion
		RegisteredOrganization
Profile Registration	CIM_RegisteredProfile	InstanceID

Profile	Class	Element Name
Profile Registration	CIM_RegisteredProfile	RegisteredOrganization
		RegisteredName
		RegisteredVersion
		AdvertiseTypes
	CIM_ElementConformsToProfile	ConformantStandard
		ManagedElement
Simple Identity Management	CIM_ReferencedProfile	Antecedent
		Dependent
	CIM_Account	SystemCreationClassName
		SystemName
		CreationClassName
		Name
		UserID
		UserPassword
		OrganizationName
		ElementName
		RequestedState
		EnabledState
	CIM_AccountManagementService	SystemCreationClassName
		CreationClassName
		SystemName
		Name
		RequestedState
		EnabledState
	CIM_AccountOnSystem	GroupComponent
		PartComponent
	CIM_AssignedIdentity	IdentityInfo
		ManagedElement
	CIM_ElementCapabilities (CIM_AccountManagementService)	ManagedElement
		Capabilities
	CIM_HostedService	Antecedent
		Dependent
	CIM_Identity	InstanceId
		ElementName
	CIM_RegisteredProfile	RegisteredName
		RegisteredVersion
		RegisteredOrganization

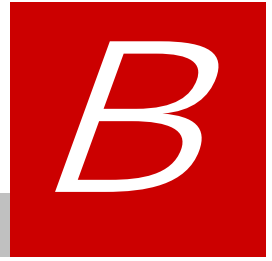
Profile	Class	Element Name
Simple Identity Management	CIM_ServiceAffectsElement	AffectingElement
		AffectedElement
		ElementAffects
CPU	CIM_Processor	CPUStatus
		CreationClassName
		CurrentClockSpeed
		DeviceID
		ElementName
		EnabledState
		ExternalBusClockSpeed
		Family
		HealthState
		MaxClockSpeed
		OperationalStatus
		RequestedState
		SystemCreationClassName
		SystemName
	CIM_ProcessorCapabilities	InstanceID
		NumberOfHardwareThread
		NumberOfProcessorCores
System Memory	CIM_Memory	Access
		BlockSize
		ConsumableBlocks
		CreationClassName
		DeviceID
		ElementName
		EnabledState
		HealthState
		NumberOfBlocks
		OperationalStatus
		RequestdState
		SystemCreationClassName
		SystemName
		Volatile

Troubleshooting

This section describes examples of basic troubleshooting with the SMASH.

Table A-17: Troubleshooting

#	Problem	Description
1	Cannot connect to BMC	Check the following from web console. 1) BMC's IP address and ports are properly configured. 2) IPMI/SMASH user account is properly configured. 3) Secure transport protocol (HTTPS or SSH) is used. 4) Connection from your client PC's IP address is allowed.
2	An error message displayed when "show //admin1/hdwrl/mainchassis1" is executed in CLP.	The error message is below. <pre>cmdstat status : 2 status_tag : COMMAND PROCESSING FAILED error : 246 error_tag : INVALID TARGET</pre> <p>This message appears when asset tag contains non-ASCII characters. Compute Rack 210/220 series only support ASCII encoding for asset tag.</p> <p>Set asset tag containing only ASCII characters from web console.</p>



CLI Console

This Appendix-B describes the functions of CLI Console.

- [Common function](#)
- [CLI command](#)

Common function

Login/logout

Login

1. Start the terminal emulator as a system console (SSH or telnet).
2. Set the IP address of the BMC, and terminal emulator connect BMC IP address through SSH or telnet.
3. When you have successfully logged in, the login prompt window is displayed.
4. The following user account and password of the system administrator are set to the factory default settings. Enter the following values in the table.

Table B-1: Factory default settings

Item	Factory default settings
User account	user01
Password	pass01



We strongly recommend that the password of the system administrator changed for security.

5. Enter the user account in the login prompt to connect the management module, and then press **Enter**.

```
Login:user01
```

6. Enter the password, and then press **Enter**.

```
Login:user01
Password:pass01
```

7. The following initial window is displayed after logging in to the management module.



The following item appear on the initial window after logging in to the management module.

Example:

```
7PESE
```

```
ALL RIGHTS RESERVED, COPYRIGHT (C), 2011, 2012, HITACHI, LTD.
```

```
Chassis ID      : 9 T999999999
```

```
Firmware Revision :
```

```
$
```

Logout

Enter **exit** in the CLI prompt, and then press **Enter**.

```
$ exit
```

Command input assistance

The CLI console provides command input assistance which helps an operator to type a command line.

Characters available to input

' ' (space), '!' , '"' (double quotation), '#' , '\$' , '%' , '&' , "'" (single quotation) , '(' , ')' , '*' , '+' , ',' , '-' , ':' , '/' , ';' , '<' , '=' , '>' , '?' , '@' , '[' , '\' , ']' , '^' , '_' , '`' , '{' , '}' , '~' , '0' ~ '9' , 'A' ~ 'Z' , 'a' ~ 'z' ,

Deleting characters

[BackSpace] key

Moves the cursor backward and deletes the character to the left of the cursor.

[Delete] key

Moves the cursor backward and deletes the character to the left of the cursor.



- If no command matches, the command line remains the same.
 - Auto-completion works only on command name, and doesn't on parameter.
-

CLI command

This section describes CLI command.

Chassis

show chassis setting

Command

```
show chassis setting
```

Description

Shows the setting of chassis.

Parameters

None

Show items

-- chassis setting --

Chassis ID

Chassis ID

Maximum of 21 characters

Maintenance classification

Setting of long life support

normal : standard service.

long : long life support service.

-- chassis FRU setting --

Part/model number

Part/model number of the chassis

Maximum of 32 characters

Serial number

Serial number of the chassis

Maximum of 27 characters

Model ID

Chassis type

Midplane ID

Midplane type

First WWN

First additional WWN

The smallest WWN in 256 WWNs assigned the additional WWM chassis.

Message

None

Example

[Shows the setting of server chassis.]

```
show chassis setting
```

Comment

None

set chassis id

Command

```
set chassis id -c <cid> [-F]
```

Description

Edits the Chassis ID.

Parameters

-c <cid>
Chassis ID
Maximum of 21 characters

-F
Executes the command without inquiry.

Show items

None

Message

None

Example

[Edits the Chassis ID into "SERVER1"]

```
set chassis id -c SERVER1
```

Comment

None

Front panel

show front-panel status

Command

```
show front-panel status
```

Description

Shows the status of front panel.

Parameters

None

Show items

-- Front panel status --

Install

Install status of a module

Install : The module is installed.

Not Install : The module is not installed.

-- LED status --

LED type

LED type

Power Led

Location Led: Location ID

Error Led

Mode Led

Maintenance Led

Light

Lighting status of LED.

on : turn-on

off : turn-off

Message

None

Example

[Show status of front panel.]

```
show front-panel status
```


Comment

None

set front-panel led

Command

```
set front-panel led -l <led_type> -t <led_on_off> [-F]
```

Description

Turns on or turn off the LID of chassis.

Parameters

-l <led_type>

LED type

lid : Location ID

-t <led_on_off>

Turn on or turn off of LED.

on : turn-on

off : turn-off

-F

Executes the command without inquiry.

Show items

None

Message

None

Example

[Turns on the LID of chassis.]

```
set front-panel led -l lid -t on
```

[Turns off the LID of chassis.]

```
set front-panel led -l lid -t off
```

Comment

None

Server

show server status

Command

```
show server status [<server_no>]
```

Description

Shows the status of server.

Parameters

<server_no>
Slot number is always 0.

Show items

-- Server status --
Slot
Slot number is always 0.

Initialize
Initialize status.

Init comp : Server is completed to initialize.

Power detail
Power status of server.
off : Server is powered off.
On : Server is powered on.

Power
Status of power
off : Powered off
on : Powered on

Fail
Status of Fail.
normal : Not fail
fail : Fail

Mass(kg)
Mass of module(kg)

```
-- LED status --
LED type
  LED type
    lid          : Shows Location ID.

Light
  Lighting status of LED
    on           : turned on
    off          : turned off
```

Message

None

Example

```
[Shows the status of server 0.]
show server status 0
```

Comment

None

show server mgmt-lan

Command

```
show server mgmt-lan [<server_no>]
```

Description

Shows the management LAN of BMC in the server.

Parameters

<server_no>

Slot number of server in the server chassis.

Range is fixed value 0 .

Multiple selection is available.

If 'all' is specified for this parameter or this parameter is omitted, the command shows all servers.

Show items

-- Server LAN interface setting --

Slot

Slot number of server in the server chassis.

Range is fixed value 0.

IP address

IP address

Subnetmask

Subnet mask

Default gateway

Default gateway of the module

DHCP

Show current DHCP setting

Message

None

Example

[Show management LAN of BMC in the server 0.]

```
show server mgmt-lan 0
```

Comment

None

set server mgmt-lan

Command

```
set server mgmt-lan <server_no> [-i <ip_addr>] [-s <subnet_mask>] [-g  
<default_gateway>] [-F]
```

Description

Edits the management LAN of BMC in the server.

Parameters

<server_no>

Slot number of server in the server chassis
Range is fixed value 0 .
Multiple selection is not available.

-i <ip_addr>

IP address

-s <subnet_mask>

Subnet mask

-g <default_gateway>

Default gateway of module

-d <DHCP setting>

Set DHCP setting

Enabled : enabled DHCP

Disabled : disabled DHCP

-F

Executes the command without inquiry.

Show items

None

Message

None

Example

[Set IP address, subnet mask, and default gateway of the management LAN of BMC in the server 0.]

```
set server mgmt-lan 0 -i 192.168.0.50 -s 255.255.255.0 -g  
192.168.0.1
```

[Edit IP address of management LAN of BMC on server 0.]

```
set server mgmt-lan 0 -i 192.168.0.60
```

Comment

None

poweron server

Command

```
poweron server [<server_no>][ -F]
```

Description

Power on the server.

Parameters

<server_no>

Slot number of server in the server chassis

Range is fixed value 0 .

Multiple selection is available.

If 'all' is specified for this parameter or this parameter is omitted, the command shows all servers.

-F

Executes the command without inquiry.

Show items

None

Message

None

Example

[Power on server 0.]

```
poweron server 0
```

Comment

The server will not power on when the chassis is in silent mode and the server is not supporting silent mode.

poweroff server

Command

```
poweroff server [<server_no>] [-h|-s] [-F]
```

Description

Power off the server.

Parameters

<server_no>

Slot number of the server in the server chassis

Range is fixed value 0.

Multiple selection is available.

If 'all' is specified for this parameter or this parameter is omitted, the command shows all servers.

-h

Force power off the server.

-s

Shutdown the server.

If omitted -h and -s parameter, this parameter is applied.

-F

Executes the command without inquiry.

Show items

None

Message

None

Example

[Shuts down the OS which is operated by the server 0.]

```
poweroff server 0
```

[Force power off server 0.]

```
poweroff server all -h
```

Comment

None

bmc-reset server

Command

```
bmc-reset server [<server_no>] [-h|-s] [-F]
```

Description

Resets BMC on the server.

Parameters

<server_no>

Slot number of the server in the server chassis

Range is from 0 .

Multiple selection is available.

If 'all' is specified for this parameter or this parameter is omitted, the command shows all servers.

-S

Restart the BMC.

-F

Executes the command without inquiry.

Show items

None

Message

None

Example

[The sub power supply of the server 0 is turned off / on.]

[BMC of all the servers are rebooted.]

```
bmc-reset server all -s
```

Comment

None

reset server

Command

```
reset server [<server_no>] [-h|-s] [-F]
```

Description

Resets the server.

Parameters

<server_no>

Slot number of the server in the server chassis

Range is fixed value 0.

Multiple selection is available.

If 'all' is specified for this parameter or this parameter is omitted, the command shows all servers.

-h

Hard reset the server.

If omitted -h and -s parameter, this parameter is applied.

-s

Issues NMI (Non-Maskable Interrupt).

-F

Executes the command without inquiry.

Show items

None

Message

None

Example

[Reset server 0.]

```
reset server 0
```

[NMI is sent to all the servers.]

```
reset server all -s
```

Comment

None

show server firmware

Command

```
show server firmware [<server_no>]
```

Description

Shows the firmware version of server.

Parameters

<server_no>

Slot number of server in the server chassis.

Range is fixed value 0

Multiple selection is available.

If 'all' is specified for this parameter or this parameter is omitted, the command shows all servers.

Show items

-- Server firmware version --

Slot

Slot number of the server in the server chassis.

Range is fixed value 0.

-- BMC version --

Current version

Current BMC firmware version

Next version

Next BMC firmware version

-- EFI version --

Current version

Current EFI firmware version

Next version

Next EFI firmware version

Message

None

Example

[Shows the firmware version of server 0.]

```
show server firmware 0
```

Comment

None

Fan module

show fan-module status

Command

```
show fan-module status [<fan_no>]
```

Description

Show status of the fan module.

Parameters

<fan_no>

Slot number of cooling fan module in the server chassis

Multiple selection is available.

If 'all' is specified for this parameter or this parameter is omitted, the command shows all servers.

Show items

-- Fan module status --

Slot

Slot number of cooling fan module in the server chassis

Range is fixed value 0 .

Install

Install status of a module

installed : Module is installed.

not installed : Module is not installed.

Power

Status of power

off : Power-off

on : Power-on

Fail

Status of Fail.

normal : Not fail

fail : Fail

Tachometer (rpm)

Revolution of cooling fan

Message

None

Example

[Shows the status of cooling fan module 0.]
`show fan-module status 0`

Comment

None

Time

show time local

Command

```
show time local
```

Description

Shows the local time of management module.

Parameters

None

Show items

-- Local time --

Date

Date uses 'YYYY-MM-DD' format.

'YYYY' is from '1970' to '2037'. 'MM' is from '01' to '12'. 'DD' is from '01' to '31'.

Time

Time uses 'hh:mm:ss' format.

'hh' is from '00' to '23'. 'mm' is from '00' to '59'. 'ss' is from '00' to '59'.

Message

None

Example

[Shows the local time of management module.]

```
show time local
```

Comment

None

set time local

Command

```
set time local -d <date_time> [-F]
```

Description

Edits the local time of management module.

Parameters

-d <date_time>

Date and time.

Format is "YYYY-MM-DD hh:mm:ss". Date and time is divided with a space. Input string must be enclosed in double quotes because including a space.

-F

Executes the command without inquiry.

Show items

None

Message

None

Example

[Edits the local time of management module.]

```
set time local -d "2013-05-01 15:00:00"
```

Comment

None

show time timezone

Command

```
show time timezone
```

Description

Shows the time zone of management module.

Parameters

None

Show items

```
-- Timezone --  
Timezone  
    Range is from '-24:59' to '+24:59'.
```

Message

None

Example

```
[Shows the time timezone of management module.]  
show time timezone
```

Comment

None

set time timezone

Command

```
set time timezone -z <timezone> [-F]
```

Description

Edits the time zone of management module.

Parameters

-z <timezone>

Range is from '-24:59' to '+24:59'.

Enclose the value within double quotation marks to input a minus value.

-F

Executes the command without inquiry.

Show items

None

Message

None

Example

[Edits the time zone of management module.]

```
set time timezone -z +09:00
```

Comment

None

Language

show language system

Command

```
show language system
```

Description

Shows the language mode of management module.

Parameters

None

Show items

```
-- System language --  
Language  
  Language mode  
    english : English  
    japanese      : Japanese
```

Message

None

Example

```
[Shows the language mode of management module.]  
show language system
```

Comment

None

set language system

Command

```
set language system [-l <language>] [-F]
```

Description

Edits the language mode of management module.

Parameters

-l <language>
Language mode
 english : English
 japanese : Japanese

-F
Executes the command without inquiry.

Show items

None

Message

None

Example

[Sets the language mode of management module to Japanese.]
set language system -l japanese

Comment

None

Remote access

show remote-access protocol http

Command

```
show remote-access protocol http
```

Description

Shows the setting of connection allowance of http

Parameters

None

Show items

-- HTTP setting --

Port number

Port number of protocol.

Range is from 1 to 65535.

Allow

Allowance or denial

allow : Allowance

deny : Denial

Network address

Network address.

Subnetmask

Subnet mask.

Message

None

Example

[Shows the setting of connection allowance of http.]

```
show remote-access protocol http
```

Comment

None

set remote-access protocol http

Command

```
set remote-access protocol http [-a <allow>] [-p <protocol_port>] [-n  
<network_addr>] [-s <subnet_mask>] [-F]
```

Description

Edits the setting of connection allowance of http.

Parameters

- a <allow>
Allowance or denial
allow : Allowance
deny : Denial
- p <protocol_port>
Port number of protocol.
Range is from 1 to 65535.
- n <network_addr>
Network address.
- s <subnet_mask>
Subnet mask.
- F
Executes the command without inquiry.

Show items

None

Message

None

Example

```
[Allows the HTTP connection of IP address 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
```

```
[Deny all the HTTP connection.]  
set remote-access protocol http -a deny
```

Comment

None

show remote-access protocol https

Command

```
show remote-access protocol https
```

Description

Shows the setting of connection allowance of https.

Parameters

None

Show items

-- HTTPS setting --

Port number

Port number of protocol.

Range is from 1 to 65535.

Allow

Allowance or denial

allow : Allowance

deny : Denial

Network address

Network address.

Subnetmask

Subnet mask.

Message

None

Example

[Shows the setting of connection allowance of https]

```
show remote-access protocol https
```

Comment

None

set remote-access protocol https

Command

```
set remote-access protocol https [-a <allow>] [-p <protocol_port>] [-n  
<network_addr>] [-s <subnet_mask>] [-F]
```

Description

Edits the setting of connection allowance of https.

Parameters

- a <allow>
Allowance or denial
 - allow : Allowance
 - deny : Denial
- p <protocol_port>
Port number of protocol.
Range is from 1 to 65535.
- n <network_addr>
Network address.
- s <subnet_mask>
Subnet mask.
- F
Executes the command without inquiry.

Show items

None

Message

None

Example

[Sets the HTTPS port number to 443 and allows the HTTP connection of IP address 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
```

[Deny all the HTTPS connection.]

```
set remote-access protocol https -a deny
```

Comment

None

show remote-access protocol ssh

Command

```
show remote-access protocol ssh
```

Description

Shows the setting of connection allowance of SSH.

Parameters

None

Show items

-- SSH setting --

Allow

Allowance or denial

allow : Allowance

deny : Denial

Network address

Network address.

Subnetmask

Subnet mask.

Message

None

Example

[Shows the setting of connection allowance of SSH.]

```
show remote-access protocol ssh
```

Comment

None

set remote-access protocol ssh

Command

```
set remote-access protocol ssh [-a <allow>] [-n <network_addr>] [-s  
<subnet_mask>] [-F]
```

Description

Edit the setting of connection allowance of SSH.

Parameters

- a <allow>
Allowance or denial
 - allow : Allowance
 - deny : Denial
- n <network_addr>
Network address.
- s <subnet_mask>
Subnet mask.
- F
Executes the command without inquiry.

Show items

None

Message

None

Example

[Allows the SSH connection of IP address 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
```

[Deny all the SSH connection.]

```
set remote-access protocol ssh -a deny
```

Comment

None

show remote-access protocol telnet

Command

```
show remote-access protocol telnet
```

Description

Shows the setting of connection allowance of TELNET.

Parameters

None

Show items

-- TELNET setting --

Allow

Allowance or denial

allow : Allowance

deny : Denial

Network address

Network address

Subnetmask

Subnet mask

Message

None

Example

[Shows the setting of connection allowance of TELNET.]

```
show remote-access protocol telnet
```

Comment

None

set remote-access protocol telnet

Command

```
set remote-access protocol telnet [-a <allow>] [-n <network_addr>] [-s  
<subnet_mask>] [-F]
```

Description

Edits the setting of connection allowance of TELNET.

Parameters

-a <allow>

Allowance or denial

allow : Allowance

deny : Denial

-n <network_addr>

Network address

-s <subnet_mask>

Subnet mask

-F

Executes the command without inquiry.

Show items

None

Message

None

Example

[Allows the TELNET connection of IP address 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
```

[Deny all the TELNET connection.]

```
set remote-access protocol telnet -a deny
```

Comment

None

show hitrack setting

Command

```
show hitrack setting
```

Description

Shows the setting of HiTrack setting.

Parameters

None

Show items

```
-- HiTrack agent setting --
Server cooperation
    HiTrack Enable or Disable
        enable      : HiTrack enable
        disable    : HiTrack disable

-- HiTrack management server setting --
IP address
    IP address of HiTrack management server.
```

Message

None

Example

```
[Shows the setting of HiTrack]
show hitrack setting
```

Comment

None

set hitrack agent

Command

```
set hitrack agent -c <hitrack_permit_con> [-F]
```

Description

Sets the HiTrack agent.

Parameters

```
-c <hitrack_permit_con>  
    HiTrack Enable or Disable  
        enable      : HiTrack enable  
        disable     : HiTrack disable
```

```
-F  
    Executes the command without inquiry.
```

Show items

None

Message

None

Example

```
[Sets the HiTrack agent.]  
set hitrack agent -c enable
```

Comment

None

set hitrack manager

Command

```
set hitrack manager -i <hitrack_ip_addr> [-F]
```

Description

Sets the HiTrack management server.
Adds server when IP address is not registered and updates the setting when registered.

Parameters

- i <hitrack_ip_addr>
IP address of HiTrack management server
- F
Executes the command without inquiry.

Show items

None

Message

None

Example

[Sets the HiTrack management server.]

```
set hitrack manager -i 192.168.0.20
```

Comment

None

delete hitrack manager

Command

```
delete hitrack manager -i <hitrack_ip_addr> [-F]
```

Description

Deletes the HiTrack management server.

Parameters

-i <hitrack_ip_addr>
IP address of HiTrack management server.

-F
Executes the command without inquiry.

Show items

None

Message

None

Example

[Deletes the HiTrack management server.]
delete hitrack manager -i 192.168.0.20

Comment

None

SNMP

show snmp agent

Command

show snmp agent

Description

Shows the setting of SNMP agent.

Parameters

None

Show items

-- SNMP agent setting --

Agent

Enabled or disabled of SNMP agent.

Enable : Enabled

Disable : Disabled

Contact name

Contact name of SNMP agent.

Maximum of 60 characters.

Location

Location of SNMP agent.

Maximum of 60 characters.

Port number

Port number of SNMP agent which should be different from the one SNMP agent uses

Range is from 1 to 65535.

Trap level

Trap level of SNMP agent.

Disable : Not send any reports.

Alert : Send only level "non-recoverable" and "serious".

Information : Send only level "information" .

ALL : Send all levels.

SNMP version

Version of SNMP agent.

Engine ID string

Engine ID string of SNMP manager.

Available when SNMP version is v3.

From 1 to 27 characters.

Engine ID

Engine ID of SNMP manager.

Available when SNMP version is v3.

From 12 to 64 characters.

Message

None

Example

[Shows the setting of SNMP agent.]

```
show snmp agent
```

Comment

None

set snmp agent

Command

```
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>]  
[-F]
```

Description

Edits the setting of SNMP agent.

Parameters

- v <snmp_valid>
Enabled or disabled of SNMP agent.
 - enable : Enabled
 - disable : Disabled
- c <snmp_contact>
Contact name of SNMP agent.
Maximum of 60 characters.
- l <snmp_loc>
Location of SNMP agent.
Maximum of 60 characters.
- p <snmp_port>
Port number of SNMP agent.
Range is from 1 to 65535.
- t <snmp_trap>
Trap level of SNMP agent.
 - disable : Not send any reports.
 - alert : Send level "non-recoverable" and "serious".
 - information : Send only level "information".
 - all : Send all levels.
- s <snmp_version>
Version of SNMP agent.
- e <snmp_engine_str>
Engine ID string of SNMP manager.
Available when SNMP version is v3.
From 1 to 27 characters.
- F
Executes the command without inquiry.

Show items

None

Message

None

Example

[Edit SNMP agent setting.]

```
set snmp agent -v enable -c contact_name -l location -p 161 -t  
information -s v1/v2c
```

Comment

None

show snmp manager

Command

```
show snmp manager [-n <snmp_mgr_num>]
```

Description

Shows the setting of SNMP manager.

Parameters

-n <snmp_mgr_num>

Number of SNMP manager.

Up to 8 SNMP managers can be set.

Range is fixed value 0.

Show items

-- SNMP Manager setting --

SNMP version

Version of SNMP agent.

Host name

Domain name (FQDN) or IP address of SNMP manager.

Maximum of 255 characters.

Port number

Port number of SNMP manager.

Port number must be different from SNMP agent.

Range is from 1 to 65535.

Community name

Community name of SNMP manager.

Maximum of 60 characters.

Available when SNMP version is v1/v2c.

User name

User name of SNMP manager.

From 1 to 32 characters.

Available when SNMP version is v3.

Access type

Access type of SNMP manager.

noauth-nopriv : without authentication, without encryption.

auth-nopriv : with authentication, without encryption.

auth-priv : with authentication, with encryption.

Available when SNMP version is v3.

Authentication type

Type of authentication.

md5 : MD5.

sha : SHA.

Available when access type is auth-nopriv or auth-priv.

Encrypt type

Type of encryption.

des : DES.

aes : AES.

Available when access type is auth-priv.

Message

None

Example

[Shows the setting of SNMP manager.]

```
show snmp manager -n 0
```

Comment

None

set snmp manager

Command

```
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]
```

Description

Edits the setting of SNMP manager.

Parameters

- n <snmp_mgr_num>
Number of SNMP manager.
Up to 8 SNMP managers can be set.
Range is fixed value 0.
- s <snmp_version>
Version of SNMP agent.
- h <snmp_mgr_host_name>
Domain name (FQDN) or IP address of SNMP manager.
Maximum of 255 characters.
- p <snmp_mgr_port>
Port number of SNMP manager. Range is from 1 to 65535.
- c <snmp_mgr_community_name>
Community name of SNMP manager.
Maximum of 60 characters.
Available when SNMP version is v1/v2c.
- u <snmp_mgr_user_name>
User name of SNMP manager.
From 1 to 32 characters.
Available when SNMP version is v3.
- a <snmp_mgr_access_type>
Access type of SNMP manager.
 - noauth-nopriv : without authentication, without encryption.
 - auth-nopriv : with authentication, without encryption.
 - auth-priv : with authentication, with encryption.Available when SNMP version is v3.

-at <snmp_mgr_auth_type>
Type of authentication.
vmd5 : MD5.
sha : SHA.
Available when SNMP version is v3

-ap <snmp_mgr_auth_password>
Password for authentication.
Available when SNMP version is v3

-et <snmp_mgr_encrypt_type>
Type of encryption.
des : DES.
aes : AES.
Available when SNMP version is v3.

-ep <snmp_mgr_encrypt_password>
Password for encryption.
Available when SNMP version is v3.

-F
Executes the command without inquiry.

Show items

None

Message

None

Example

[Edits the setting of SNMP manager.(v1/v2)]
set snmp manager -n 0 -s v3 -h 0.0.0.0 -p 162 -c community name

[Edits the setting of SNMP manager. (v3)]
set snmp manager -n 0 -s v3 -h 0.0.0.0 -p 162 -u user name
-a auth-priv -at md5-ap password -et des -ep password

Comment

None

show snmp mib

Command

```
show snmp mib
```

Description

Shows the SNMP MIB file version.

Parameters

None

Show items

```
-- MIB information --  
Version  
    Version of MIB.
```

Message

None

Example

```
[Shows the SNMP MIB file version.]  
    show snmp mib
```

Comment

None

test snmp trap

Command

```
test snmp trap [-F]
```

Description

Sends the SNMP test trap.

Parameters

-F
Executes the command without inquiry.

Show items

None

Message

None

Example

[Send the SNMP test trap.]

```
test snmp trap
```

Comment

None

Log

show log sel

Command

```
show log sel [-f <filter>] [-l <level>]
```

Description

Shows the system event log(SEL).

Parameters

-f <filter>

Filter to select rows to show.

M, MO ~ M1, B, BO, FAN, FAN0 ~ FAN5,
PS, PS0 ~ PS3

-l <level>

Level of system event log.

0	: all level
1	: caution, warning, fail level only
2	: warning, fail level only
3	: fail level only

Show items

-- System event log --

Seq

Sequence number of system event log.

Timestamp

Timestamp of system event log.

Level

Level of system event log.

Info	: information level.
Caution	: caution level.
WARNING	: warning level.
FAIL	: fail level.

Module

Symbol name and slot number of module which generates the system event log.

Bn	: Server , 'n' is fixed value 0.
FANn	: fan module, 'n' is 0 to 5.
PSn	: power supply module, 'n' is 0 to 3.
FP	: front panel.
C	: chassis.

XID

XID of system event log.

System event log

Code of system event log.

Message

Message of system event log.

Maximum of 255 characters.

Message

None

Example

[Shows the system event log (SEL).]

```
show log sel
```

[Shows the system event log (SEL) of server.]

```
show log sel -f B0
```

[Shows the system event log (SEL) of all server.]

```
show log sel -f B
```

[Shows the system event log (SEL) of fail level.]

```
show log sel -l 3
```

Comment

None

Backup

backup server bmc

Command

```
backup server bmc <server_no>
```

Description

Backup data of BMC.

Parameters

<server_no>
Range is always 0.

Show items

None

Message

None

Example

[Backups the BMC setting of the server 0 with backup file.]

```
backup server bmc 0 -n 0
```

Comment

None

restore server bmc

Command

```
restore server bmc <server_no> -n <bank_no> [-F]
```

Description

Restores the BMC setting of the server with backup file.

Parameters

<server_no>

Slot number of server in the server chassis.
Range is fixed value 0.
Only one server can be selected.

-n <bank_no>

Bank number of backup.
Range is from 0 to 4.

-F

Executes the command without inquiry.

Show items

None

Message

None

Example

[Restores the BMC setting of the server 0 with backup file.]

```
restore server bmc 0 -n 0
```

Comment

None

Console

exit

Command

exit

Description

Exit CLI console.

Parameters

None

Show items

None

Message

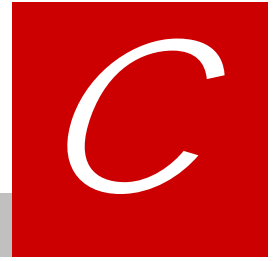
None

Example

```
[Exit CLI console.]
exit
```

Comment

None



MIB

This Appendix-C describes the method and items of MIB.

- ☐ [Overview](#)
- ☐ [Standard MIB](#)
- ☐ [Private MIB](#)

Overview

This section describes the method of MIB description.

MIB structure

The following figure describes the MIB tree structure.

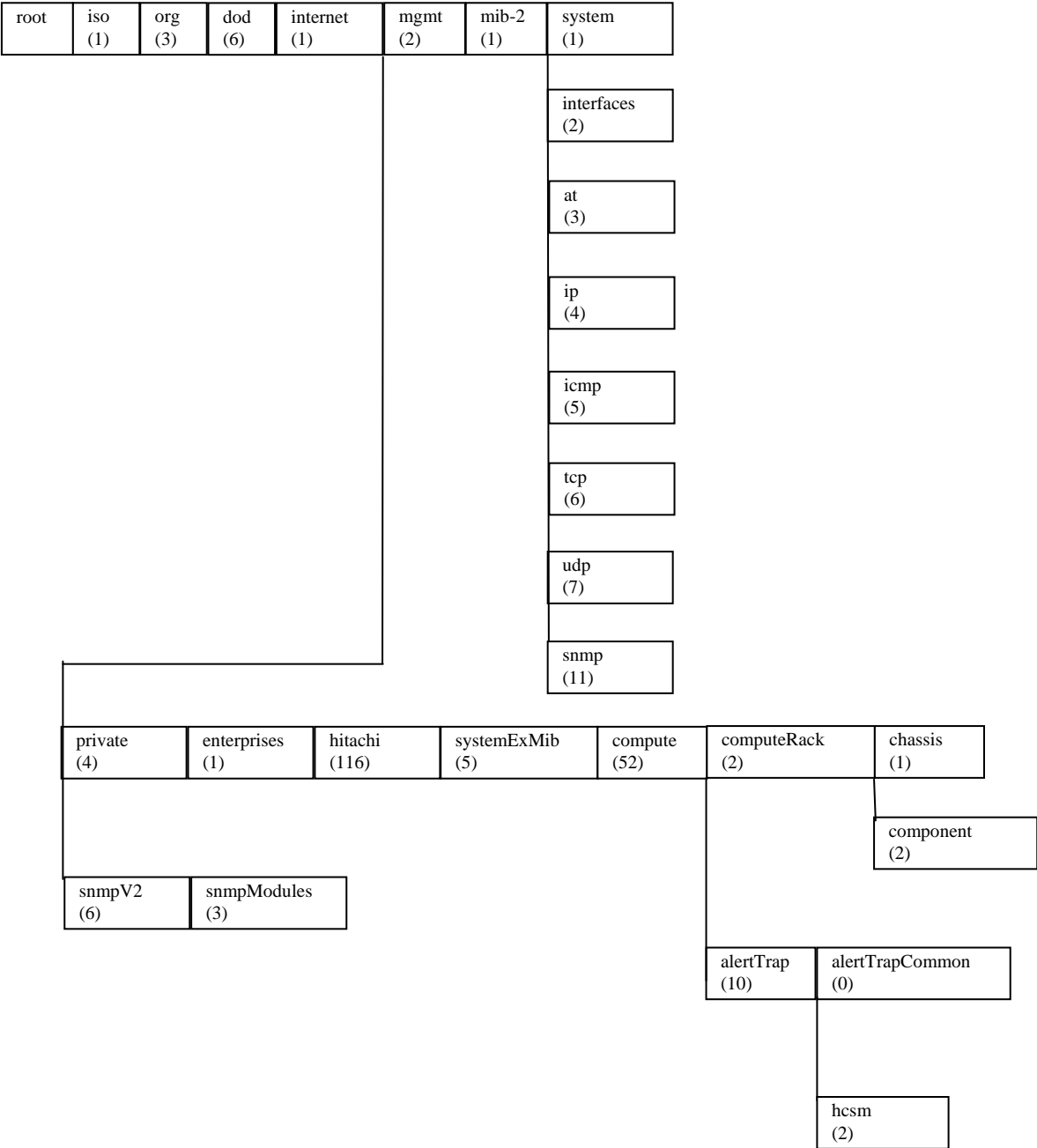


Figure C-1: MIB tree structure

Method of MIB description

This section describes the symbolic convention that is used in this guide.

Object identifier

The object identifier displays the name of MIB object identifier.

OID

The OID displays the OID that is corresponded to the MIB object identifier.

SYNTAX

The following table describes the syntax that is used in the private MIB.

Table C-1: Syntax of MIB

No.	SYNTAX	Description
1	Not-Accessible	Access is disabled.
2	Display String	0 to 255 characters are enabled.
3	INTEGER	Integer value range: -2147483648 to 2147483647 are enabled.
4	Integer32	Integer value range: -2147483648 to 2147483647 are enabled.
5	OBJECT IDENTIFIER	Object identifier

Access

- RO: Displays MIB access is read-only.
- RW: Displays MIB access is read-write.
- NA: Displays MIB access is not-accessible.

Standard MIB

This section describes the items of standard MIB.

Support items

The following table describes the nine supported groups by the standard MIB.

Table C-2: Supported standard MIB objects

No.	Object identifier	OID	Description
1	system	.1.3.6.1.2.1.1*	Device information
2	interfaces	.1.3.6.1.2.1.2	Interface information
3	at	.1.3.6.1.2.1.3	ARP information
4	ip	.1.3.6.1.2.1.4	IP information
5	icmp	.1.3.6.1.2.1.5	ICMP information
6	tcp	.1.3.6.1.2.1.6	TCP information
7	udp	.1.3.6.1.2.1.7	UDP information
8	snmp	.1.3.6.1.2.1.11	SNMP information
9	snmpModules	.1.3.6.1.6.3	SNMPv3 information
* "1.3.6.1.2.1.1.8" and "1.3.6.1.2.1.1.9" are not contained.			



- The attribute access that in the standard of SNMP is read-write (RW) displays read-only (RO) in this guide.
- The contents of object are according to the regulation of RFC1213, RFC1285, and RFC1398.
For details of contents, see the website or the manual of SNMP manager.

Private MIB

This section describes the private MIB.

Specification of SNMP Trap

The following table describes the notification of SNMP trap.

Table C-3: Specification of SNMP Trap

Item		Description
Content of messaging	Binding of the first variable	Time of alert transmission
	Binding of the second variable	Chassis ID
	Binding of the third variable	Alert level
	Binding of the fourth variable	Alert ID
	Binding of the fifth variable	Alert message
	Binding of the sixth variable*	Alert outbreak part
	Binding of the seventh variable	Alert module type
	Binding of the eighth variable	Alert module location
	Binding of the ninth variable	Alert module model name
	Binding of the tenth variable	Alert module serial number
	Binding of the eleventh variable	Alert event code
* This is not bound in HCSM alert.		

Event contents of SNMP Trap

The following table describes the event contents of SNMP trap.

Table C-4: Contents of SNMP Trap

SNMP trap event name	OID	Description
hcsnAlertTrapMonitoringError	1.3.6.1.4.1.116.5.52.10.2.1.1.1	The event of the fault level was encountered as monitoring alert.
hcsnAlertTrapMonitoringWarning	1.3.6.1.4.1.116.5.52.10.2.1.1.2	The event of the warning level was encountered as monitoring alert.
hcsnAlertTrapMonitoringInformation	1.3.6.1.4.1.116.5.52.10.2.1.1.3	The event of the information level was encountered as monitoring alert.
hcsnAlertTrapEventError	1.3.6.1.4.1.116.5.52.10.2.1.2.1	The event of the fault level was encountered as event alert.
hcsnAlertTrapEventWarning	1.3.6.1.4.1.116.5.52.10.2.1.2.2	The event of the warning level was encountered as event alert.
hcsnAlertTrapEventInformation	1.3.6.1.4.1.116.5.52.10.2.1.2.3	The event of the information level was encountered as event alert.
hcsnAlertTrapStatusChangeError	1.3.6.1.4.1.116.5.52.10.2.1.3.1	The event of the fault level was encountered as state change alert.
hcsnAlertTrapStatusChangeWarning	1.3.6.1.4.1.116.5.52.10.2.1.3.2	The event of the warning level was encountered as state change alert.
hcsnAlertTrapStatusChangeInformation	1.3.6.1.4.1.116.5.52.10.2.1.3.3	The event of the information level was encountered as state change alert.

Support Groups

The following table describes the support groups of private MIB.

Table C-5: Information of System

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5	systemExMib	Not-Accessible	NA	-	This shows the information of inside system.
1.3.6.1.4.1.116.5.52	compute	Not-Accessible	NA	-	This shows the information of "compute".
1.3.6.1.4.1.116.5.52.2	computeRack	Not-Accessible	NA	-	This shows the information of "Compute Rack".

Table C-6: Basic Information of Server Chassis

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1	chassis(1)	NA	NA	NA	This shows the information of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1	chassisBasicInfo(1)	NA	NA	NA	This shows the basic information of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.1	chassisInfoType(1)	INTEGER	RO	Rackmount(1)/Blade(2)/Tower(3)/unknown(4)	This shows the chassis type of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.2	chassisInfoProductName(2)	DisplayString	RO	(SIZE(0..40))	This shows the product name of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.3	chassisInfoModel(3)	DisplayString	RO	(SIZE(0..40))	This shows the model of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.4	chassisInfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	This shows the serial number of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.5	chassisInfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	This shows the model version of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.6	chassisInfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	This shows the product manufacturer of chassis.
1.3.6.1.4.1.116.5.52.2.1.1.7	chassisInfoChassisID(7)	DisplayString	RO	(SIZE(0..40))	This shows the chassis ID of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.8	chassisInfoBoardProductName(8)	DisplayString	RO	(SIZE(0..40))	This shows the product name of board.
1.3.6.1.4.1.116.5.52.2.1.1.9	chassisInfoBoardSerialNum(9)	DisplayString	RO	(SIZE(0..40))	This shows the serial number of board.
1.3.6.1.4.1.116.5.52.2.1.1.10	chassisInfoBoardManufacturer(10)	DisplayString	RO	(SIZE(0..40))	This shows the product manufacturer of board.
1.3.6.1.4.1.116.5.52.2.1.1.11	chassisInfoUUID(11)	DisplayString	RO	(SIZE(0..40))	This shows UUID(universal Unique ID) of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.12	chassisInfoLogicalPartitionSupport(12)	INTEGER	RO	not-support(1)/support(2)/unknown(3)	This shows whether the chassis supports HVM or not.
1.3.6.1.4.1.116.5.52.2.1.1.13	chassisInfoRemoteKVMSupport(13)	INTEGER	RO	not-support(1)/support(2)/unknown(3)	This shows whether the server chassis supports remote KVM or not of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.20	chassisInfoSpec(20)	NA	NA	NA	This shows the specification of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.20.1	chassisSpecInputCurrentType(1)	INTEGER	RO	ac(1)/dc(2)/unknown(3)	This shows the currency type of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.20.2	chassisSpecRatedVoltage(2)	Integer32	RO	0.1 V	This shows the voltage of server chassis.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1.1.20.3	chassisSpecTempUpperLimit(3)	Integer32	RO	0.1 degrees C	This shows the upper temperature of sensor in server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.20.4	chassisSpecTempLowerLimit(4)	Integer32	RO	0.1 degrees C	This shows the lower temperature of sensor in server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.20.5	chassisSpecConsumptionCurrent(5)	Integer32	RO	0.1 A	This shows the maximum currency of server chassis in current configuration.
1.3.6.1.4.1.116.5.52.2.1.1.20.6	chassisSpecPowerConsumption(6)	Integer32	RO	0.1 kW	This shows the maximum power consumption of server chassis in current configuration.
1.3.6.1.4.1.116.5.52.2.1.1.20.7	chassisSpecConsumptionCurrentMaxConfig(7)	Integer32	RO	0.1 A	This shows the maximum currency of server chassis in largest configuration.
1.3.6.1.4.1.116.5.52.2.1.1.20.8	chassisSpecPowerConsumptionMaxConfig(8)	Integer32	RO	0.1 kW	This shows the maximum power consumption of server chassis in largest configuration.
1.3.6.1.4.1.116.5.52.2.1.1.20.9	chassisSpecMaxAirVolume(9)	Integer32	RO	0.1 m ³ /min	This shows the current air volume of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.20.10	chassisSpecHeight(10)	Integer32	RO	U	This shows the height of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.20.11	chassisSpecTotalMass(11)	Integer32	RO	0.1 kg	This shows the total mass of server chassis.
1.3.6.1.4.1.116.5.52.2.1.1.20.12	chassisSpecSize(12)	DisplayString	RO	(SIZE(0..40))	This shows the size of server chassis.

Table C-7: Capacity Information of Server Chassis

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1.2	chassisCapacity(2)	NA	NA	NA	This shows the capacity of server chassis.
1.3.6.1.4.1.116.5.52.2.1.2.1	chassisCapacityCPUsocket(1)	Integer32	RO		This shows the capacity of CPU sockets of server chassis.
1.3.6.1.4.1.116.5.52.2.1.2.2	chassisCapacityDIMMSlot(2)	Integer32	RO		This shows the capacity of DIMM slots of server chassis.
1.3.6.1.4.1.116.5.52.2.1.2.3	chassisCapacityPCISlot(3)	Integer32	RO		This shows the capacity of PCI slots of server chassis.
1.3.6.1.4.1.116.5.52.2.1.2.4	chassisCapacityLOM(4)	Integer32	RO		This shows the capacity of onboard LAN ports of server chassis.
1.3.6.1.4.1.116.5.52.2.1.2.5	chassisCapacityFan(5)	Integer32	RO		This shows the capacity of onboard fans of server chassis.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1.2.6	chassisCapacityHDDSlot(6)	Integer32	R0		This shows the capacity of HDDs of server chassis.
1.3.6.1.4.1.116.5.52.2.1.2.7	chassisCapacityMediaDriveSlot(7)	Integer32	R0		This shows the capacity of Peripheral drives of server chassis.
1.3.6.1.4.1.116.5.52.2.1.2.8	chassisCapacityFanModuleSlot(8)	Integer32	R0		It shows the maximum number of slots for Fan modules.
1.3.6.1.4.1.116.5.52.2.1.2.9	chassisCapacityPowerSupplySlot(9)	Integer32	R0		It shows the maximum number of slots for Power Supply modules.
1.3.6.1.4.1.116.5.52.2.1.2.10	chassisCapacityVoltageSensor(10)	Integer32	R0		This shows the capacity of voltage sensors of chassis.
1.3.6.1.4.1.116.5.52.2.1.2.11	chassisCapacityTempSensor(11)	Integer32	R0		This shows the capacity of temperature sensors of chassis.
1.3.6.1.4.1.116.5.52.2.1.2.12	chassisCapacityPhysicalPartition(12)	Integer32	R0		This shows the capacity of physical partition of server chassis.

Table C-8: Setting Information of Server Chassis

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1.3	chassisSettings(3)	NA	NA	NA	This shows the setting of chassis.
1.3.6.1.4.1.116.5.52.2.1.3.1	chassisSettingsBelongPartitionNum(1)	Integer32	R0		This shows the partition number of server chassis.
1.3.6.1.4.1.116.5.52.2.1.3.2	chassisSettingsDetailHVMLicense(2)	DisplayString	R0	(SIZE(0..40))	This shows the HVM license of detailed server chassis.
1.3.6.1.4.1.116.5.52.2.1.3.3	chassisSettingsManagementPortIPAddress(3)	DisplayString	R0	(SIZE(0..40))	This shows the IP address of management port of server chassis.
1.3.6.1.4.1.116.5.52.2.1.3.4	chassisSettingsPowerCapping(4)	INTEGER	R0	invalid(1)/PCAP(2)/DCMI(3)/unknown(4)	This shows the power cap setting server chassis.
1.3.6.1.4.1.116.5.52.2.1.3.5	chassisSettingsAddMAC(5)	DisplayString	R0	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.1.3.6	chassisSettingsAddWWN(6)	DisplayString	R0	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.1.3.7	chassisSettingsRackInfo(7)	DisplayString	R0	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.1.3.8	chassisSettingsAssetTag(8)	DisplayString	R0	(SIZE(0..40))	Reserved.

Table C-9: State Information of Server Chassis

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1.4	chassisState(4)	NA	NA	NA	This shows the state of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.1	chassisStatePower(1)	INTEGER	RO	Poweroff(1)/standby(2)/PowerOn(3)/unknown(4)/Power-on-executing(5)/Power-off-executing(6)	This shows the power supply state of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.2	chassisStateHealth(2)	DisplayString	RO	(SIZE(0..40))	This shows the state of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.3	chassisStateCurrentVoltage(3)	Integer32	RO	0.1 V	This shows the current voltage of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.4	chassisStateConsumptionCurrent(4)	Integer32	RO	0.1 A	This shows the consumption current of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.5	chassisStatePowerConsumption(5)	Integer32	RO	0.1 kW	This shows the power consumption of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.6	chassisStateIntakeTemp(6)	Integer32	RO	0.1 degrees C	This shows the state of intake temperature of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.7	chassisStateFanAirVolume(7)	Integer32	RO	0.1 m ³ /min	This shows the current air volume of fan module1.
1.3.6.1.4.1.116.5.52.2.1.4.8	chassisRedundancy(8)	NA	NA	NA	This shows the redundancy of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.8.1	chassisRedundancyFan(1)	INTEGER	RO	redundancy(1)/non-redundancy(2)/unknown(3)	This shows the redundancy of fan module of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.8.2	chassisRedundancyPowerSupply(2)	INTEGER	RO	redundancy(1)/non-redundancy(2)/unknown(3)	This shows the redundancy of power supply module of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.9	chassisFrontPanelLEDTable(9)	NA	NA	NA	This shows the table of front panel LED of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.9.1	chassisFrontPanelLEDEntry(1)	NA	NA	NA	This shows the entry of front panel LED of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.9.1.1	chassisFrontPanelLEDIndex(1)	Integer32	RO		This shows the index of front panel LED of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.9.1.2	chassisFrontPanelLEDName(2)	DisplayString	RO	(SIZE(0..40))	This shows the name of front panel LED of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.9.1.3	chassisFrontPanelLEDType(3)	DisplayString	RO	(SIZE(0..40))	Reserved.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1.4.9.1.4	chassisFrontPanelLEDState(4)	INTEGER	RO	turn-off(1)/turn-on(2)/unknown(3)/blink(4)/blink-fast(5)/blink-slow(6)	This shows the state of front panel LED of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.9.1.5	chassisFrontPanelLEDColor(5)	INTEGER	RO	blue(1)/green(2)/red(3)/amber(4)/unknown(5)	This shows the color of front panel LED of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.10	chassisPostCodeLED(10)	Integer32	RO		This shows the post code of front panel seven segment LED of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.20	chassisStateOther(20)	NA	NA	NA	This shows the other state of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.20.1	chassisMaintMode(1)	INTEGER	RO	Normal(1)/CE-Maint-mode(2)/User-Maint-mode(3)/ unknown(4)	This shows the maintenance mode of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.30	chassisLatestHWLogInfo(30)	DisplayString	RO	(SIZE(0..40))	This shows the information on the newest HW logs of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.31	chassisHWLogTable(31)	NA	NA	NA	This shows the table on the hardware logs of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.31.1	chassisHWLogEntry(1)	NA	NA	NA	This shows the table on the hardware logs of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.31.1.1	chassisHWLogIndex(1)	Integer32	RO		This shows the index on the hardware logs of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.31.1.2	chassisHWLogExist(2)	INTEGER	RO	not-exist(1)/exist(2)/unknown(3)	This shows the registered state on the hardware logs of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.31.1.3	chassisHWLogGenerateID(3)	DisplayString	RO	(SIZE(0..40))	This shows the occurred part on the hardware logs of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.31.1.4	chassisHWLogRecordID(4)	DisplayString	RO	(SIZE(0..40))	This shows the recorded ID on the hardware logs of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.31.1.5	chassisHWLogDate(5)	DisplayString	RO	(SIZE(0..40))	This shows the occurred date and time on the hardware logs of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.31.1.6	chassisHWLogCode(6)	DisplayString	RO	(SIZE(0..40))	This shows the occurred event code on the hardware logs of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.31.1.7	chassisHWLogDetail(7)	DisplayString	RO	(SIZE(0..40))	This shows the occurred event detail on the hardware logs of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40	chassisInstall(40)	NA	NA	NA	This shows the installed state of server chassis.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1.4.40.1	chassisInsFrontPanel(1)	INTEGER	RO	non-exist(1)/ exist(2)/ unknown(3)	This shows the installed state of front panel of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.2	chassisInsCPU SocketTable(2)	NA	NA	NA	This shows the table of CPU socket of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.2.1	chassisInsCPU SocketEntry(1)	NA	NA	NA	This shows the entry of CPU socket of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.2.1.1	chassisInsCPU SocketIndex (1)	Integer32	RO		This shows the index of CPU socket of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.2.1.2	chassisInsCPU SocketNum(2)	Integer32	RO		This shows the number of CPU sockets of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.2.1.3	chassisInsCPU SocketExist(3)	INTEGER	RO	non-exist(1)/ exist(2)/ unknown(3)	This shows the registered state of CPU socket of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.2.1.4	chassisInsCPU SocketCPUName(4)	DisplayString	RO	(SIZE(0..40))	This shows the CPU name of CPU socket of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.2.1.5	chassisInsCPU SocketCPUFrequency(5)	Integer32	RO	MHz	This shows the CPU frequency of CPU socket of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.2.1.6	chassisInsCPU SocketCPUStepping(6)	DisplayString	RO		This shows the CPU stepping of CPU socket of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.2.1.7	chassisInsCPU SocketCPUCoreNum(7)	Integer32	RO		This shows the CPU core number of CPU socket of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.2.1.8	chassisInsCPU SocketCPUUpperLimitTemp(8)	Integer32	RO	0.1 degrees C	This shows the highest temperature threshold of CPU0 sensor in server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.2.1.9	chassisInsCPU SocketCPULowerLimitTemp(9)	Integer32	RO	0.1 degrees C	This shows the lowest temperature threshold of CPU0 sensor in server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.3	chassisInsDIMM Capacity(3)	Integer32	RO	GB	This shows the total amount of DIMM capacity of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.4	chassisInsDIMM MSlotTable(4)	NA	NA	NA	This shows the table of DIMM slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.4.1	chassisInsDIMM MSlotEntry(1)	NA	NA	NA	This shows the entry of DIMM slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.4.1.1	chassisInsDIMM MSlotIndex(1)	Integer32	RO		This shows the index of DIMM slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.4.1.2	chassisInsDIMM MSlotNum(2)	Integer32	RO		This shows the registered state of DIMM slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.4.1.3	chassisInsDIMM MSlotExist(3)	INTEGER	RO	non-exist(1)/ exist(2)/ unknown(3)	This shows the capacity of DIMM slots of server chassis.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1.4.40.4.1.4	chassisInsDIMMSlotDIMMCapacity(4)	Integer32	RO	GB	This shows the DIMM type of DIMM slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.4.1.5	chassisInsDIMMSlotDIMMType(5)	DisplayString	RO	(SIZE(0..40))	This shows the DIMM frequency of DIMM slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.4.1.6	chassisInsDIMMSlotDIMMFrequency(6)	Integer32	RO	MHz	This shows the DIMM cas latency of DIMM slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.4.1.7	chassisInsDIMMSlotDIMMCasLatency(7)	INTEGER	RO	normal(1)/unknown(2)/degenerated(3)/planned-degenerated(4)	This shows the DIMM state of DIMM slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.4.1.8	chassisInsDIMMSlotDIMMStatus(8)	INTEGER	RO	normal(1)/unknown(2)/degenerated(3)/planned-degenerated(4)	This shows the DIMM state of DIMM slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.5	chassisInsPCISlotTable(5)	NA	NA	NA	This shows the table of PCI slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.5.1	chassisInsPCISlotEntry(1)	NA	NA	NA	This shows the entry of PCI slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.5.1.1	chassisInsPCISlotIndex(1)	Integer32	RO		This shows the index of PCI slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.5.1.2	chassisInsPCISlotNum(2)	Integer32	RO		This shows the slot number of PCI slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.5.1.3	chassisInsPCISlotType(3)	DisplayString	RO	(SIZE(0..40))	This shows the type of PCI slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.5.1.4	chassisInsPCISlotExist(4)	INTEGER	RO	non-exist(1)/exist(2)/unknown(3)	This shows the registered state of PCI slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.5.1.5	chassisInsPCISlotPCIType(5)	DisplayString	RO	(SIZE(0..40))	This shows the PCI type of PCI slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.5.1.6	chassisInsPCISlotPCIProductName(6)	DisplayString	RO	(SIZE(0..40))	This shows the PCI product name of PCI slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.5.1.7	chassisInsPCISlotPCISerial(7)	DisplayString	RO	(SIZE(0..40))	This shows the serial number of PCI slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.5.1.8	chassisInsPCISlotPCIManufacturer(8)	DisplayString	RO	(SIZE(0..40))	This shows the manufacturer of PCI slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.6	chassisInsLOMTable(6)	NA	NA	NA	This shows the table of onboard LAN of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.6.1	chassisInsLOMEntry(1)	NA	NA	NA	This shows the entry of onboard LAN of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.6.1.1	chassisInsLOMIndex(1)	Integer32	RO		This shows the index of onboard LAN of server chassis.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1.4.40.6.1.2	chassisInsLOMType(2)	DisplayString	RO	(SIZE(0..40))	This shows the type of onboard LAN of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.6.1.3	chassisInsLOMLinkSpeed(3)	Integer32	RO		This shows the link speed of onboard LAN of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.6.1.4	chassisInsLOMMAC(4)	DisplayString	RO	(SIZE(0..40))	This shows the MAC address of onboard LAN of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.6.1.5	chassisInsLOMLinkStatus(5)	INTEGER	RO	up(1)/down(2)/unknown(3)	This shows the link state of onboard LAN of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.6.1.6	chassisInsLOMPortDivide(6)	INTEGER	RO	possible(1)/Impossible(2)/unknown(3)	This shows the port divide propriety of onboard LAN of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.6.1.7	chassisInsLOMPortDivideNum(7)	Integer32	RO		This shows the port divide number of onboard LAN of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.7	chassisInsFanTable(7)	NA	NA	NA	This shows the table of fan of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.7.1	chassisInsFanEntry(1)	NA	NA	NA	This shows the entry of fan of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.7.1.1	chassisInsFanIndex(1)	Integer32	RO		This shows the index of fan of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.7.1.2	chassisInsFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.7.1.3	chassisInsFanExist(3)	INTEGER	RO	non-exist(1)/exist(2)/unknown(3)	This shows the registered state of fan.
1.3.6.1.4.1.116.5.52.2.1.4.40.7.1.4	chassisInsFanMaxRPM(4)	Integer32	RO	rpm	This shows the maximum rpm of fan.
1.3.6.1.4.1.116.5.52.2.1.4.40.7.1.5	chassisInsFanMaxAirVolume(5)	Integer32	RO	0.1 m ³ /min	This shows the maximum air volume of fan.
1.3.6.1.4.1.116.5.52.2.1.4.40.7.1.6	chassisInsFanRPM(6)	Integer32	RO	rpm	This shows the rpm value of fan.
1.3.6.1.4.1.116.5.52.2.1.4.40.7.1.7	chassisInsFanAirVolume(7)	Integer32	RO	0.1 m ³ /min	This shows the air volume of fan.
1.3.6.1.4.1.116.5.52.2.1.4.40.7.1.8	chassisInsFanRPMValid(8)	INTEGER	RO	invalid(1)/ valid(2)/unknown(3)	This shows the validity of fan rpm value of fan.
1.3.6.1.4.1.116.5.52.2.1.4.40.7.1.9	chassisInsFanStateHealth(9)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of fan.
1.3.6.1.4.1.116.5.52.2.1.4.40.8	chassisHDDSlotTable(8)	NA	NA	NA	This shows the table of HDD slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1	chassisHDDSlotEntry(1)	NA	NA	NA	This shows the entry of HDD slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.1	chassisHDDSlotIndex(1)	Integer32	RO		This shows the index of HDD slot of server chassis.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.2	chassisHDDSlot1Num(2)	Integer32	RO		This shows the number of HDD slots of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.3	chassisHDDSlot1Exist(3)	INTEGER	RO	non-exist(1)/exist(2)/unknown(3)	This shows the registered state of HDD slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.4	chassisHDDSlot1HDDType(4)	DisplayString	RO	(SIZE(0..40))	This shows the HDD type of HDD slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.5	chassisHDDSlot1HDDProductName(5)	DisplayString	RO	(SIZE(0..40))	This shows the HDD product name of HDD slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.6	chassisHDDSlot1HDDModel(6)	DisplayString	RO	(SIZE(0..40))	This shows the HDD model of HDD slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.7	chassisHDDSlot1HDDSerialNum(7)	DisplayString	RO	(SIZE(0..40))	This shows the HDD serial number of HDD slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.8	chassisHDDSlot1HDDCapacity(8)	Integer32	RO	GB	This shows the HDD capacity of HDD slots of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.9	chassisHDDSlot1HDDRPM(9)	Integer32	RO	rpm	This shows the HDD drive speed of HDD slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.10	chassisHDDSlot1HDDStatePower(10)	INTEGER	RO	poweroff(1)/poweron(2)/unknown(3)	This shows the HDD power supply state of HDD slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.11	chassisHDDSlot1HDDStateHealth(11)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the HDD health state of HDD slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.12	chassisHDDSlot1HDDStateLED(12)	INTEGER	RO	turn-off(1)/turn-on(2)/unknown(3)/blink(4)/blink-fast(5)/blink-slow(6)	This shows the LED state of HDD slot of server chassis(activity).
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.13	chassisHDDSlot1HDDStateLEDSTS(13)	INTEGER	RO	turn-off(1)/turn-on(2)/unknown(3)/blink(4)/blink-fast(5)/blink-slow(6)	This shows the LED state of HDD slot of server chassis(status).
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.20	chassisHDDSlot1HDDFWInfo1Name(20)	DisplayString	RO	(SIZE(0..40))	This shows the HDD firmware name of HDD slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.21	chassisHDDSlot1HDDFWInfo1CurrentVer(21)	DisplayString	RO	(SIZE(0..40))	This shows the HDD firmware current version of HDD slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.8.1.22	chassisHDDSlot1HDDFWInfo1NextVer(22)	DisplayString	RO	(SIZE(0..40))	This shows the HDD firmware next version of HDD slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.9	chassisMediaDriveSlotTable(9)	NA	NA	NA	This shows the table of Peripheral drive slot of server chassis.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1.4.40.9.1	chassisMediaDriveSlotEntry(1)	NA	NA	NA	This shows the entry of Peripheral drive slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.9.1.1	chassisMediaDriveSlotIndex(1)	Integer32	RO		This shows the index of Peripheral drive slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.9.1.2	chassisMediaDriveSlotNum(2)	Integer32	RO		This shows the number of Peripheral drive slots of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.9.1.3	chassisMediaDriveSlotExist(3)	INTEGER	RO	non-exist(1)/exist(2)/unknown(3)	This shows the registered state of Peripheral drive slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.9.1.4	chassisMediaDriveSlotDriveType(4)	DisplayString	RO	(SIZE(0..40))	This shows the HDD type of Peripheral drive slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.9.1.5	chassisMediaDriveSlotDriveProductName(5)	DisplayString	RO	(SIZE(0..40))	This shows the HDD product name of Peripheral drive slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.9.1.6	chassisMediaDriveSlotDriveModel(6)	DisplayString	RO	(SIZE(0..40))	This shows the HDD model of Peripheral drive slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.9.1.7	chassisMediaDriveSlotDriveSerialNum(7)	DisplayString	RO	(SIZE(0..40))	This shows the HDD serial number of Peripheral drive slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.9.1.10	chassisMediaDriveSlotDriveStatePower(10)	INTEGER	RO	poweroff(1)/poweron(2)/unknown(3)	This shows the Peripheral drive power supply state of Peripheral drive slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.9.1.11	chassisMediaDriveSlotDriveStateHealth(11)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the Peripheral drive health state of Peripheral drive slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.10	chassisInsFanSlotTable(10)	NA	NA	NA	This shows the table of fan module slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.10.1	chassisInsFanSlotEntry(1)	NA	NA	NA	This shows the entry of fan module slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.10.1.1	chassisInsFanSlotIndex(1)	Integer32	RO		This shows the index of fan module slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.10.1.2	chassisInsFanSlotNum(2)	Integer32	RO		This shows the number of fan module slots of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.10.1.3	chassisInsFanSlotExist(3)	INTEGER	RO	non-exist(1)/exist(2)/unknown(3)	This shows the registered state of fan module slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.10.1.4	chassisInsFanSlotObjectID(4)	OBJECT IDENTIFIER	RO		This shows the object ID of fan module slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.11	chassisInsPowerSupplySlotTable(11)	NA	NA	NA	This shows the table of power supply module slot of server chassis.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1.4.40.11.1	chassisInsPowerSupplySlotEntry(1)	NA	NA	NA	This shows the entry of power supply module slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.11.1.1	chassisInsPowerSupplySlotIndex(1)	Integer32	RO		This shows the index of power supply module slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.11.1.2	chassisInsPowerSupplySlotNum(2)	Integer32	RO		This shows the number of power supply module slots of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.11.1.3	chassisInsPowerSupplySlotExist(3)	INTEGER	RO	non-exist(1)/exist(2)/unknown(3)	This shows the registered state of power supply module slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.40.11.1.4	chassisInsPowerSupplySlotObjectID(4)	OBJECT IDENTIFIER	RO		This shows the object ID of power supply module slot of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.50	chassisVoltageSensorTable(50)	NA	NA	NA	This shows the table of voltage sensor of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.50.1	chassisVoltageSensorEntry(1)	NA	NA	NA	This shows the entry of voltage sensor of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.50.1.1	chassisVoltageSensorIndex(1)	Integer32	RO		This shows the index of voltage sensor of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.50.1.2	chassisVoltageSensorName(2)	DisplayString	RO	(SIZE(0..40))	This shows the voltage sensor name of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.50.1.3	chassisVoltageSensorValue(3)	Integer32	RO	0.1 V	This shows the voltage sensor value of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.50.1.4	chassisVoltageSensorValid(4)	INTEGER	RO	invalid(1)/valid(2)/unknown(3)	This shows the validity of voltage sensor value of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.51	chassisTempSensorTable(51)	NA	NA	NA	This shows the table of temperature sensor of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.51.1	chassisTempSensorEntry(1)	NA	NA	NA	This shows the entry of temperature sensor of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.51.1.1	chassisTempSensorIndex(1)	Integer32	RO		This shows the index of temperature sensor of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.51.1.2	chassisTempSensorName(2)	DisplayString	RO	(SIZE(0..40))	This shows the temperature sensor name of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.51.1.3	chassisTempSensorValue(3)	Integer32	RO	0.1 degrees C	This shows the temperature sensor value of server chassis.
1.3.6.1.4.1.116.5.52.2.1.4.51.1.4	chassisTempSensorValid(4)	INTEGER	RO	invalid(1)/valid(2)/unknown(3)	This shows the validity of temperature sensor value of server chassis.

Table C-10: Firmware Information of Server Chassis

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.1.5	chassisFWInfo(5)	NA	NA	NA	This shows the firmware information of server chassis.
1.3.6.1.4.1.116.5.52.2.1.5.1	chassisFWInfoTotalVer(1)	DisplayString	RO	(SIZE(0..40))	This shows the total current version of firmware of server chassis.
1.3.6.1.4.1.116.5.52.2.1.5.2	chassisFWInfoTable(2)	NA	NA	NA	This shows the table of firmware information of server chassis.
1.3.6.1.4.1.116.5.52.2.1.5.2.1	chassisFWInfoFWInfoEntry(1)	NA	NA	NA	This shows the entry of firmware information of server chassis.
1.3.6.1.4.1.116.5.52.2.1.5.2.1.1	chassisFWInfoIndex(1)	Integer32	RO		This shows the index of firmware information of server chassis.
1.3.6.1.4.1.116.5.52.2.1.5.2.1.2	chassisFWInfoName(2)	DisplayString	RO	(SIZE(0..40))	This shows the firmware name of server chassis.
1.3.6.1.4.1.116.5.52.2.1.5.2.1.3	chassisFWInfoCurrentVer(3)	DisplayString	RO	(SIZE(0..40))	This shows the firmware current version of server chassis.
1.3.6.1.4.1.116.5.52.2.1.5.2.1.4	chassisFWInfoNextVer(4)	DisplayString	RO	(SIZE(0..40))	This shows the firmware next version of server chassis.

Table C-11: Information of Component

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2	component(2)	NA	NA	NA	This shows the information of component.

Table C-12: Information of Fan Module

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1	fanModule(1)	NA	NA	NA	This shows the information of fan module.
1.3.6.1.4.1.116.5.52.2.2.1.1	fanModule1(1)	NA	NA	NA	This shows the information of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.1	fanModule1BasicInfo(1)	NA	NA	NA	This shows the basic information of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.1.1	fanModule1InfoType(1)	DisplayString	RO	(SIZE(0..40))	This shows the type of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.1.2	fanModule1InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	Reserved.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.1.1.3	fanModule1InfoModel(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.1.1.4	fanModule1InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.1.1.5	fanModule1InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.1.1.6	fanModule1InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.1.1.7	fanModule1InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.1.1.8	fanModule1InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.1.1.9	fanModule1InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.1.1.20	fanModule1InfoSpec(20)	NA	NA	NA	This shows the specification of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.1.20.1	fanModule1SpecMaxRPM(1)	Integer32	RO	rpm	This shows the maximum rpm of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.1.20.2	fanModule1SpecMaxAirVolume(2)	Integer32	RO	0.1 m ³ /min	This shows the maximum air volume of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.1.20.3	fanModule1SpecMinRPM(3)	Integer32	RO	rpm	This shows the minimum rpm of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.1.20.4	fanModule1SpecMinAirVolume(4)	Integer32	RO	0.1 m ³ /min	This shows the minimum air volume of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.2	fanModule1Capacity(2)	NA	NA	NA	This shows the capacity of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.2.1	fanModule1CapacityFan(1)	Integer32	RO		This shows the capacity of fans of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.3	fanModule1Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.1.4	fanModule1State(4)	NA	NA	NA	This shows the state of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.1	fanModule1StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.2	fanModule1StatePower(2)	INTEGER	RO	poweroff(1)/standby(2)/poweron(3)/unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.3	fanModule1StateHealth(3)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of fan module1.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.1.4.4	fanModule1StateRedundancy(4)	INTEGER	RO	redundancy(1)/non-redundancy(2)/unknown(3)	This shows the redundancy of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.5	fanModule1StateAirVolume(5)	Integer32	RO	0.1 m ³ /min	This shows the current air volume of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.6	fanModule1StateLEDTable(6)	NA	NA	NA	This shows the table of LED of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.6.1	fanModule1StateLEDEntry(1)	NA	NA	NA	This shows the entry of LED of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.6.1.1	fanModule1StateLEDIndex(1)	Integer32	RO		This shows the index of LED of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.6.1.2	fanModule1StateLEDName(2)	DisplayString	RO	(SIZE(0..40))	This shows the name of LED of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.6.1.3	fanModule1StateLEDType(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.6.1.4	fanModule1StateLEDState(4)	INTEGER	RO	turn-off(1)/turn-on(2)/unknown(3)/blink(4)/blink-fast(5)/blink-slow(6)	This shows the state of LED of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.6.1.5	fanModule1StateLEDColor(5)	INTEGER	RO	blue(1)/green(2)/red(3)/amber(4)/unknown(5)	This shows the color of LED of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.10	fanModule1StateFanTable(10)	NA	NA	NA	This shows the table of fan of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.10.1	fanModule1StateFanEntry(1)	NA	NA	NA	This shows the entry of fan of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.10.1.1	fanModule1StateFanIndex(1)	Integer32	RO		This shows the index of fan of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.10.1.2	fanModule1StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.10.1.3	fanModule1StateFanRPM(3)	Integer32	RO	rpm	This shows the rpm value of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.1.4.10.1.4	fanModule1StateFanRPMValid(4)	INTEGER	RO	invalid(1)/valid(2)/unknown(3)	This shows the validity of fan rpm value of fan module1.
1.3.6.1.4.1.116.5.52.2.2.1.2	fanModule2(2)	NA	NA	NA	This shows the information of fan module.
1.3.6.1.4.1.116.5.52.2.2.1.2.1	fanModule2BasicInfo(1)	NA	NA	NA	This shows the basic information of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.1.1	fanModule2InfoType(1)	DisplayString	RO	(SIZE(0..40))	This shows the type of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.1.2	fanModule2InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	Reserved.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.2.1.3	fanModule2InfoModel(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.2.1.4	fanModule2InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.2.1.5	fanModule2InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.2.1.6	fanModule2InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.2.1.7	fanModule2InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.2.1.8	fanModule2InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.2.1.9	fanModule2InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.2.1.20	fanModule2InfoSpec(20)	NA	NA	NA	This shows the specification of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.1.20.1	fanModule2SpecMaxRPM(1)	Integer32	RO	rpm	This shows the maximum rpm of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.1.20.2	fanModule2SpecMaxAirVolume(2)	Integer32	RO	0.1 m ³ /min	This shows the maximum air volume of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.1.20.3	fanModule2SpecMinRPM(3)	Integer32	RO	rpm	This shows the minimum rpm of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.1.20.4	fanModule2SpecMinAirVolume(4)	Integer32	RO	0.1 m ³ /min	This shows the minimum air volume of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.2	fanModule2Capacity(2)	NA	NA	NA	This shows the capacity of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.2.1	fanModule2CapacityFan(1)	Integer32	RO		This shows the capacity of fans of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.3	fanModule2Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.2.4	fanModule2State(4)	NA	NA	NA	This shows the state of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.1	fanModule2StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.2	fanModule2StatePower(2)	INTEGER	RO	poweroff(1)/standby(2)/poweron(3)/unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.3	fanModule2StateHealth(3)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of fan module2.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.2.4.4	fanModule2StateRedundancy(4)	INTEGER	RO	redundancy(1)/non-redundancy(2)/unknown(3)	This shows the redundancy of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.5	fanModule2StateAirVolume(5)	Integer32	RO	0.1 m ³ /min	This shows the current air volume of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.6	fanModule2StateLEDTable(6)	NA	NA	NA	This shows the table of LED of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.6.1	fanModule2StateLEDEntry(1)	NA	NA	NA	This shows the entry of LED of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.6.1.1	fanModule2StateLEDIndex(1)	Integer32	RO		This shows the index of LED of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.6.1.2	fanModule2StateLEDName(2)	DisplayString	RO	(SIZE(0..40))	This shows the name of LED of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.6.1.3	fanModule2StateLEDType(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.6.1.4	fanModule2StateLEDState(4)	INTEGER	RO	turn-off(1)/turn-on(2)/unknown(3)/blink(4)/blink-fast(5)/blink-slow(6)	This shows the state of LED of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.6.1.5	fanModule2StateLEDColor(5)	INTEGER	RO	blue(1)/green(2)/red(3)/amber(4)/unknown(5)	This shows the color of LED of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.10	fanModule2StateFanTable(10)	NA	NA	NA	This shows the table of fan of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.10.1	fanModule2StateFanEntry(1)	NA	NA	NA	This shows the entry of fan of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.10.1.1	fanModule2StateFanIndex(1)	Integer32	RO		This shows the index of fan of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.10.1.2	fanModule2StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.10.1.3	fanModule2StateFanRPM(3)	Integer32	RO	rpm	This shows the rpm value of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.2.4.10.1.4	fanModule2StateFanRPMValid(4)	INTEGER	RO	invalid(1)/valid(2)/unknown(3)	This shows the validity of fan rpm value of fan module2.
1.3.6.1.4.1.116.5.52.2.2.1.3	fanModule3(3)	NA	NA	NA	This shows the information of fan module.
1.3.6.1.4.1.116.5.52.2.2.1.3.1	fanModule3BasicInfo(1)	NA	NA	NA	This shows the basic information of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.1.1	fanModule3InfoType(1)	DisplayString	RO	(SIZE(0..40))	This shows the type of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.1.2	fanModule3InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	Reserved.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.3.1.3	fanModule3InfoModel(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.3.1.4	fanModule3InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.3.1.5	fanModule3InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.3.1.6	fanModule3InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.3.1.7	fanModule3InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.3.1.8	fanModule3InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.3.1.9	fanModule3InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.3.1.20	fanModule3InfoSpec(20)	NA	NA	NA	This shows the specification of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.1.20.1	fanModule3SpecMaxRPM(1)	Integer32	RO	rpm	This shows the maximum rpm of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.1.20.2	fanModule3SpecMaxAirVolume(2)	Integer32	RO	0.1 m ³ /min	This shows the maximum air volume of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.1.20.3	fanModule3SpecMinRPM(3)	Integer32	RO	rpm	This shows the minimum rpm of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.1.20.4	fanModule3SpecMinAirVolume(4)	Integer32	RO	0.1 m ³ /min	This shows the minimum air volume of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.2	fanModule3Capacity(2)	NA	NA	NA	This shows the capacity of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.2.1	fanModule3CapacityFan(1)	Integer32	RO		This shows the capacity of fans of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.3	fanModule3Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.3.4	fanModule3State(4)	NA	NA	NA	This shows the state of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.1	fanModule3StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.2	fanModule3StatePower(2)	INTEGER	RO	poweroff(1)/standby(2)/poweron(3)/unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.3	fanModule3StateHealth(3)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of fan module3.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.3.4.4	fanModule3StateRedundancy(4)	INTEGER	RO	redundancy(1)/non-redundancy(2)/unknown(3)	This shows the redundancy of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.5	fanModule3StateAirVolume(5)	Integer32	RO	0.1 m ³ /min	This shows the current air volume of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.6	fanModule3StateLEDTable(6)	NA	NA	NA	This shows the table of LED of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.6.1	fanModule3StateLEDEntry(1)	NA	NA	NA	This shows the entry of LED of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.6.1.1	fanModule3StateLEDIndex(1)	Integer32	RO		This shows the index of LED of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.6.1.2	fanModule3StateLEDName(2)	DisplayString	RO	(SIZE(0..40))	This shows the name of LED of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.6.1.3	fanModule3StateLEDType(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.6.1.4	fanModule3StateLEDState(4)	INTEGER	RO	turn-off(1)/turn-on(2)/unknown(3)/blink(4)/blink-fast(5)/blink-slow(6)	This shows the state of LED of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.6.1.5	fanModule3StateLEDColor(5)	INTEGER	RO	blue(1)/green(2)/red(3)/amber(4)/unknown(5)	This shows the color of LED of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.10	fanModule3StateFanTable(10)	NA	NA	NA	This shows the table of fan of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.10.1	fanModule3StateFanEntry(1)	NA	NA	NA	This shows the entry of fan of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.10.1.1	fanModule3StateFanIndex(1)	Integer32	RO		This shows the index of fan of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.10.1.2	fanModule3StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.10.1.3	fanModule3StateFanRPM(3)	Integer32	RO	rpm	This shows the rpm value of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.3.4.10.1.4	fanModule3StateFanRPMValid(4)	INTEGER	RO	invalid(1)/valid(2)/unknown(3)	This shows the validity of fan rpm value of fan module3.
1.3.6.1.4.1.116.5.52.2.2.1.4	fanModule4(4)	NA	NA	NA	This shows the information of fan module.
1.3.6.1.4.1.116.5.52.2.2.1.4.1	fanModule4BasicInfo(1)	NA	NA	NA	This shows the basic information of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.1.1	fanModule4InfoType(1)	DisplayString	RO	(SIZE(0..40))	This shows the type of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.1.2	fanModule4InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	Reserved.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.4.1.3	fanModule4InfoModel(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.4.1.4	fanModule4InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.4.1.5	fanModule4InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.4.1.6	fanModule4InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.4.1.7	fanModule4InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.4.1.8	fanModule4InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.4.1.9	fanModule4InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.4.1.20	fanModule4InfoSpec(20)	NA	NA	NA	This shows the specification of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.1.20.1	fanModule4SpecMaxRPM(1)	Integer32	RO	rpm	This shows the maximum rpm of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.1.20.2	fanModule4SpecMaxAirVolume(2)	Integer32	RO	0.1 m ³ /min	This shows the maximum air volume of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.1.20.3	fanModule4SpecMinRPM(3)	Integer32	RO	rpm	This shows the minimum rpm of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.1.20.4	fanModule4SpecMinAirVolume(4)	Integer32	RO	0.1 m ³ /min	This shows the minimum air volume of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.2	fanModule4Capacity(2)	NA	NA	NA	This shows the capacity of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.2.1	fanModule4CapacityFan(1)	Integer32	RO		This shows the capacity of fans of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.3	fanModule4Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.4.4	fanModule4State(4)	NA	NA	NA	This shows the state of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.1	fanModule4StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.2	fanModule4StatePower(2)	INTEGER	RO	poweroff(1)/standby(2)/poweron(3)/unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.3	fanModule4StateHealth(3)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of fan module4.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.4.4.4	fanModule4StateRedundancy(4)	INTEGER	RO	redundancy(1)/non-redundancy(2)/unknown(3)	This shows the redundancy of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.5	fanModule4StateAirVolume(5)	Integer32	RO	0.1 m ³ /min	This shows the current air volume of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.6	fanModule4StateLEDTable(6)	NA	NA	NA	This shows the table of LED of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.6.1	fanModule4StateLEDEntry(1)	NA	NA	NA	This shows the entry of LED of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.6.1.1	fanModule4StateLEDIndex(1)	Integer32	RO		This shows the index of LED of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.6.1.2	fanModule4StateLEDName(2)	DisplayString	RO	(SIZE(0..40))	This shows the name of LED of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.6.1.3	fanModule4StateLEDType(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.6.1.4	fanModule4StateLEDState(4)	INTEGER	RO	turn-off(1)/turn-on(2)/unknown(3)/blink(4)/blink-fast(5)/blink-slow(6)	This shows the state of LED of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.6.1.5	fanModule4StateLEDColor(5)	INTEGER	RO	blue(1)/green(2)/red(3)/amber(4)/unknown(5)	This shows the color of LED of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.10	fanModule4StateFanTable(10)	NA	NA	NA	This shows the table of fan of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.10.1	fanModule4StateFanEntry(1)	NA	NA	NA	This shows the entry of fan of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.10.1.1	fanModule4StateFanIndex(1)	Integer32	RO		This shows the index of fan of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.10.1.2	fanModule4StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.10.1.3	fanModule4StateFanRPM(3)	Integer32	RO	rpm	This shows the rpm value of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.4.4.10.1.4	fanModule4StateFanRPMValid(4)	INTEGER	RO	invalid(1)/valid(2)/unknown(3)	This shows the validity of fan rpm value of fan module4.
1.3.6.1.4.1.116.5.52.2.2.1.5	fanModule5(5)	NA	NA	NA	This shows the information of fan module.
1.3.6.1.4.1.116.5.52.2.2.1.5.1	fanModule5BasicInfo(1)	NA	NA	NA	This shows the basic information of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.1.1	fanModule5InfoType(1)	DisplayString	RO	(SIZE(0..40))	This shows the type of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.1.2	fanModule5InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	Reserved.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.5.1.3	fanModule5InfoModel(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.5.1.4	fanModule5InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.5.1.5	fanModule5InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.5.1.6	fanModule5InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.5.1.7	fanModule5InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.5.1.8	fanModule5InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.5.1.9	fanModule5InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.5.1.20	fanModule5InfoSpec(20)	NA	NA	NA	This shows the specification of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.1.20.1	fanModule5SpecMaxRPM(1)	Integer32	RO	rpm	This shows the maximum rpm of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.1.20.2	fanModule5SpecMaxAirVolume(2)	Integer32	RO	0.1 m ³ /min	This shows the maximum air volume of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.1.20.3	fanModule5SpecMinRPM(3)	Integer32	RO	rpm	This shows the minimum rpm of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.1.20.4	fanModule5SpecMinAirVolume(4)	Integer32	RO	0.1 m ³ /min	This shows the minimum air volume of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.2	fanModule5Capacity(2)	NA	NA	NA	This shows the capacity of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.2.1	fanModule5CapacityFan(1)	Integer32	RO		This shows the capacity of fans of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.3	fanModule5Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.5.4	fanModule5State(4)	NA	NA	NA	This shows the state of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.1	fanModule5StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.2	fanModule5StatePower(2)	INTEGER	RO	poweroff(1)/standby(2)/poweron(3)/unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.3	fanModule5StateHealth(3)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of fan module5.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.5.4.4	fanModule5StateRedundancy(4)	INTEGER	RO	redundancy(1)/non-redundancy(2)/unknown(3)	This shows the redundancy of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.5	fanModule5StateAirVolume(5)	Integer32	RO	0.1 m ³ /min	This shows the current air volume of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.6	fanModule5StateLEDTable(6)	NA	NA	NA	This shows the table of LED of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.6.1	fanModule5StateLEDEntry(1)	NA	NA	NA	This shows the entry of LED of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.6.1.1	fanModule5StateLEDIndex(1)	Integer32	RO		This shows the index of LED of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.6.1.2	fanModule5StateLEDName(2)	DisplayString	RO	(SIZE(0..40))	This shows the name of LED of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.6.1.3	fanModule5StateLEDType(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.6.1.4	fanModule5StateLEDState(4)	INTEGER	RO	turn-off(1)/turn-on(2)/unknown(3)/blink(4)/blink-fast(5)/blink-slow(6)	This shows the state of LED of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.6.1.5	fanModule5StateLEDColor(5)	INTEGER	RO	blue(1)/green(2)/red(3)/amber(4)/unknown(5)	This shows the color of LED of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.10	fanModule5StateFanTable(10)	NA	NA	NA	This shows the table of fan of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.10.1	fanModule5StateFanEntry(1)	NA	NA	NA	This shows the entry of fan of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.10.1.1	fanModule5StateFanIndex(1)	Integer32	RO		This shows the index of fan of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.10.1.2	fanModule5StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.10.1.3	fanModule5StateFanRPM(3)	Integer32	RO	rpm	This shows the rpm value of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.5.4.10.1.4	fanModule5StateFanRPMValid(4)	INTEGER	RO	invalid(1)/valid(2)/unknown(3)	This shows the validity of fan rpm value of fan module5.
1.3.6.1.4.1.116.5.52.2.2.1.6	fanModule6(6)	NA	NA	NA	This shows the information of fan module.
1.3.6.1.4.1.116.5.52.2.2.1.6.1	fanModule6BasicInfo(1)	NA	NA	NA	This shows the basic information of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.1.1	fanModule6InfoType(1)	DisplayString	RO	(SIZE(0..40))	This shows the type of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.1.2	fanModule6InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	Reserved.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.6.1.3	fanModule6InfoModel(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.6.1.4	fanModule6InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.6.1.5	fanModule6InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.6.1.6	fanModule6InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.6.1.7	fanModule6InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.6.1.8	fanModule6InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.6.1.9	fanModule6InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.6.1.20	fanModule6InfoSpec(20)	NA	NA	NA	This shows the specification of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.1.20.1	fanModule6SpecMaxRPM(1)	Integer32	RO	rpm	This shows the maximum rpm of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.1.20.2	fanModule6SpecMaxAirVolume(2)	Integer32	RO	0.1 m ³ /min	This shows the maximum air volume of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.1.20.3	fanModule6SpecMinRPM(3)	Integer32	RO	rpm	This shows the minimum rpm of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.1.20.4	fanModule6SpecMinAirVolume(4)	Integer32	RO	0.1 m ³ /min	This shows the minimum air volume of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.2	fanModule6Capacity(2)	NA	NA	NA	This shows the capacity of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.2.1	fanModule6CapacityFan(1)	Integer32	RO		This shows the capacity of fans of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.3	fanModule6Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.6.4	fanModule6State(4)	NA	NA	NA	This shows the state of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.1	fanModule6StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.2	fanModule6StatePower(2)	INTEGER	RO	poweroff(1)/standby(2)/poweron(3)/unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.3	fanModule6StateHealth(3)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of fan module6.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.6.4.4	fanModule6StateRedundancy(4)	INTEGER	RO	redundancy(1)/non-redundancy(2)/unknown(3)	This shows the redundancy of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.5	fanModule6StateAirVolume(5)	Integer32	RO	0.1 m ³ /min	This shows the current air volume of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.6	fanModule6StateLEDTable(6)	NA	NA	NA	This shows the table of LED of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.6.1	fanModule6StateLEDEntry(1)	NA	NA	NA	This shows the entry of LED of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.6.1.1	fanModule6StateLEDIndex(1)	Integer32	RO		This shows the index of LED of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.6.1.2	fanModule6StateLEDName(2)	DisplayString	RO	(SIZE(0..40))	This shows the name of LED of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.6.1.3	fanModule6StateLEDType(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.6.1.4	fanModule6StateLEDState(4)	INTEGER	RO	turn-off(1)/turn-on(2)/unknown(3)/blink(4)/blink-fast(5)/blink-slow(6)	This shows the state of LED of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.6.1.5	fanModule6StateLEDColor(5)	INTEGER	RO	blue(1)/green(2)/red(3)/amber(4)/unknown(5)	This shows the color of LED of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.10	fanModule6StateFanTable(10)	NA	NA	NA	This shows the table of fan of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.10.1	fanModule6StateFanEntry(1)	NA	NA	NA	This shows the entry of fan of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.10.1.1	fanModule6StateFanIndex(1)	Integer32	RO		This shows the index of fan of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.10.1.2	fanModule6StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.10.1.3	fanModule6StateFanRPM(3)	Integer32	RO	rpm	This shows the rpm value of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.6.4.10.1.4	fanModule6StateFanRPMValid(4)	INTEGER	RO	invalid(1)/valid(2)/unknown(3)	This shows the validity of fan rpm value of fan module6.
1.3.6.1.4.1.116.5.52.2.2.1.7	fanModule7(7)	NA	NA	NA	This shows the information of fan module.
1.3.6.1.4.1.116.5.52.2.2.1.7.1	fanModule7BasicInfo(1)	NA	NA	NA	This shows the basic information of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.1.1	fanModule7InfoType(1)	DisplayString	RO	(SIZE(0..40))	This shows the type of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.1.2	fanModule7InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	Reserved.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.7.1.3	fanModule7InfoModel(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.7.1.4	fanModule7InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.7.1.5	fanModule7InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.7.1.6	fanModule7InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.7.1.7	fanModule7InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.7.1.8	fanModule7InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.7.1.9	fanModule7InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.7.1.20	fanModule7InfoSpec(20)	NA	NA	NA	This shows the specification of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.1.20.1	fanModule7SpecMaxRPM(1)	Integer32	RO	rpm	This shows the maximum rpm of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.1.20.2	fanModule7SpecMaxAirVolume(2)	Integer32	RO	0.1 m ³ /min	This shows the maximum air volume of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.1.20.3	fanModule7SpecMinRPM(3)	Integer32	RO	rpm	This shows the minimum rpm of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.1.20.4	fanModule7SpecMinAirVolume(4)	Integer32	RO	0.1 m ³ /min	This shows the minimum air volume of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.2	fanModule7Capacity(2)	NA	NA	NA	This shows the capacity of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.2.1	fanModule7CapacityFan(1)	Integer32	RO		This shows the capacity of fans of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.3	fanModule7Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.7.4	fanModule7State(4)	NA	NA	NA	This shows the state of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.1	fanModule7StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.2	fanModule7StatePower(2)	INTEGER	RO	poweroff(1)/standby(2)/poweron(3)/unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.3	fanModule7StateHealth(3)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of fan module7.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.7.4.4	fanModule7StateRedundancy(4)	INTEGER	RO	redundancy(1)/non-redundancy(2)/unknown(3)	This shows the redundancy of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.5	fanModule7StateAirVolume(5)	Integer32	RO	0.1 m ³ /min	This shows the current air volume of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.6	fanModule7StateLEDTable(6)	NA	NA	NA	This shows the table of LED of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.6.1	fanModule7StateLEDEntry(1)	NA	NA	NA	This shows the entry of LED of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.6.1.1	fanModule7StateLEDIndex(1)	Integer32	RO		This shows the index of LED of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.6.1.2	fanModule7StateLEDName(2)	DisplayString	RO	(SIZE(0..40))	This shows the name of LED of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.6.1.3	fanModule7StateLEDType(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.6.1.4	fanModule7StateLEDState(4)	INTEGER	RO	turn-off(1)/turn-on(2)/unknown(3)/blink(4)/blink-fast(5)/blink-slow(6)	This shows the state of LED of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.6.1.5	fanModule7StateLEDColor(5)	INTEGER	RO	blue(1)/green(2)/red(3)/amber(4)/unknown(5)	This shows the color of LED of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.10	fanModule7StateFanTable(10)	NA	NA	NA	This shows the table of fan of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.10.1	fanModule7StateFanEntry(1)	NA	NA	NA	This shows the entry of fan of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.10.1.1	fanModule7StateFanIndex(1)	Integer32	RO		This shows the index of fan of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.10.1.2	fanModule7StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.10.1.3	fanModule7StateFanRPM(3)	Integer32	RO	rpm	This shows the rpm value of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.7.4.10.1.4	fanModule7StateFanRPMValid(4)	INTEGER	RO	invalid(1)/valid(2)/unknown(3)	This shows the validity of fan rpm value of fan module7.
1.3.6.1.4.1.116.5.52.2.2.1.8	fanModule8(8)	NA	NA	NA	This shows the information of fan module.
1.3.6.1.4.1.116.5.52.2.2.1.8.1	fanModule8BasicInfo(1)	NA	NA	NA	This shows the basic information of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.1.1	fanModule8InfoType(1)	DisplayString	RO	(SIZE(0..40))	This shows the type of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.1.2	fanModule8InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	Reserved.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.8.1.3	fanModule8InfoModel(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.8.1.4	fanModule8InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.8.1.5	fanModule8InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.8.1.6	fanModule8InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.8.1.7	fanModule8InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.8.1.8	fanModule8InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.8.1.9	fanModule8InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.8.1.20	fanModule8InfoSpec(20)	NA	NA	NA	This shows the specification of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.1.20.1	fanModule8SpecMaxRPM(1)	Integer32	RO	rpm	This shows the maximum rpm of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.1.20.2	fanModule8SpecMaxAirVolume(2)	Integer32	RO	0.1 m ³ /min	This shows the maximum air volume of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.1.20.3	fanModule8SpecMinRPM(3)	Integer32	RO	rpm	This shows the minimum rpm of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.1.20.4	fanModule8SpecMinAirVolume(4)	Integer32	RO	0.1 m ³ /min	This shows the minimum air volume of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.2	fanModule8Capacity(2)	NA	NA	NA	This shows the capacity of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.2.1	fanModule8CapacityFan(1)	Integer32	RO		This shows the capacity of fans of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.3	fanModule8Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.8.4	fanModule8State(4)	NA	NA	NA	This shows the state of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.1	fanModule8StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.2	fanModule8StatePower(2)	INTEGER	RO	poweroff(1)/standby(2)/poweron(3)/unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.3	fanModule8StateHealth(3)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of fan module8.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.1.8.4.4	fanModule8StateRedundancy(4)	INTEGER	RO	redundancy(1)/non-redundancy(2)/unknown(3)	This shows the redundancy of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.5	fanModule8StateAirVolume(5)	Integer32	RO	0.1 m ³ /min	This shows the current air volume of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.6	fanModule8StateLEDTable(6)	NA	NA	NA	This shows the table of LED of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.6.1	fanModule8StateLEDEntry(1)	NA	NA	NA	This shows the entry of LED of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.6.1.1	fanModule8StateLEDIndex(1)	Integer32	RO		This shows the index of LED of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.6.1.2	fanModule8StateLEDName(2)	DisplayString	RO	(SIZE(0..40))	This shows the name of LED of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.6.1.3	fanModule8StateLEDType(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.6.1.4	fanModule8StateLEDState(4)	INTEGER	RO	turn-off(1)/turn-on(2)/unknown(3)/blink(4)/blink-fast(5)/blink-slow(6)	This shows the state of LED of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.6.1.5	fanModule8StateLEDColor(5)	INTEGER	RO	blue(1)/green(2)/red(3)/amber(4)/unknown(5)	This shows the color of LED of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.10	fanModule8StateFanTable(10)	NA	NA	NA	This shows the table of fan of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.10.1	fanModule8StateFanEntry(1)	NA	NA	NA	This shows the entry of fan of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.10.1.1	fanModule8StateFanIndex(1)	Integer32	RO		This shows the index of fan of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.10.1.2	fanModule8StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.10.1.3	fanModule8StateFanRPM(3)	Integer32	RO	rpm	This shows the rpm value of fan module8.
1.3.6.1.4.1.116.5.52.2.2.1.8.4.10.1.4	fanModule8StateFanRPMValid(4)	INTEGER	RO	invalid(1)/valid(2)/unknown(3)	This shows the validity of fan rpm value of fan module8.

Table C-13: Information of Power Supply Module

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2	powerSupply(2)	NA	NA	NA	This shows the information of power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.1	powerSupply1(1)	NA	NA	NA	This shows the information of power supply module1.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.1.1	powerSupply1BasicInfo(1)	NA	NA	NA	This shows the basic information of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.1	powerSupply1InfoType(1)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.2	powerSupply1InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	This shows the product name of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.3	powerSupply1InfoModel(3)	DisplayString	RO	(SIZE(0..40))	This shows the model name of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.4	powerSupply1InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	This shows the serial number of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.5	powerSupply1InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	This shows the product version of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.6	powerSupply1InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	This shows the product manufacturer of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.7	powerSupply1InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.8	powerSupply1InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.9	powerSupply1InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20	powerSupply1InfoSpec(20)	NA	NA	NA	This shows the specification of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.1	powerSupply1SpecRateVoltageMain(1)	Integer32	RO	0.1 V	This shows the rated voltage of power supply module1.(main)
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.2	powerSupply1SpecRateVoltageSub(2)	Integer32	RO	0.1 V	This shows the rated voltage of power supply module1.(sub)
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.3	powerSupply1SpecAmbientTempUpperLimit(3)	Integer32	RO	0.1 degrees C	This shows the highest temperature of ambient in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.4	powerSupply1SpecAmbientTempLowerLimit(4)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of ambient in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.5	powerSupply1SpecHotSpotTempUpperLimit(5)	Integer32	RO	0.1 degrees C	This shows the highest temperature of hot spot in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.6	powerSupply1SpecHotSpotTempLowerLimit(6)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of hot spot in power supply module.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.7	powerSupply1SpecExhaustTempUpperLimit(7)	Integer32	RO	0.1 degrees C	This shows the highest temperature of exhaust in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.8	powerSupply1SpecExhaustTempLowerLimit(8)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of exhaust in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.1.2	powerSupply1Capacity(2)	NA	NA	NA	This shows the capacity of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.2.1	powerSupply1CapacityFan(1)	Integer32	RO		This shows the capacity fans of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.3	powerSupply1Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.1.4	powerSupply1State(4)	NA	NA	NA	This shows the state of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.1	powerSupply1StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.2	powerSupply1StatePower(2)	INTEGER	RO	poweroff(1)/ poweron(2)/ unknown(3)	This shows the power supply state of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.3	powerSupply1StateHealth(3)	INTEGER	RO	normal(1)/ fail(2) / unknown(3)	This shows the health state of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.4	powerSupply1StateAmbientTemp(4)	Integer32	RO	0.1 degrees C	This shows the temperature value of ambient sensor of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.5	powerSupply1StateHotSpotTemp(5)	Integer32	RO	0.1 degrees C	This shows the temperature value of hot spot sensor of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.6	powerSupply1StateExhaustTemp(6)	Integer32	RO	0.1 degrees C	This shows the temperature value of exhaust sensor of power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.7	powerSupply1StateMainVoltage(7)	Integer32	RO	0.1 V	This shows the main voltage of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.8	powerSupply1StateSubVoltage(8)	Integer32	RO	0.1 V	This shows the sub voltage of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.9	powerSupply1StateInputVoltage(9)	Integer32	RO	0.1 V	This shows the input voltage of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.10	powerSupply1StateMainCurrent(10)	Integer32	RO	0.1 A	This shows the main current of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.11	powerSupply1StateSubCurrent(11)	Integer32	RO	0.1 A	This shows the sub current of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.12	powerSupply1StateInputCurrent(12)	Integer32	RO	0.1 A	This shows the input current of power supply module1.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13	powerSupply1 StateLEDTable (13)	NA	NA	NA	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13.1	powerSupply1 StateLEDEntry (1)	NA	NA	NA	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13.1.1	powerSupply1 StateLEDIndex (1)	Integer32	RO		Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13.1.2	powerSupply1 StateLEDName (2)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13.1.3	powerSupply1 StateLEDType (3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13.1.4	powerSupply1 StateLEDState (4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13.1.5	powerSupply1 StateLEDColor (5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.14	powerSupply1 StateFanTable (14)	NA	NA	NA	This shows the table of fan of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.14.1	powerSupply1 StateFanEntry (1)	NA	NA	NA	This shows the entry of fan of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.14.1.1	powerSupply1 StateFanIndex (1)	Integer32	RO		This shows the index of fan of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.14.1.2	powerSupply1 StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.14.1.3	powerSupply1 StateFanRPM (3)	Integer32	RO	rpm	This shows the rpm value of power supply module1.
1.3.6.1.4.1.116.5.52.2.2.2.2	powerSupply2 (2)	NA	NA	NA	This shows the information of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.1	powerSupply2 BasicInfo(1)	NA	NA	NA	This shows the basic information of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.1	powerSupply2 InfoType(1)	Integer32	RO		Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.2	powerSupply2 InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	This shows the product name of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.3	powerSupply2 InfoModel(3)	DisplayString	RO	(SIZE(0..40))	This shows the model name of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.4	powerSupply2 InfoSerialNum (4)	DisplayString	RO	(SIZE(0..40))	This shows the serial number of power supply module2.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.2.1.5	powerSupply2InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	This shows the product version of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.6	powerSupply2InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	This shows the product manufacturer of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.7	powerSupply2InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.8	powerSupply2InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.9	powerSupply2InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20	powerSupply2InfoSpec(20)	NA	NA	NA	This shows the specification of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.1	powerSupply2SpecRateVoltageMain(1)	Integer32	RO	0.1 V	This shows the rated voltage of power supply module2.(main)
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.2	powerSupply2SpecRateVoltageSub(2)	Integer32	RO	0.1 V	This shows the rated voltage of power supply module2.(sub)
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.3	powerSupply2SpecAmbientTempUpperLimit(3)	Integer32	RO	0.1 degrees C	This shows the highest temperature of ambient in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.4	powerSupply2SpecAmbientTempLowerLimit(4)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of ambient in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.5	powerSupply2SpecHotSpotTempUpperLimit(5)	Integer32	RO	0.1 degrees C	This shows the highest temperature of hot spot in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.6	powerSupply2SpecHotSpotTempLowerLimit(6)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of hot spot in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.7	powerSupply2SpecExhaustTempUpperLimit(7)	Integer32	RO	0.1 degrees C	This shows the highest temperature of exhaust in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.8	powerSupply2SpecExhaustTempLowerLimit(8)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of exhaust in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.2.2	powerSupply2Capacity(2)	NA	NA	NA	This shows the capacity of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.2.1	powerSupply2CapacityFan(1)	Integer32	RO		This shows the capacity fans of power supply module2.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.2.3	powerSupply2Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.2.4	powerSupply2State(4)	NA	NA	NA	This shows the state of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.1	powerSupply2StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.2	powerSupply2StatePower(2)	INTEGER	RO	poweroff(1)/ poweron(2)/ unknown(3)	This shows the power supply state of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.3	powerSupply2StateHealth(3)	INTEGER	RO	normal(1)/ fail(2) / unknown(3)	This shows the health state of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.4	powerSupply2StateAmbientTemp(4)	Integer32	RO	0.1 degrees C	This shows the temperature value of ambient sensor of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.5	powerSupply2StateHotSpotTemp(5)	Integer32	RO	0.1 degrees C	This shows the temperature value of hot spot sensor of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.6	powerSupply2StateExhaustTemp(6)	Integer32	RO	0.1 degrees C	This shows the temperature value of exhaust sensor of power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.7	powerSupply2StateMainVoltage(7)	Integer32	RO	0.1 V	This shows the main voltage of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.8	powerSupply2StateSubVoltage(8)	Integer32	RO	0.1 V	This shows the sub voltage of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.9	powerSupply2StateInputVoltage(9)	Integer32	RO	0.1 V	This shows the input voltage of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.10	powerSupply2StateMainCurrent(10)	Integer32	RO	0.1 A	This shows the main current of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.11	powerSupply2StateSubCurrent(11)	Integer32	RO	0.1 A	This shows the sub current of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.12	powerSupply2StateInputCurrent(12)	Integer32	RO	0.1 A	This shows the input current of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13	powerSupply2StateLEDTable(13)	NA	NA	NA	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13.1	powerSupply2StateLEDEntry(1)	NA	NA	NA	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13.1.1	powerSupply2StateLEDIndex(1)	Integer32	RO		Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13.1.2	powerSupply2StateLEDName(2)	DisplayString	RO	(SIZE(0..40))	Reserved.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13.1.3	powerSupply2StateLEDType(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13.1.4	powerSupply2StateLEDState(4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13.1.5	powerSupply2StateLEDColor(5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.14	powerSupply2StateFanTable(14)	NA	NA	NA	This shows the table of fan of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.14.1	powerSupply2StateFanEntry(1)	NA	NA	NA	This shows the entry of fan of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.14.1.1	powerSupply2StateFanIndex(1)	Integer32	RO		This shows the index of fan of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.14.1.2	powerSupply2StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.14.1.3	powerSupply2StateFanRPM(3)	Integer32	RO	rpm	This shows the rpm value of power supply module2.
1.3.6.1.4.1.116.5.52.2.2.2.3	powerSupply3(3)	NA	NA	NA	This shows the information of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.1	powerSupply3BasicInfo(1)	NA	NA	NA	This shows the basic information of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.1	powerSupply3InfoType(1)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.2	powerSupply3InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	This shows the product name of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.3	powerSupply3InfoModel(3)	DisplayString	RO	(SIZE(0..40))	This shows the model name of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.4	powerSupply3InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	This shows the serial number of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.5	powerSupply3InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	This shows the product version of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.6	powerSupply3InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	This shows the product manufacturer of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.7	powerSupply3InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.8	powerSupply3InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.3.1.9	powerSupply3InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20	powerSupply3InfoSpec(20)	NA	NA	NA	This shows the specification of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.1	powerSupply3SpecRateVoltageMain(1)	Integer32	RO	0.1 V	This shows the rated voltage of power supply module3.(main)
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.2	powerSupply3SpecRateVoltageSub(2)	Integer32	RO	0.1 V	This shows the rated voltage of power supply module3.(sub)
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.3	powerSupply3SpecAmbientTempUpperLimit(3)	Integer32	RO	0.1 degrees C	This shows the highest temperature of ambient in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.4	powerSupply3SpecAmbientTempLowerLimit(4)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of ambient in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.5	powerSupply3SpecHotSpotTempUpperLimit(5)	Integer32	RO	0.1 degrees C	This shows the highest temperature of hot spot in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.6	powerSupply3SpecHotSpotTempLowerLimit(6)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of hot spot in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.7	powerSupply3SpecExhaustTempUpperLimit(7)	Integer32	RO	0.1 degrees C	This shows the highest temperature of exhaust in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.8	powerSupply3SpecExhaustTempLowerLimit(8)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of exhaust in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.3.2	powerSupply3Capacity(2)	NA	NA	NA	This shows the capacity of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.2.1	powerSupply3CapacityFan(1)	Integer32	RO		This shows the capacity fans of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.3	powerSupply3Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.3.4	powerSupply3State(4)	NA	NA	NA	This shows the state of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.1	powerSupply3StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.2	powerSupply3StatePower(2)	INTEGER	RO	poweroff(1)/ poweron(2)/ unknown(3)	This shows the power supply state of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.3	powerSupply3StateHealth(3)	INTEGER	RO	normal(1)/ fail(2) / unknown(3)	This shows the health state of power supply module3.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.3.4.4	powerSupply3StateAmbientTemp(4)	Integer32	RO	0.1 degrees C	This shows the temperature value of ambient sensor of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.5	powerSupply3StateHotSpotTemp(5)	Integer32	RO	0.1 degrees C	This shows the temperature value of hot spot sensor of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.6	powerSupply3StateExhaustTemp(6)	Integer32	RO	0.1 degrees C	This shows the temperature value of exhaust sensor of power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.7	powerSupply3StateMainVoltage(7)	Integer32	RO	0.1 V	This shows the main voltage of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.8	powerSupply3StateSubVoltage(8)	Integer32	RO	0.1 V	This shows the sub voltage of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.9	powerSupply3StateInputVoltage(9)	Integer32	RO	0.1 V	This shows the input voltage of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.10	powerSupply3StateMainCurrent(10)	Integer32	RO	0.1 A	This shows the main current of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.11	powerSupply3StateSubCurrent(11)	Integer32	RO	0.1 A	This shows the sub current of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.12	powerSupply3StateInputCurrent(12)	Integer32	RO	0.1 A	This shows the input current of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13	powerSupply3StateLEDTable(13)	NA	NA	NA	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13.1	powerSupply3StateLEDEntry(1)	NA	NA	NA	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13.1.1	powerSupply3StateLEDIndex(1)	Integer32	RO		Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13.1.2	powerSupply3StateLEDName(2)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13.1.3	powerSupply3StateLEDType(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13.1.4	powerSupply3StateLEDState(4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13.1.5	powerSupply3StateLEDColor(5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.14	powerSupply3StateFanTable(14)	NA	NA	NA	This shows the table of fan of power supply module3.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.3.4.14.1	powerSupply3StateFanEntry(1)	NA	NA	NA	This shows the entry of fan of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.14.1.1	powerSupply3StateFanIndex(1)	Integer32	RO		This shows the index of fan of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.14.1.2	powerSupply3StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.14.1.3	powerSupply3StateFanRPM(3)	Integer32	RO	rpm	This shows the rpm value of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4	powerSupply4(4)	NA	NA	NA	This shows the information of power supply module4.
1.3.6.1.4.1.116.5.52.2.2.2.4.1	powerSupply4BasicInfo(1)	NA	NA	NA	This shows the basic information of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.1	powerSupply4InfoType(1)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.2	powerSupply4InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	This shows the product name of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.3	powerSupply4InfoModel(3)	DisplayString	RO	(SIZE(0..40))	This shows the model name of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.4	powerSupply4InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	This shows the serial number of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.5	powerSupply4InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	This shows the product version of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.6	powerSupply4InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	This shows the product manufacturer of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.7	powerSupply4InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.8	powerSupply4InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.9	powerSupply4InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20	powerSupply4InfoSpec(20)	NA	NA	NA	This shows the specification of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.1	powerSupply4SpecRateVoltageMain(1)	Integer32	RO	0.1 V	This shows the rated voltage of power supply module3.(main)
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.2	powerSupply4SpecRateVoltageSub(2)	Integer32	RO	0.1 V	This shows the rated voltage of power supply module3.(sub)

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.3	powerSupply4SpecAmbientTempUpperLimit(3)	Integer32	RO	0.1 degrees C	This shows the highest temperature of ambient in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.4	powerSupply4SpecAmbientTempLowerLimit(4)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of ambient in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.5	powerSupply4SpecHotSpotTempUpperLimit(5)	Integer32	RO	0.1 degrees C	This shows the highest temperature of hot spot in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.6	powerSupply4SpecHotSpotTempLowerLimit(6)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of hot spot in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.7	powerSupply4SpecExhaustTempUpperLimit(7)	Integer32	RO	0.1 degrees C	This shows the highest temperature of exhaust in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.8	powerSupply4SpecExhaustTempLowerLimit(8)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of exhaust in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.4.2	powerSupply4Capacity(2)	NA	NA	NA	This shows the capacity of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.2.1	powerSupply4CapacityFan(1)	Integer32	RO		This shows the capacity fans of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.3	powerSupply4Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.4.4	powerSupply4State(4)	NA	NA	NA	This shows the state of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.1	powerSupply4StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.2	powerSupply4StatePower(2)	INTEGER	RO	poweroff(1)/ poweron(2)/ unknown(3)	This shows the power supply state of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.3	powerSupply4StateHealth(3)	INTEGER	RO	normal(1)/ fail(2) / unknown(3)	This shows the health state of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.4	powerSupply4StateAmbientTemp(4)	Integer32	RO	0.1 degrees C	This shows the temperature value of ambient sensor of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.5	powerSupply4StateHotSpotTemp(5)	Integer32	RO	0.1 degrees C	This shows the temperature value of hot spot sensor of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.6	powerSupply4StateExhaustTemp(6)	Integer32	RO	0.1 degrees C	This shows the temperature value of exhaust sensor of power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.7	powerSupply4StateMainVoltage(7)	Integer32	RO	0.1 V	This shows the main voltage of power supply module3.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.4.4.8	powerSupply4StateSubVoltage(8)	Integer32	RO	0.1 V	This shows the sub voltage of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.9	powerSupply4StateInputVoltage(9)	Integer32	RO	0.1 V	This shows the input voltage of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.10	powerSupply4StateMainCurrent(10)	Integer32	RO	0.1 A	This shows the main current of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.11	powerSupply4StateSubCurrent(11)	Integer32	RO	0.1 A	This shows the sub current of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.12	powerSupply4StateInputCurrent(12)	Integer32	RO	0.1 A	This shows the input current of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13	powerSupply4StateLEDTable(13)	NA	NA	NA	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13.1	powerSupply4StateLEDEntry(1)	NA	NA	NA	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13.1.1	powerSupply4StateLEDIndex(1)	Integer32	RO		Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13.1.2	powerSupply4StateLEDName(2)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13.1.3	powerSupply4StateLEDType(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13.1.4	powerSupply4StateLEDState(4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13.1.5	powerSupply4StateLEDColor(5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.14	powerSupply4StateFanTable(14)	NA	NA	NA	This shows the table of fan of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.14.1	powerSupply4StateFanEntry(1)	NA	NA	NA	This shows the entry of fan of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.14.1.1	powerSupply4StateFanIndex(1)	Integer32	RO		This shows the index of fan of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.14.1.2	powerSupply4StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of power supply module3.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.14.1.3	powerSupply4StateFanRPM(3)	Integer32	RO	rpm	This shows the rpm value of power supply module3.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.5	powerSupply5(5)	NA	NA	NA	This shows the information of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.1	powerSupply5BasicInfo(1)	NA	NA	NA	This shows the basic information of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.1	powerSupply5InfoType(1)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.2	powerSupply5InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	This shows the product name of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.3	powerSupply5InfoModel(3)	DisplayString	RO	(SIZE(0..40))	This shows the model name of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.4	powerSupply5InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	This shows the serial number of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.5	powerSupply5InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	This shows the product version of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.6	powerSupply5InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	This shows the product manufacturer of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.7	powerSupply5InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.8	powerSupply5InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.9	powerSupply5InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20	powerSupply5InfoSpec(20)	NA	NA	NA	This shows the specification of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.1	powerSupply5SpecRateVoltageMain(1)	Integer32	RO	0.1 V	This shows the rated voltage of power supply module5.(main)
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.2	powerSupply5SpecRateVoltageSub(2)	Integer32	RO	0.1 V	This shows the rated voltage of power supply module5.(sub)
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.3	powerSupply5SpecAmbientTempUpperLimit(3)	Integer32	RO	0.1 degrees C	This shows the highest temperature of ambient in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.4	powerSupply5SpecAmbientTempLowerLimit(4)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of ambient in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.5	powerSupply5SpecHotSpotTempUpperLimit(5)	Integer32	RO	0.1 degrees C	This shows the highest temperature of hot spot in power supply module.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.6	powerSupply5SpecHotSpotTempLowerLimit(6)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of hot spot in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.7	powerSupply5SpecExhaustTempUpperLimit(7)	Integer32	RO	0.1 degrees C	This shows the highest temperature of exhaust in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.8	powerSupply5SpecExhaustTempLowerLimit(8)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of exhaust in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.5.2	powerSupply5Capacity(2)	NA	NA	NA	This shows the capacity of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.2.1	powerSupply5CapacityFan(1)	Integer32	RO		This shows the capacity fans of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.3	powerSupply5Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.5.4	powerSupply5State(4)	NA	NA	NA	This shows the state of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.1	powerSupply5StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.2	powerSupply5StatePower(2)	INTEGER	RO	poweroff(1)/ poweron(2)/ unknown(3)	This shows the power supply state of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.3	powerSupply5StateHealth(3)	INTEGER	RO	normal(1)/ fail(2) / unknown(3)	This shows the health state of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.4	powerSupply5StateAmbientTemp(4)	Integer32	RO	0.1 degrees C	This shows the temperature value of ambient sensor of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.5	powerSupply5StateHotSpotTemp(5)	Integer32	RO	0.1 degrees C	This shows the temperature value of hot spot sensor of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.6	powerSupply5StateExhaustTemp(6)	Integer32	RO	0.1 degrees C	This shows the temperature value of exhaust sensor of power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.7	powerSupply5StateMainVoltage(7)	Integer32	RO	0.1 V	This shows the main voltage of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.8	powerSupply5StateSubVoltage(8)	Integer32	RO	0.1 V	This shows the sub voltage of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.9	powerSupply5StateInputVoltage(9)	Integer32	RO	0.1 V	This shows the input voltage of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.10	powerSupply5StateMainCurrent(10)	Integer32	RO	0.1 A	This shows the main current of power supply module5.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.5.4.11	powerSupply5StateSubCurrent(11)	Integer32	RO	0.1 A	This shows the sub current of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.12	powerSupply5StateInputCurrent(12)	Integer32	RO	0.1 A	This shows the input current of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13	powerSupply5StateLEDTable(13)	NA	NA	NA	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13.1	powerSupply5StateLEDEntry(1)	NA	NA	NA	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13.1.1	powerSupply5StateLEDIndex(1)	Integer32	RO		Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13.1.2	powerSupply5StateLEDName(2)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13.1.3	powerSupply5StateLEDType(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13.1.4	powerSupply5StateLEDState(4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13.1.5	powerSupply5StateLEDColor(5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.14	powerSupply5StateFanTable(14)	NA	NA	NA	This shows the table of fan of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.14.1	powerSupply5StateFanEntry(1)	NA	NA	NA	This shows the entry of fan of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.14.1.1	powerSupply5StateFanIndex(1)	Integer32	RO		This shows the index of fan of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.14.1.2	powerSupply5StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.14.1.3	powerSupply5StateFanRPM(3)	Integer32	RO	rpm	This shows the rpm value of power supply module5.
1.3.6.1.4.1.116.5.52.2.2.2.6	powerSupply6(6)	NA	NA	NA	This shows the information of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.1	powerSupply6BasicInfo(1)	NA	NA	NA	This shows the basic information of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.1	powerSupply6InfoType(1)	DisplayString	RO	(SIZE(0..40))	Reserved.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.6.1.2	powerSupply6InfoProductName(2)	DisplayString	RO	(SIZE(0..40))	This shows the product name of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.3	powerSupply6InfoModel(3)	DisplayString	RO	(SIZE(0..40))	This shows the model name of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.4	powerSupply6InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	This shows the serial number of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.5	powerSupply6InfoProductVersion(5)	DisplayString	RO	(SIZE(0..40))	This shows the product version of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.6	powerSupply6InfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	This shows the product manufacturer of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.7	powerSupply6InfoBoardProductName(7)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.8	powerSupply6InfoBoardSerialNum(8)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.9	powerSupply6InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20	powerSupply6InfoSpec(20)	NA	NA	NA	This shows the specification of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.1	powerSupply6SpecRateVoltageMain(1)	Integer32	RO	0.1 V	This shows the rated voltage of power supply module6.(main)
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.2	powerSupply6SpecRateVoltageSub(2)	Integer32	RO	0.1 V	This shows the rated voltage of power supply module6.(sub)
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.3	powerSupply6SpecAmbientTempUpperLimit(3)	Integer32	RO	0.1 degrees C	This shows the highest temperature of ambient in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.4	powerSupply6SpecAmbientTempLowerLimit(4)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of ambient in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.5	powerSupply6SpecHotSpotTempUpperLimit(5)	Integer32	RO	0.1 degrees C	This shows the highest temperature of hot spot in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.6	powerSupply6SpecHotSpotTempLowerLimit(6)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of hot spot in power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.7	powerSupply6SpecExhaustTempUpperLimit(7)	Integer32	RO	0.1 degrees C	This shows the highest temperature of exhaust in power supply module.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.8	powerSupply6SpecExhaustTempLowerLimit(8)	Integer32	RO	0.1 degrees C	This shows the lowest temperature of exhaust in power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.2	powerSupply6Capacity(2)	NA	NA	NA	This shows the capacity of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.2.1	powerSupply6CapacityFan(1)	Integer32	RO		This shows the capacity fans of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.3	powerSupply6Settings(3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.6.4	powerSupply6State(4)	NA	NA	NA	This shows the state of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.1	powerSupply6StateSlotNum(1)	Integer32	RO		This shows the number of installed slots of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.2	powerSupply6StatePower(2)	INTEGER	RO	poweroff(1)/ poweron(2)/ unknown(3)	This shows the power supply state of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.3	powerSupply6StateHealth(3)	INTEGER	RO	normal(1)/ fail(2) / unknown(3)	This shows the health state of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.4	powerSupply6StateAmbientTemp(4)	Integer32	RO	0.1 degrees C	This shows the temperature value of ambient sensor of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.5	powerSupply6StateHotSpotTemp(5)	Integer32	RO	0.1 degrees C	This shows the temperature value of hot spot sensor of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.6	powerSupply6StateExhaustTemp(6)	Integer32	RO	0.1 degrees C	This shows the temperature value of exhaust sensor of power supply module.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.7	powerSupply6StateMainVoltage(7)	Integer32	RO	0.1 V	This shows the main voltage of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.8	powerSupply6StateSubVoltage(8)	Integer32	RO	0.1 V	This shows the sub voltage of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.9	powerSupply6StateInputVoltage(9)	Integer32	RO	0.1 V	This shows the input voltage of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.10	powerSupply6StateMainCurrent(10)	Integer32	RO	0.1 A	This shows the main current of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.11	powerSupply6StateSubCurrent(11)	Integer32	RO	0.1 A	This shows the sub current of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.12	powerSupply6StateInputCurrent(12)	Integer32	RO	0.1 A	This shows the input current of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.13	powerSupply6StateLEDTable(13)	NA	NA	NA	Reserved.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.6.4.13.1	powerSupply6 StateLEDEntry (1)	NA	NA	NA	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.13.1.1	powerSupply6 StateLEDIndex (1)	Integer32	RO		Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.13.1.2	powerSupply6 StateLEDName (2)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.13.1.3	powerSupply6 StateLEDType (3)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.13.1.4	powerSupply6 StateLEDState (4)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.13.1.5	powerSupply6 StateLEDColor (5)	DisplayString	RO	(SIZE(0..40))	Reserved.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.14	powerSupply6 StateFanTable (14)	NA	NA	NA	This shows the table of fan of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.14.1	powerSupply6 StateFanEntry (1)	NA	NA	NA	This shows the entry of fan of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.14.1.1	powerSupply6 StateFanIndex (1)	Integer32	RO		This shows the index of fan of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.14.1.2	powerSupply6 StateFanLocation(2)	DisplayString	RO	(SIZE(0..40))	This shows the location of fan of power supply module6.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.14.1.3	powerSupply6 StateFanRPM (3)	Integer32	RO	rpm	This shows the rpm value of power supply module6.

Table C-14: Information of Partition

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2	powerSupply (2)	NA	NA	NA	This shows the information of partition.
1.3.6.1.4.1.116.5.52.2.2.2.1	powerSupply1 (1)	NA	NA	NA	This shows the information of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1	powerSupply1 BasicInfo(1)	NA	NA	NA	This shows the basic information of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.1	powerSupply1 InfoType(1)	INTEGER	RO	invalid(1)/ valid(2) /unknown(3)	This shows the validity of information of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.2	powerSupply1 InfoProduct Name(2)	Integer32	RO	0.1 A	This shows the maximum current of partition1.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.1.1.3	powerSupply11nfoModel(3)	Integer32	RO	W	This shows the maximum power of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.4	powerSupply11nfoSerialNum(4)	Integer32	RO		This shows the total number of CPU core of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.5	powerSupply11nfoProductVersion(5)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.6	powerSupply11nfoProductManufacturer(6)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.7	powerSupply11nfoBoardProductName(7)	NA	NA	NA	This shows the setting of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.8	powerSupply11nfoBoardSerialNum(8)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.9	powerSupply11nfoBoardManufacturer(9)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20	powerSupply11nfoSpec(20)	NA	NA	NA	This shows the state of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.1	powerSupply1SpecRateVoltageMain(1)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.2	powerSupply1SpecRateVoltageSub(2)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.3	powerSupply1SpecAmbientTempUpperLimit(3)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.4	powerSupply1SpecAmbientTempLowerLimit(4)	Integer32	RO	0.1 A	This shows the consumption current of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.5	powerSupply1SpecHotSpotTempUpperLimit(5)	Integer32	RO	W	This shows the current power consumption of partition1.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.6	powerSupply1SpecHotSpotTempLowerLimit(6)	NA	NA	NA	This shows the information of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.7	powerSupply1SpecExhaustTempUpperLimit(7)	NA	NA	NA	This shows the basic information of partition2.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.1.1.20.8	powerSupply1SpecExhaustTempLowerLimit(8)	INTEGER	RO	invalid(1)/ valid(2)/unknown(3)	This shows the validity of information of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.2	powerSupply1Capacity(2)	Integer32	RO	0.1 A	This shows the maximum current of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.2.1	powerSupply1CapacityFan(1)	Integer32	RO	W	This shows the maximum power of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.3	powerSupply1Settings(3)	Integer32	RO		This shows the total number of CPU core of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.4	powerSupply1State(4)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.1	powerSupply1StateSlotNum(1)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.2	powerSupply1StatePower(2)	NA	NA	NA	This shows the setting of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.3	powerSupply1StateHealth(3)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.4	powerSupply1StateAmbientTemp(4)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.5	powerSupply1StateHotSpotTemp(5)	NA	NA	NA	This shows the state of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.6	powerSupply1StateExhaustTemp(6)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.7	powerSupply1StateMainVoltage(7)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.8	powerSupply1StateSubVoltage(8)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.9	powerSupply1StateInputVoltage(9)	Integer32	RO	0.1 A	This shows the consumption current of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.10	powerSupply1StateMainCurrent(10)	Integer32	RO	W	This shows the current power consumption of partition2.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.11	powerSupply1StateSubCurrent(11)	NA	NA	NA	This shows the information of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.12	powerSupply1StateInputCurrent(12)	NA	NA	NA	This shows the basic information of partition3.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13	powerSupply1StateLEDTable (13)	INTEGER	RO	invalid(1)/ valid(2)/unknown(3)	This shows the validity of information of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13.1	powerSupply1StateLEDEntry (1)	Integer32	RO	0.1 A	This shows the maximum current of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13.1.1	powerSupply1StateLEDIndex (1)	Integer32	RO	W	This shows the maximum power of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13.1.2	powerSupply1StateLEDName (2)	Integer32	RO		This shows the total number of CPU core of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13.1.3	powerSupply1StateLEDType (3)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13.1.4	powerSupply1StateLEDState (4)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.13.1.5	powerSupply1StateLEDColor (5)	NA	NA	NA	This shows the setting of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.14	powerSupply1StateFanTable (14)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.14.1	powerSupply1StateFanEntry (1)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.14.1.1	powerSupply1StateFanIndex (1)	NA	NA	NA	This shows the state of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.14.1.2	powerSupply1StateFanLocation(2)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.1.4.14.1.3	powerSupply1StateFanRPM (3)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.2	powerSupply2 (2)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.2.1	powerSupply2BasicInfo(1)	Integer32	RO	0.1 A	This shows the consumption current of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.1	powerSupply2InfoType(1)	Integer32	RO	W	This shows the current power consumption of partition3.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.2	powerSupply2InfoProductName(2)	NA	NA	NA	This shows the information of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.3	powerSupply2InfoModel(3)	NA	NA	NA	This shows the basic information of partition4.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.2.1.4	powerSupply2InfoSerialNum(4)	INTEGER	RO	invalid(1)/ valid(2)/unknown(3)	This shows the validity of information of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.5	powerSupply2InfoProductVersion(5)	Integer32	RO	0.1 A	This shows the maximum current of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.6	powerSupply2InfoProductManufacturer(6)	Integer32	RO	W	This shows the maximum power of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.7	powerSupply2InfoBoardProductName(7)	Integer32	RO		This shows the total number of CPU core of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.8	powerSupply2InfoBoardSerialNum(8)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.9	powerSupply2InfoBoardManufacturer(9)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20	powerSupply2InfoSpec(20)	NA	NA	NA	This shows the setting of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.1	powerSupply2SpecRateVoltageMain(1)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.2	powerSupply2SpecRateVoltageSub(2)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.3	powerSupply2SpecAmbientTempUpperLimit(3)	NA	NA	NA	This shows the state of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.4	powerSupply2SpecAmbientTempLowerLimit(4)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.5	powerSupply2SpecHotSpotTempUpperLimit(5)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.6	powerSupply2SpecHotSpotTempLowerLimit(6)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.7	powerSupply2SpecExhaustTempUpperLimit(7)	Integer32	RO	0.1 A	This shows the consumption current of partition4.
1.3.6.1.4.1.116.5.52.2.2.2.2.1.20.8	powerSupply2SpecExhaustTempLowerLimit(8)	Integer32	RO	W	This shows the current power consumption of partition4.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.2.2	powerSupply2Capacity(2)	NA	NA	NA	This shows the information of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.2.1	powerSupply2CapacityFan(1)	NA	NA	NA	This shows the basic information of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.3	powerSupply2Settings(3)	INTEGER	RO	invalid(1)/ valid(2)/unknown(3)	This shows the validity of information of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4	powerSupply2State(4)	Integer32	RO	0.1 A	This shows the maximum current of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.1	powerSupply2StateSlotNum(1)	Integer32	RO	W	This shows the maximum power of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.2	powerSupply2StatePower(2)	Integer32	RO		This shows the total number of CPU core of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.3	powerSupply2StateHealth(3)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.4	powerSupply2StateAmbientTemp(4)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.5	powerSupply2StateHotSpotTemp(5)	NA	NA	NA	This shows the setting of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.6	powerSupply2StateExhaustTemp(6)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.7	powerSupply2StateMainVoltage(7)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.8	powerSupply2StateSubVoltage(8)	NA	NA	NA	This shows the state of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.9	powerSupply2StateInputVoltage(9)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.10	powerSupply2StateMainCurrent(10)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.11	powerSupply2StateSubCurrent(11)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.12	powerSupply2StateInputCurrent(12)	Integer32	RO	0.1 A	This shows the consumption current of partition5.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13	powerSupply2StateLEDTable(13)	Integer32	RO	W	This shows the current power consumption of partition5.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13.1	powerSupply2 StateLEDEntry (1)	NA	NA	NA	This shows the information of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13.1.1	powerSupply2 StateLEDIndex (1)	NA	NA	NA	This shows the basic information of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13.1.2	powerSupply2 StateLEDName (2)	INTEGER	RO	invalid(1)/ valid(2) /unknown(3)	This shows the validity of information of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13.1.3	powerSupply2 StateLEDType (3)	Integer32	RO	0.1 A	This shows the maximum current of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13.1.4	powerSupply2 StateLEDState (4)	Integer32	RO	W	This shows the maximum power of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.13.1.5	powerSupply2 StateLEDColor (5)	Integer32	RO		This shows the total number of CPU core of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.14	powerSupply2 StateFanTable (14)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.14.1	powerSupply2 StateFanEntry (1)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.14.1.1	powerSupply2 StateFanIndex (1)	NA	NA	NA	This shows the setting of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.14.1.2	powerSupply2 StateFanLocation(2)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.2.4.14.1.3	powerSupply2 StateFanRPM (3)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.3	powerSupply3 (3)	NA	NA	NA	This shows the state of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.3.1	powerSupply3 BasicInfo(1)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.1	powerSupply3 InfoType(1)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.2	powerSupply3 InfoProductName(2)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.3	powerSupply3 InfoModel(3)	Integer32	RO	0.1 A	This shows the consumption current of partition6.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.4	powerSupply3 InfoSerialNum (4)	Integer32	RO	W	This shows the current power consumption of partition6.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.3.1.5	powerSupply3InfoProductVersion(5)	NA	NA	NA	This shows the information of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.6	powerSupply3InfoProductManufacturer(6)	NA	NA	NA	This shows the basic information of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.7	powerSupply3InfoBoardProductName(7)	INTEGER	RO	invalid(1)/ valid(2)/unknown(3)	This shows the validity of information of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.8	powerSupply3InfoBoardSerialNum(8)	Integer32	RO	0.1 A	This shows the maximum current of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.9	powerSupply3InfoBoardManufacturer(9)	Integer32	RO	W	This shows the maximum power of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20	powerSupply3InfoSpec(20)	Integer32	RO		This shows the total number of CPU core of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.1	powerSupply3SpecRateVoltageMain(1)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.2	powerSupply3SpecRateVoltageSub(2)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.3	powerSupply3SpecAmbientTempUpperLimit(3)	NA	NA	NA	This shows the setting of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.4	powerSupply3SpecAmbientTempLowerLimit(4)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.5	powerSupply3SpecHotSpotTempUpperLimit(5)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.6	powerSupply3SpecHotSpotTempLowerLimit(6)	NA	NA	NA	This shows the state of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.7	powerSupply3SpecExhaustTempUpperLimit(7)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.1.20.8	powerSupply3SpecExhaustTempLowerLimit(8)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.2	powerSupply3Capacity(2)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.2.1	powerSupply3CapacityFan(1)	Integer32	RO	0.1 A	This shows the consumption current of partition7.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.3.3	powerSupply3 Settings(3)	Integer32	RO	W	This shows the current power consumption of partition7.
1.3.6.1.4.1.116.5.52.2.2.2.3.4	powerSupply3 State(4)	NA	NA	NA	This shows the information of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.1	powerSupply3 StateSlotNum (1)	NA	NA	NA	This shows the basic information of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.2	powerSupply3 StatePower(2)	INTEGER	RO	invalid(1)/ valid(2) /unknown(3)	This shows the validity of information of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.3	powerSupply3 StateHealth(3)	Integer32	RO	0.1 A	This shows the maximum current of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.4	powerSupply3 StateAmbientTemp(4)	Integer32	RO	W	This shows the maximum power of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.5	powerSupply3 StateHotSpotTemp(5)	Integer32	RO		This shows the total number of CPU core of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.6	powerSupply3 StateExhaustTemp(6)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.7	powerSupply3 StateMainVoltage(7)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.8	powerSupply3 StateSubVoltage(8)	NA	NA	NA	This shows the setting of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.9	powerSupply3 StateInputVoltage(9)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.10	powerSupply3 StateMainCurrent(10)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.11	powerSupply3 StateSubCurrent(11)	NA	NA	NA	This shows the state of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.12	powerSupply3 StateInputCurrent(12)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13	powerSupply3 StateLEDTable (13)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13.1	powerSupply3 StateLEDEntry (1)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13.1.1	powerSupply3 StateLEDIndex (1)	Integer32	RO	0.1 A	This shows the consumption current of partition8.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13.1.2	powerSupply3StateLEDName(2)	Integer32	RO	W	This shows the current power consumption of partition8.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13.1.3	powerSupply3StateLEDType(3)	NA	NA	NA	This shows the information of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13.1.4	powerSupply3StateLEDState(4)	NA	NA	NA	This shows the basic information of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.13.1.5	powerSupply3StateLEDColor(5)	INTEGER	RO	invalid(1)/ valid(2)/unknown(3)	This shows the validity of information of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.14	powerSupply3StateFanTable(14)	Integer32	RO	0.1 A	This shows the maximum current of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.14.1	powerSupply3StateFanEntry(1)	Integer32	RO	W	This shows the maximum power of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.14.1.1	powerSupply3StateFanIndex(1)	Integer32	RO		This shows the total number of CPU core of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.14.1.2	powerSupply3StateFanLocation(2)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.3.4.14.1.3	powerSupply3StateFanRPM(3)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.4	powerSupply4(4)	NA	NA	NA	This shows the setting of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.4.1	powerSupply4BasicInfo(1)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.1	powerSupply4InfoType(1)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.2	powerSupply4InfoProductName(2)	NA	NA	NA	This shows the state of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.3	powerSupply4InfoModel(3)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.4	powerSupply4InfoSerialNum(4)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.5	powerSupply4InfoProductVersion(5)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.6	powerSupply4InfoProductManufacturer(6)	Integer32	RO	0.1 A	This shows the consumption current of partition9.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.4.1.7	powerSupply4InfoBoardProductName(7)	Integer32	RO	W	This shows the current power consumption of partition9.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.8	powerSupply4InfoBoardSerialNum(8)	NA	NA	NA	This shows the information of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.9	powerSupply4InfoBoardManufacturer(9)	NA	NA	NA	This shows the basic information of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20	powerSupply4InfoSpec(20)	INTEGER	RO	invalid(1)/ valid(2)/unknown(3)	This shows the validity of information of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.1	powerSupply4SpecRateVoltageMain(1)	Integer32	RO	0.1 A	This shows the maximum current of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.2	powerSupply4SpecRateVoltageSub(2)	Integer32	RO	W	This shows the maximum power of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.3	powerSupply4SpecAmbientTempUpperLimit(3)	Integer32	RO		This shows the total number of CPU core of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.4	powerSupply4SpecAmbientTempLowerLimit(4)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.5	powerSupply4SpecHotSpotTempUpperLimit(5)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.6	powerSupply4SpecHotSpotTempLowerLimit(6)	NA	NA	NA	This shows the setting of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.7	powerSupply4SpecExhaustTempUpperLimit(7)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.1.20.8	powerSupply4SpecExhaustTempLowerLimit(8)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.2	powerSupply4Capacity(2)	NA	NA	NA	This shows the state of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.2.1	powerSupply4CapacityFan(1)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.3	powerSupply4Settings(3)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.4	powerSupply4State(4)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition10.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.4.4.1	powerSupply4StateSlotNum(1)	Integer32	RO	0.1 A	This shows the consumption current of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.2	powerSupply4StatePower(2)	Integer32	RO	W	This shows the current power consumption of partition10.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.3	powerSupply4StateHealth(3)	NA	NA	NA	This shows the information of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.4	powerSupply4StateAmbientTemp(4)	NA	NA	NA	This shows the basic information of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.5	powerSupply4StateHotSpotTemp(5)	INTEGER	RO	invalid(1)/ valid(2)/unknown(3)	This shows the validity of information of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.6	powerSupply4StateExhaustTemp(6)	Integer32	RO	0.1 A	This shows the maximum current of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.7	powerSupply4StateMainVoltage(7)	Integer32	RO	W	This shows the maximum power of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.8	powerSupply4StateSubVoltage(8)	Integer32	RO		This shows the total number of CPU core of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.9	powerSupply4StateInputVoltage(9)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.10	powerSupply4StateMainCurrent(10)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.11	powerSupply4StateSubCurrent(11)	NA	NA	NA	This shows the setting of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.12	powerSupply4StateInputCurrent(12)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13	powerSupply4StateLEDTable(13)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13.1	powerSupply4StateLEDEntry(1)	NA	NA	NA	This shows the state of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13.1.1	powerSupply4StateLEDIndex(1)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13.1.2	powerSupply4StateLEDName(2)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13.1.3	powerSupply4StateLEDType(3)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition11.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13.1.4	powerSupply4StateLEDState(4)	Integer32	RO	0.1 A	This shows the consumption current of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.13.1.5	powerSupply4StateLEDColor(5)	Integer32	RO	W	This shows the current power consumption of partition11.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.14	powerSupply4StateFanTable(14)	NA	NA	NA	This shows the information of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.14.1	powerSupply4StateFanEntry(1)	NA	NA	NA	This shows the basic information of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.14.1.1	powerSupply4StateFanIndex(1)	INTEGER	RO	invalid(1)/ valid(2)/unknown(3)	This shows the validity of information of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.14.1.2	powerSupply4StateFanLocation(2)	Integer32	RO	0.1 A	This shows the maximum current of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.4.4.14.1.3	powerSupply4StateFanRPM(3)	Integer32	RO	W	This shows the maximum power of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.5	powerSupply5(5)	Integer32	RO		This shows the total number of CPU core of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.5.1	powerSupply5BasicInfo(1)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.1	powerSupply5InfoType(1)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.2	powerSupply5InfoProductName(2)	NA	NA	NA	This shows the setting of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.3	powerSupply5InfoModel(3)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.4	powerSupply5InfoSerialNum(4)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.5	powerSupply5InfoProductVersion(5)	NA	NA	NA	This shows the state of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.6	powerSupply5InfoProductManufacturer(6)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.7	powerSupply5InfoBoardProductName(7)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.8	powerSupply5InfoBoardSerialNum(8)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition12.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.5.1.9	powerSupply5InfoBoardManufacturer(9)	Integer32	RO	0.1 A	This shows the consumption current of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20	powerSupply5InfoSpec(20)	Integer32	RO	W	This shows the current power consumption of partition12.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.1	powerSupply5SpecRateVoltageMain(1)	NA	NA	NA	This shows the information of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.2	powerSupply5SpecRateVoltageSub(2)	NA	NA	NA	This shows the basic information of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.3	powerSupply5SpecAmbientTempUpperLimit(3)	INTEGER	RO	invalid(1)/ valid(2)/unknown(3)	This shows the validity of information of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.4	powerSupply5SpecAmbientTempLowerLimit(4)	Integer32	RO	0.1 A	This shows the maximum current of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.5	powerSupply5SpecHotSpotTempUpperLimit(5)	Integer32	RO	W	This shows the maximum power of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.6	powerSupply5SpecHotSpotTempLowerLimit(6)	Integer32	RO		This shows the total number of CPU core of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.7	powerSupply5SpecExhaustTempUpperLimit(7)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.1.20.8	powerSupply5SpecExhaustTempLowerLimit(8)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.2	powerSupply5Capacity(2)	NA	NA	NA	This shows the setting of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.2.1	powerSupply5CapacityFan(1)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.3	powerSupply5Settings(3)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.4	powerSupply5State(4)	NA	NA	NA	This shows the state of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.1	powerSupply5StateSlotNum(1)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.2	powerSupply5StatePower(2)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition13.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.5.4.3	powerSupply5StateHealth(3)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.4	powerSupply5StateAmbientTemp(4)	Integer32	RO	0.1 A	This shows the consumption current of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.5	powerSupply5StateHotSpotTemp(5)	Integer32	RO	W	This shows the current power consumption of partition13.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.6	powerSupply5StateExhaustTemp(6)	NA	NA	NA	This shows the information of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.7	powerSupply5StateMainVoltage(7)	NA	NA	NA	This shows the basic information of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.8	powerSupply5StateSubVoltage(8)	INTEGER	RO	invalid(1)/ valid(2)/ unknown(3)	This shows the validity of information of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.9	powerSupply5StateInputVoltage(9)	Integer32	RO	0.1 A	This shows the maximum current of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.10	powerSupply5StateMainCurrent(10)	Integer32	RO	W	This shows the maximum power of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.11	powerSupply5StateSubCurrent(11)	Integer32	RO		This shows the total number of CPU core of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.12	powerSupply5StateInputCurrent(12)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13	powerSupply5StateLEDTable(13)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13.1	powerSupply5StateLEDEntry(1)	NA	NA	NA	This shows the setting of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13.1.1	powerSupply5StateLEDIndex(1)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13.1.2	powerSupply5StateLEDName(2)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13.1.3	powerSupply5StateLEDType(3)	NA	NA	NA	This shows the state of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13.1.4	powerSupply5StateLEDState(4)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/ poweron-executing(5)/ poweroff-executing(6)	This shows the power supply state of partition14.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.5.4.13.1.5	powerSupply5StateLEDColor(5)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.14	powerSupply5StateFanTable(14)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.14.1	powerSupply5StateFanEntry(1)	Integer32	RO	0.1 A	This shows the consumption current of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.14.1.1	powerSupply5StateFanIndex(1)	Integer32	RO	W	This shows the current power consumption of partition14.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.14.1.2	powerSupply5StateFanLocation(2)	NA	NA	NA	This shows the information of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.5.4.14.1.3	powerSupply5StateFanRPM(3)	NA	NA	NA	This shows the basic information of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6	powerSupply6(6)	INTEGER	RO	invalid(1)/ valid(2)/ unknown(3)	This shows the validity of information of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1	powerSupply6BasicInfo(1)	Integer32	RO	0.1 A	This shows the maximum current of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.1	powerSupply6InfoType(1)	Integer32	RO	W	This shows the maximum power of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.2	powerSupply6InfoProductName(2)	Integer32	RO		This shows the total number of CPU core of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.3	powerSupply6InfoModel(3)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.4	powerSupply6InfoSerialNum(4)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.5	powerSupply6InfoProductVersion(5)	NA	NA	NA	This shows the setting of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.6	powerSupply6InfoProductManufacturer(6)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.7	powerSupply6InfoBoardProductName(7)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.8	powerSupply6InfoBoardSerialNum(8)	NA	NA	NA	This shows the state of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.9	powerSupply6InfoBoardManufacturer(9)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/ poweron-executing(5)/ poweroff-executing(6)	This shows the power supply state of partition15.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20	powerSupply6InfoSpec(20)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.1	powerSupply6SpecRateVoltageMain(1)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.2	powerSupply6SpecRateVoltageSub(2)	Integer32	RO	0.1 A	This shows the consumption current of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.3	powerSupply6SpecAmbientTempUpperLimit (3)	Integer32	RO	W	This shows the current power consumption of partition15.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.4	powerSupply6SpecAmbientTempLowerLimit (4)	NA	NA	NA	This shows the information of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.5	powerSupply6SpecHotSpotTempUpperLimit (5)	NA	NA	NA	This shows the basic information of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.6	powerSupply6SpecHotSpotTempLowerLimit (6)	INTEGER	RO	invalid(1)/ valid(2) /unknown(3)	This shows the validity of information of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.7	powerSupply6SpecExhaustTempUpperLimit (7)	Integer32	RO	0.1 A	This shows the maximum current of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.1.20.8	powerSupply6SpecExhaustTempLowerLimit (8)	Integer32	RO	W	This shows the maximum power of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.2	powerSupply6Capacity(2)	Integer32	RO		This shows the total number of CPU core of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.2.1	powerSupply6CapacityFan(1)	Integer32	RO	GB	This shows the total amount of DIMM capacity of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.3	powerSupply6Settings(3)	DisplayString	RO	(SIZE(0..40))	This shows the HVM license information of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.4	powerSupply6State(4)	NA	NA	NA	This shows the setting of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.1	powerSupply6StateSlotNum (1)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode setting of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.2	powerSupply6StatePower(2)	INTEGER	RO	redundancy(1)/ non-redundancy(2)/ unknown(3)	This shows the DIMM redundancy of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.3	powerSupply6StateHealth(3)	NA	NA	NA	This shows the state of partition16.

OID	Object identifier	Syntax	Access	Value	Description
1.3.6.1.4.1.116.5.52.2.2.2.6.4.4	powerSupply6 StateAmbientTemp(4)	INTEGER	RO	poweroff(1)/ standby(2)/ poweron(3)/ unknown(4)/poweron-executing(5)/poweroff-executing(6)	This shows the power supply state of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.5	powerSupply6 StateHotSpotTemp(5)	INTEGER	RO	normal(1)/fail(2)/unknown(3)	This shows the health state of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.6	powerSupply6 StateExhaustTemp(6)	INTEGER	RO	basic(1)/ hvm(2)/ unknown(3)	This shows the hvm mode of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.7	powerSupply6 StateMainVoltage(7)	Integer32	RO	0.1 A	This shows the consumption current of partition16.
1.3.6.1.4.1.116.5.52.2.2.2.6.4.8	powerSupply6 StateSubVoltage(8)	Integer32	RO	W	This shows the current power consumption of partition16.



IPMI Commands List

This Appendix-D provides the list of IPMI Commands.

□ [IPMI Commands List](#)

IPMI Commands List

Table D-1 shows supported IPMI Commands.

Table D-1: Supported IPMI Commands

Command	NetFn	CMD	Remark
IPMI Device "Global" Commands			
Get Device ID	App(06h,07h)	01h	
Get ACPI Power State	App(06h,07h)	07h	
BMC Watchdog Timer Commands			
Reset Watchdog Timer	App(06h,07h)	22h	
Set Watchdog Timer	App(06h,07h)	24h	
Get Watchdog Timer	App(06h,07h)	25h	
BMC Device and Messaging Commands			
Get System GUID	App(06h,07h)	37h	
Get Channel Authentication Capabilities	App(06h,07h)	38h	
Set Session Privilege Level	App(06h,07h)	3Bh	
Close Session	App(06h,07h)	3Ch	
Get Session Info	App(06h,07h)	3Dh	
Set Channel Access	App(06h,07h)	40h	
Get Channel Access	App(06h,07h)	41h	
Set User Access	App(06h,07h)	43h	
Get User Access	App(06h,07h)	44h	
Set User Name	App(06h,07h)	45h	
Get User Name	App(06h,07h)	46h	
Set User Password	App(06h,07h)	47h	
Activate Payload	App(06h,07h)	48h	
Deactivate Payload	App(06h,07h)	49h	
Get Payload Activation Status	App(06h,07h)	4Ah	
Get Payload Instance Info	App(06h,07h)	4Bh	
Set User Payload Access	App(06h,07h)	4Ch	
Get User Payload Access	App(06h,07h)	4Dh	
Get Channel Cipher Suites	App(06h,07h)	54h	
Chassis Device Commands			
Get Chassis Capabilities	Chassis(00h,01h)	00h	
Get Chassis Status	Chassis(00h,01h)	01h	
Chassis Control	Chassis(00h,01h)	02h	
Chassis Identify	Chassis(00h,01h)	04h	
Set System Boot Options	Chassis(00h,01h)	08h	

Command	NetFn	CMD	Remark
Get System Boot Options	Chassis(00h,01h)	09h	
Sensor Device Commands			
Get Sensor Threshold	Sensor/Event(04h,05h)	27h	
Get Sensor Reading	Sensor/Event(04h,05h)	2Dh	
FRU Device Commands			
Get FRU Inventory Area Info	Storage(0Ah,0Bh)	10h	
Read FRU Data	Storage(0Ah,0Bh)	11h	
SDR Device Commands			
Get SDR Repository Info	Storage(0Ah,0Bh)	20h	
Reserve SDR Repository	Storage(0Ah,0Bh)	22h	
Get SDR	Storage(0Ah,0Bh)	23h	
SEL Device Commands			
Get SEL Info	Storage(0Ah,0Bh)	40h	
Reserve SEL	Storage(0Ah,0Bh)	42h	
Get SEL Entry	Storage(0Ah,0Bh)	43h	
Clear SEL	Storage(0Ah,0Bh)	47h	
Get SEL Time	Storage(0Ah,0Bh)	48h	
Set SEL Time	Storage(0Ah,0Bh)	49h	
LAN Device Commands			
Set LAN Configuration Parameters	Transport(0Ch,0Dh)	01h	*
Get LAN Configuration Parameters	Transport(0Ch,0Dh)	02h	
Serial/Modem Device Commands			
SOL Activating	Transport(0Ch,0Dh)	20h	
Set SOL Configuration Parameters	Transport(0Ch,0Dh)	21h	
Get SOL Configuration Parameters	Transport(0Ch,0Dh)	22h	
DCMI Command			
Get Asset Tag	DCGRP(2Ch,2Dh)	06h	
Set Asset Tag	DCGRP(2Ch,2Dh)	08h	
* "Commit write" option for Set In Progress Parameter does not work. Any changes made during "commit write" set affect immediately.			



LDAP Server Linkage

This Appendix-E describes the LDAP Server Linkage.

- [Overview of the LDAP Server Linkage](#)
- [Supported LDAP Server](#)
- [Environmental Setting for Active Directory](#)
- [Setting BMC](#)

Overview of the LDAP Server Linkage

BMC search the LDAP directory on the LDAP server by using the Lightweight Directory Access Protocol (LDAP) to authenticate users. With this function, you can perform the following:

- Login to BMC as a user registered with the LDAP director
- Group authentication that allows only the account belonging to a specific group in the LDAP directory to login

Logging in As a User registered with the LDAP Directory

BMC judge whether to allow a user to log in based on the user account information registered with each module and the user account information in the LDAP directory at user authentication.

Adding user account information to the LDAP directory on the LDAP server allows all BMC using the LDAP server to use the added user account information. Besides, it is not necessary to register the user account information with each module.

Group Authentication

During user authentication, the group information in the LDAP directory is viewed and only the user accounts belonging to the group are allowed to log in. By using the group authentication function, you can construct an LDAP server linkage environment between BMC without drastically changing the already constructed LDAP directory.

Supported LDAP Server

CR 210H/CR 220H supports Active Directory, attached to the following OSes, as the LDAP server with linkage.

- Windows Server 2008 R2, Standard
- Windows Server 2008 R2, Enterprise
- Windows Server 2008 Standard
- Windows Server 2008 Enterprise
- Windows Server 2008 Standard without Hyper-V
- Windows Server 2008 Enterprise without Hyper-V
- Windows Server 2003 R2, Standard Edition
- Windows Server 2003 R2, Enterprise Edition

Environmental Setting for Active Directory

This section describes settings required when Active Directory is used as an LDAP server.

The following items show the required setting items.

- Server certificate
- Bind DN for the LDAP server
- User account for logging in to BMC
- Group that is allowed to login to the BMC

Server Certificate

Because all communications between BMC and LDAP servers are carried out through Secure Socket Layer (SSL), the server certificate must be registered for Active Directory to be used as an LDAP server.

For details about how to register the server certificate, see the documentation of your OS.



There are two different server certificates. One is self- signed certificate, and the other one is a certificate certified by an external certificate authority. You can use either of them for communication between BMC and Active Directory.

Bind DN for the LDAP Server

To search an LDAP directory at user authentication, you must connect to an LDAP server. There are two methods for connecting to an LDAP server as below. Perform either of the following methods:

- Connect to an LDAP server by using an LDAP bind DN and the password.
- Connect to an LDAP server as an anonymous user.



We recommend to use an LDAP bind DN and the password.

Connect to an LDAP server by using an LDAP bind DN and the password

Register a user account to use as an LDAP bind DN with your Windows. For details about how to register user accounts, see the documentation of your OS.

You must grant the access permission for the LDAP directory to use when authenticating users to the user account to be used as the LDAP bind DN.

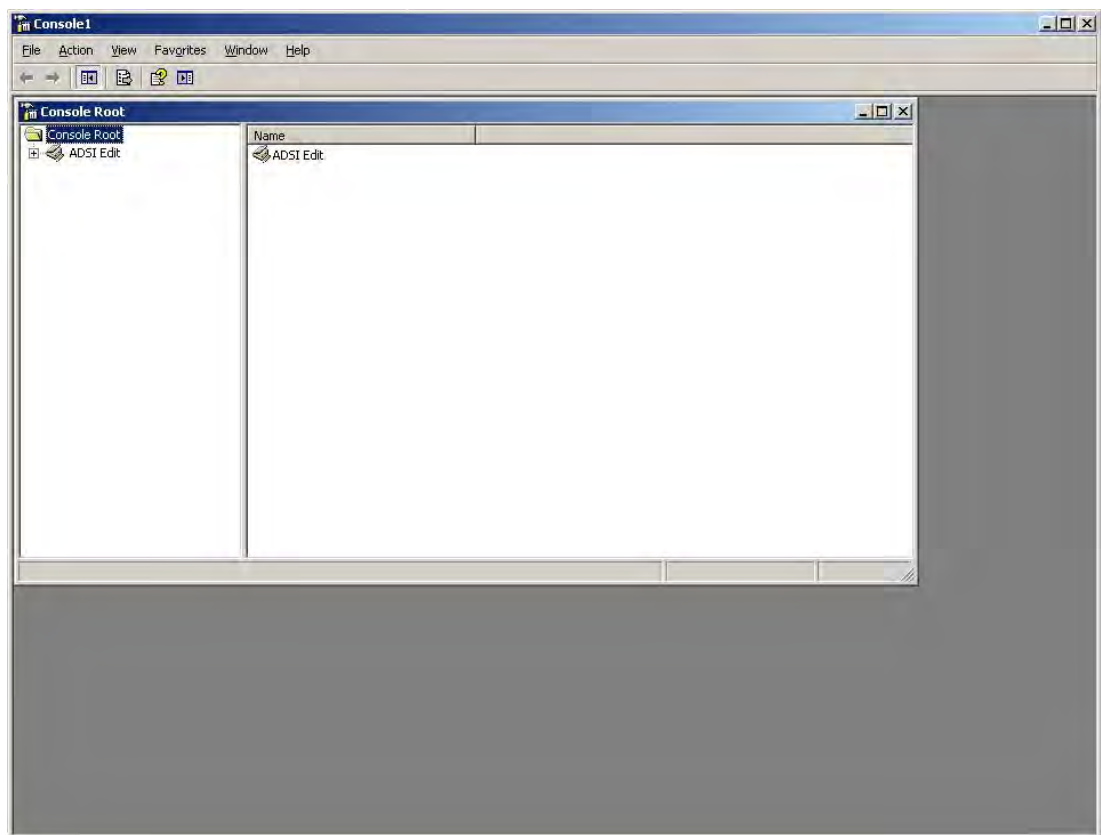
Connect to an LDAP server as an anonymous user

Follow the procedure below to register an anonymous user.

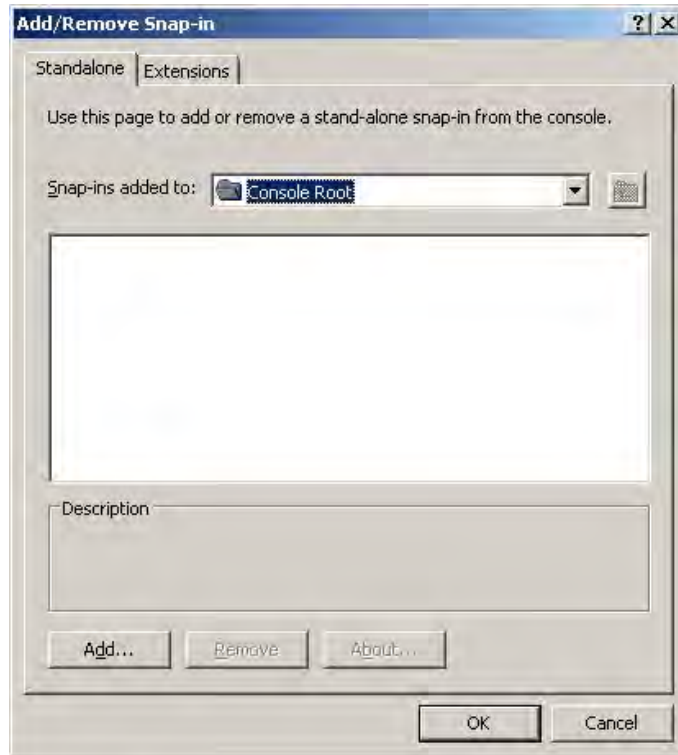


When registering a user for LDAP connection, skip this procedure.

1. Select **Start > Run...**, type "mmc" and click **OK**.
The Console Root screen is displayed.



2. Select **Menu > File > Add/Remove Snap-in**.
Add/Remove Snap-in screen is displayed.



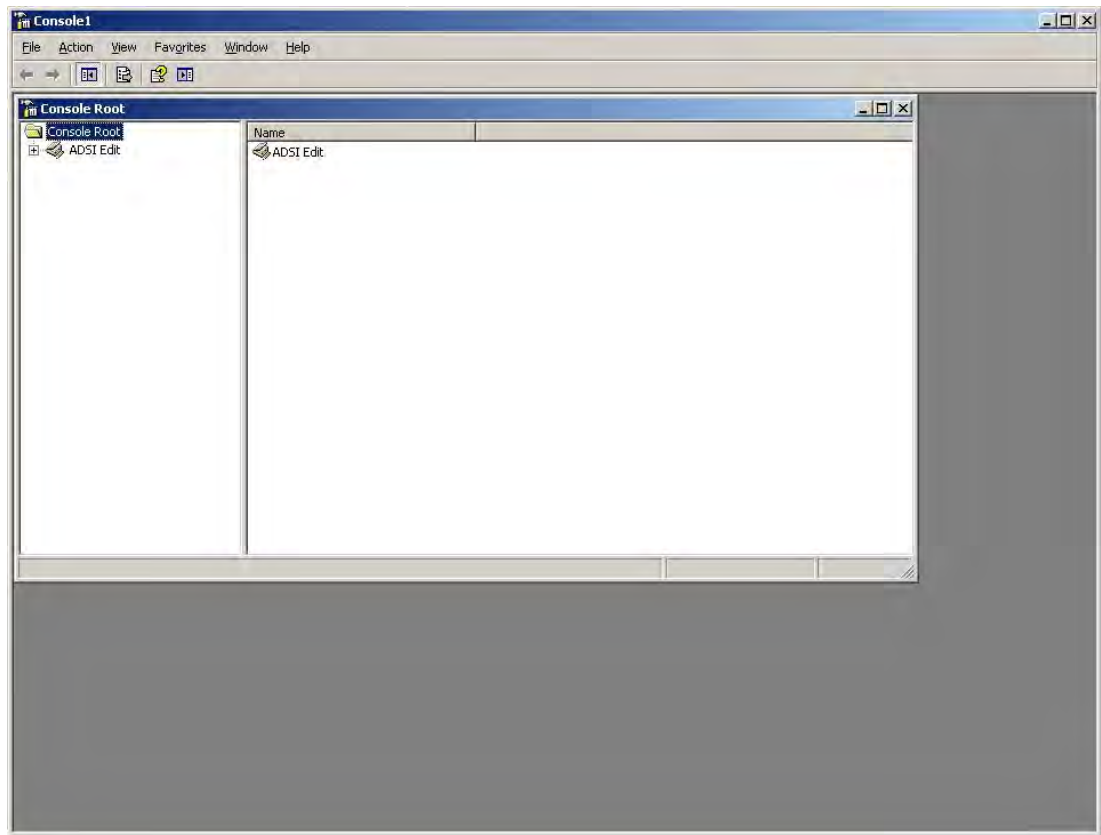
3. In the Add Standalone Snap-in screen, click **Add...**, select **ADSI Edit** from "Available standalone snap-ins:", click **Add**, and then click **Close**.





When ADSI Edit is not available, see [Windows Support Tools](#).

4. When Add/Remove Snap-in screen is displayed once again, confirm that [ADSI Edit] is added, and click **OK**.
[ADSI Edit] is added to the Console Root screen.



5. Place and right-click the mouse on **ADSI Edit**, and select **Connect to....**

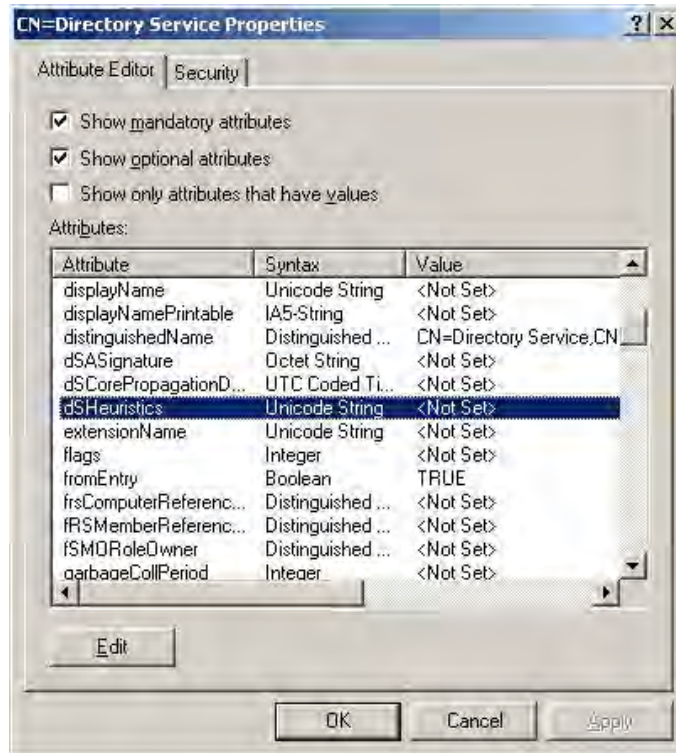
6. Select **Domain** for the domain context of Active Directory to connect, and click **OK**.



7. When the Console Root screen is displayed once again, right-click **ADSI Edit** once more, and select **Connect to....**
8. Select **Configuration** as Context, and click **OK**.



9. When the Console Root screen is displayed once again, place and right-click the mouse on
**\ADSI\Edit\configuration\CN=Configuration\DC=domain
base\CN=Services\CN=Windows NT\CN=Directory Service**, and
select **properties**.
The Properties screen is displayed.



10. Click **dSHeuristics**, and then click **Edit** to set a value in the properties screen. When the value is <Not Set>, type "0000002" in the field. When a value is set, change the 7th figure from the left to "2". Do not change other figures.



11. When setting is completed, click **OK**, and the Console Root screen is displayed. Click **OK** in the properties screen to apply the setting.

The procedure above can allow you to register an anonymous user.

Then select [Registering the User Account for Logging in to the BMC](#) to give access to an anonymous user.

Registering the User Account for Logging in to the BMC

In [Start > Management Tools > Active Directory Users and Computers], register the user account for the LDAP directory. For details about how to register user accounts, see the documentation of your OS.

This section describes the limitations for user names and passwords to be registered and the procedure for granting role information to be used after logging in to BMC.

User name

The following characters and the number of characters are available for user names.

- Number of characters: from 1 to 32 characters
- Available characters for the head of a name: [A-Z] [a-z]
- Available characters for from the second to the end of a name: [A-Z] [a-z] [0-9], "-" (hyphen), "_" (underscore), "." (period)

Password

The following characters and the number of characters are available for passwords.

- Number of characters: from 1 to 32 characters
- Available characters: Printable characters in ASCII (0x20-0x7e)



The complexity of passwords depends on the security policy of your OS.

Granting Role Information

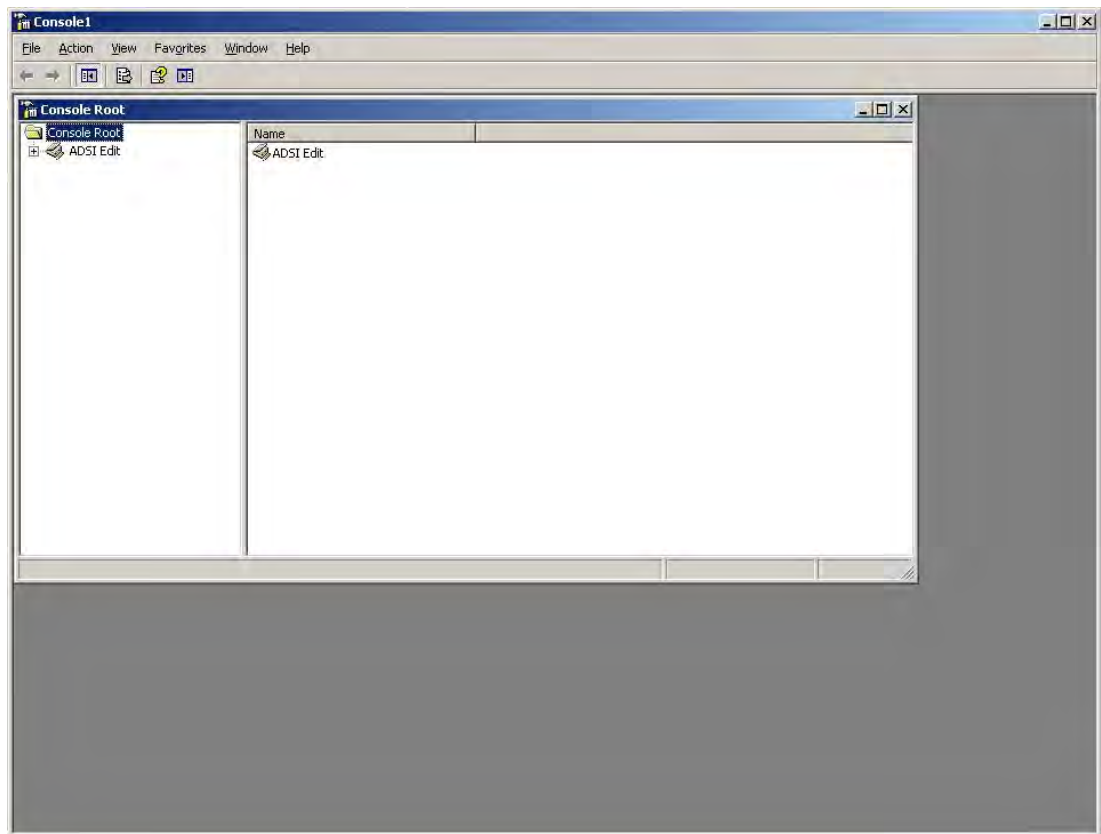
By granting role information to a user account registered with the LDAP directory, you can set the range of operations to be performed after the login.



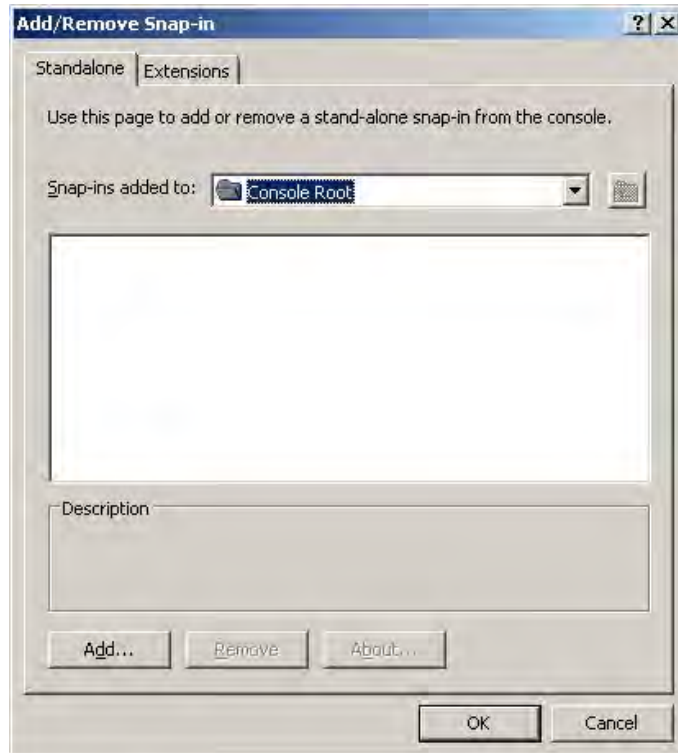
If you do not grant role information, operations you can perform after the login are minimized.

Follow the procedure below to assign role information.

1. Select **Start > Run...**, type "mmc" and click **OK**.
The Console Root screen is displayed.



2. Select **Menu > File > Add/Remove Snap-in**.
Add/Remove Snap-in screen is displayed.



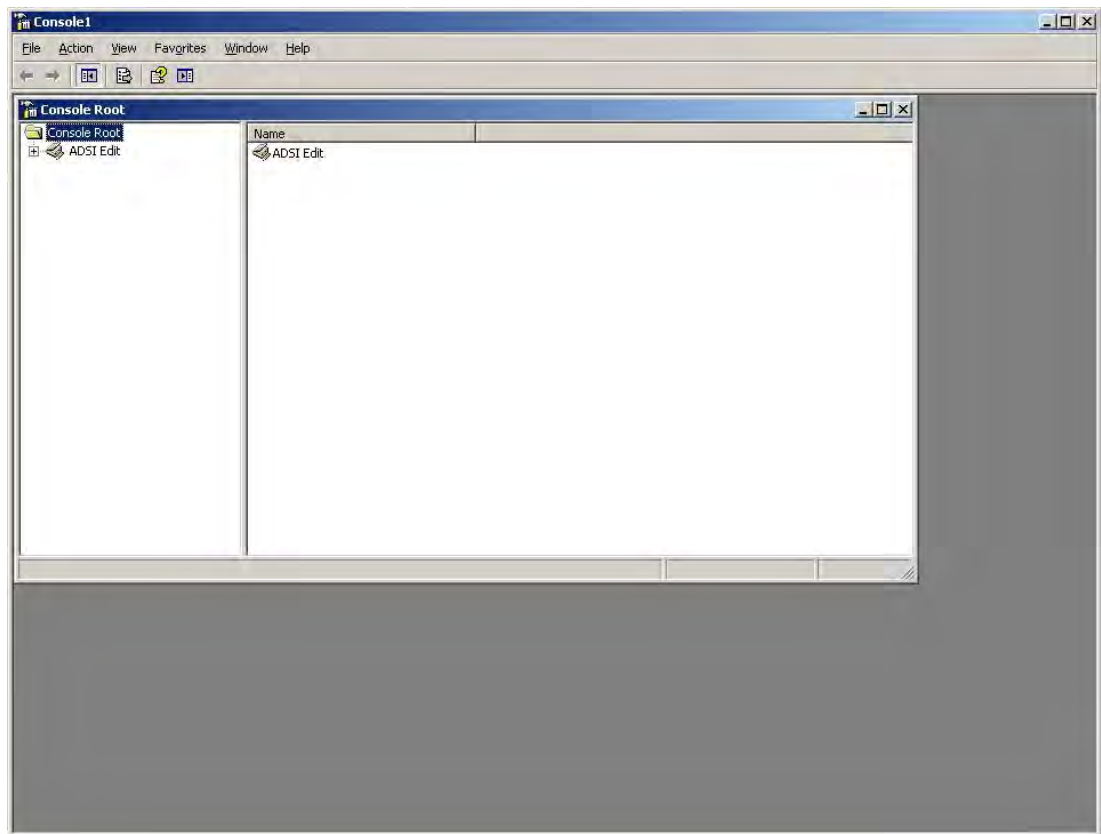
3. In the Add Standalone Snap-in screen, click **Add...**, select **ADSI Edit** from [Available standalone snap-ins:], click **Add**, and then click **Close**.





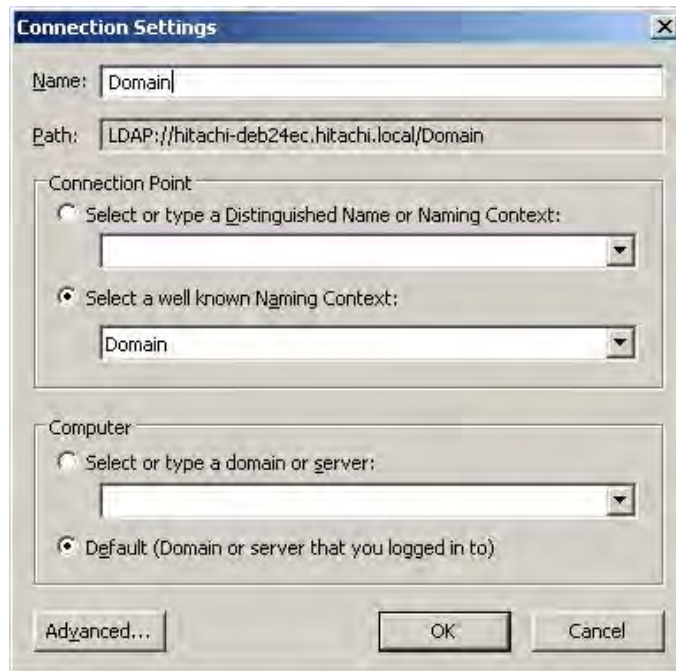
When ADSI Edit is not available, see [Windows Support Tools](#).

4. When Add/Remove Snap-in screen is displayed once again, confirm that **ADSI Edit** is added, and click **OK**.
ADSI Edit is added to the Console Root screen.



5. Place and right-click the mouse on **ADSI Edit**, and select **Connect to....**

6. Select **Domain** for the domain context of Active Directory to connect, and click **OK**.



7. Open the ADSI Edit tree. Right-click a user account to give roles on the LDAP directory. Open **Properties**.
The Properties screen opens and the attributes list assigned to the user account is displayed.
8. Select the attribute with "Unicode String" for Syntax and "<Not Set>" for Value from the attributes list, and click **Edit**.
9. Set roles for BMC.
Set roles for BMC with the following character string.

ServerBladeRole=XXXXXXXX (X: "0" or "1")
XXXXXXXX: each X from the head to the end corresponds to a following role in the numerical order.

- 1 Login
- 2 Administrator
- 3 Server Operation
- 4 User Account Management
- 5 Service Settings
- 6 Remote Console
- 7 Remote Media
- 8 SMASH CLIP

10. After setting roles, click **OK**. When the screen returns to Properties, click **OK**.

The procedure above completes the role setting for users to log in to BMC.

Group that is allowed to login to the BMC

Register the group to use for group authentication.



If you do not use group authentication, this setting is not required.

Open [Start > Management Tools > Active Directory Users and Computers], create a group you allow login to BMC in the LDAP directory. After you create the groups, register user accounts you allow login with the group.

For details about how to create groups and how to register user accounts with groups, see the documentation of your OS.

Windows Support Tools

Windows Support Tools is a package software program that contains "ADSI (Active Directory Service Interface) Edit" for operating objects registered with Active Directory, and "ldp" for performing Active Directory operations through LDAP.

Select [Control Panel] and open [Add and Remove Programs]. The list of installed programs is displayed. When "Windows Support Tools" is displayed in the list, "ADSI Edit" and "ldp" are available. If not, install "Windows Support Tools" from the install media.



When Windows Server 2008 or higher versions are equipped with this package, skip this procedure.

Setting BMC

This section describes necessary settings for connecting BMC to LDAP servers. For details about BMC, see [LDAP](#).

User Authentication Method

Select **When local user authentication fails, do LDAP user authentication**. The system authenticates users by using the user account information set for BMC. If the system fails to authenticate users, the system authenticates users by using the user account information on the LDAP servers.



- If the LDAP connection function is enabled, you can log in to BMC by using the user account you already set.
 - If you register a user account name you already set for BMC with the LDAP directory, the system authenticates users by using the user account information set for BMC.
-

Registering LDAP Servers

A maximum of three LDAP servers can be registered. If you register multiple LDAP servers, BMC tries to connect to the LDAP servers in the order they were registered. BMC searches the LDAP directory on the server of which connection was established first, and tries to authenticate users.

If BMC fails to connect to all the registered LDAP servers, user authentication using the LDAP servers also fails.



Even if BMC fails to connect to all registered LDAP servers, BMC can authenticate users by using a user account registered with BMC correctly.

Setting the LDAP Server Connection

Port Number

Specify the port number to use for connecting to the LDAP server. Normally, the 636 port is used, however, depending on your environment, you might have to use another port. Check your network environment before you specify a port.

Bind DN and Bind Password

Set the method for connecting the LDAP server at user authentication.

You must set the method according to the settings you specified during user registration for LDAP connection. See [LDAP](#).

Setting for Searching the LDAP Directory

Base DN

Specify the DN for the root directory of the LDAP directory to be searched. The directories under the specified root directory are to be searched at user authentication.

Attribute for Login ID

Specify the attribute of each entry in the LDAP directory to be compared with the user ID specified at user authentication.

For Active Directory, the attribute name "sAMAccountName" is used for searching login IDs usually.

Attribute for Role

If you grant a role to the user account for logging in to BMC during the operation described in "Granting Role Information", specify the attribute used for granting the role.



If you did not grant a role, you do not need to perform this operation.

Setting Group Authentication



If you do not specify group settings during the operation described in [Group that is allowed to login to the BMC](#), you do not need to perform this operation.

Attribute for Group Member

Specify the attribute in which the list of user accounts whose login is to be allowed is stored.

For Active Directory, the list of user accounts is normally stored in the attribute name "member".

Group DN

Specify the group DN created in [Group that is allowed to login to the BMC](#).

A maximum of five groups can be specified. User accounts of which login you want to allow must belong to one of the specified groups



Security strength

This Appendix-F describes the security strength.

- [Overview of security strength](#)
- [Relationship between security strength and functions](#)
- [Security strength settings](#)
- [Comparing functions for security strength settings](#)

Overview of security strength

For BMC network, security strength can be enhanced by the user settings. You can set "Default" or "High", and the factory default settings is "Default".

Security strength can be enhanced in BMC network by setting to "High". When security strength is set to "High", the following restrictions are required.

- When an encryption communication is available, a plaintext communication is not available.
- For the encryption communication, only use a cipher algorithm with high security strength.

Relationship between security strength and functions

When changing the settings of security strength, each function of system unit use the following protocols and encryption methods depending on settings.

Table F-1: BMC

Function	Protocol	Security strength	
		Default	High
Web	HTTP	Available	N/A
	HTTPS	Available (SSL 3.0, TLS1.0/1.1/1.2)	Available (TLS 1, 2) ^{1 2}
IPMI over LAN	IPMI v1.5	Available	N/A ³
	IPMI v2.0	Available	Available ⁴
Remote console	Original protocol of Hitachi	Available (Plaintext/SSL 3.0, TLS 1.0/1.1/1.2)	Available (TLS 1.2) ¹
LDAP	LDAPS	Available (SSL 3.0, TLS 1.0/1.1/1.2)	Available (TLS 1.2)
SNMP	SNMP (v1/v2c)	Available	N/A (No response to a demand of manager / No trap issue)
	SNMP (v3)	Available	Available
HCSM	HTTPS and original protocol of Hitachi	Available (SSL 3.0, TLS 1.0/1.1/1.2) ⁵	Available (TLS 1.2) ⁵
Notes: 1. When using a certificate less than 2048 bit, cannot connect. Set back to "Default" for security strength, and register a certificate over 2048 bit. Set to "High" for security strength again. 2. Need to a web browser corresponded SSL/TLS version to use. 3. Connection is refused when executing when executing "IPMI v1.5 LAN Session Startup". 4. When the CipherSuite ID is 3 and the both of UserName and Password are set, "High" is available. 5. Need to an application corresponded SSL/TLS version to use.			

Security strength settings

Security strength can be set using Web console in BMC version 09-80 or higher. The settable functions are as follows.

For details of security strength settings, see [Security and Service](#).

Table F-2: Security strength settings

Function	Description
Exchanging "default" and "high" for security strength	BMC is restarted after changing settings. Settings is reflected after restarting BMC.
Specifying version of supported SSL/TLS	The change of settings is reflected dynamically.



- When change the settings of security strength, BMC is restarted automatically.
 - The settings of security strength are executed backup and restore.
-

Comparing functions for security strength settings

Table F-3: SSL/TLS

Cipher suite	Security strength	
	Default	High
TLS_ECDHE_RSA_WITH_3DES_EDE_CBC_SHA	-	-
SSL_RSA_WITH_RC4_128_MD5	-	-
SSL_RSA_WITH_RC4_128_SHA	-	-
TLS_RSA_WITH_AES_128_CBC_SHA	✓	✓
TLS_RSA_WITH_AES_256_CBC_SHA	✓	✓
TLS_DHE_RSA_WITH_AES_128_CBC_SHA	-	-
TLS_DHE_DSS_WITH_AES_128_CBC_SHA	-	-
SSL_RSA_WITH_3DES_EDE_CBC_SHA	-	-
SSL_DHE_RSA_WITH_3DES_EDE_CBC_SHA	-	-
SSL_DHE_DSS_WITH_3DES_EDE_CBC_SHA	-	-
SSL_RSA_WITH_DES_CBC_SHA	-	-
SSL_DHE_RSA_WITH_DES_CBC_SHA	-	-
SSL_DHE_DSS_WITH_DES_CBC_SHA	-	-
SSL_RSA_EXPORT_WITH_RC4_40_MD5	-	-
SSL_RSA_EXPORT_WITH_DES40_CBC_SHA	-	-
SSL_DHE_RSA_EXPORT_WITH_DES40_CBC_SHA	-	-
SSL_DHE_DSS_EXPORT_WITH_DES40_CBC_SHA	-	-
TLS_EMPTY_RENEGOTIATION_INFO_SCSV	-	-
TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA256	-	-
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256	-	-
TLS_RSA_WITH_AES_128_CBC_SHA256	✓	✓
TLS_RSA_WITH_AES_256_CBC_SHA256	✓	✓
TLS_ECDH_ECDSA_WITH_AES_128_CBC_SHA256	-	-
TLS_ECDH_RSA_WITH_AES_128_CBC_SHA256	-	-
TLS_DHE_RSA_WITH_AES_128_CBC_SHA256	-	-
TLS_DHE_DSS_WITH_AES_128_CBC_SHA256	-	-
TLS_RSA_WITH_3DES_EDE_CBC_SHA	✓	-
TLS_RSA_WITH_RC4_128_MD5	✓	-
TLS_RSA_WITH_RC4_128_SHA	✓	-
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA	-	-
TLS_ECDH_RSA_WITH_AES_128_CBC_SHA	-	-
TLS_ECDHE_RSA_WITH_RC4_128_SHA	-	-
TLS_ECDH_RSA_WITH_RC4_128_SHA	-	-

Server certificate [Public key algorithm]	Security strength	
	Default	High
RSA1024 verification	√	-
RSA1024 creation	√	-
RSA2048 verification	√	√
RSA2048 creation	√	√
RSA4096 verification	-	-
RSA4096 creation	-	-
DSA1024 verification	√	-
DSA1024 creation	√	-

Server certificate [Signature algorithm]	Security strength	
	Default	High
SHA1 verification	√	√
SHA1 creation	√	-
SHA256 verification	√	√
SHA256 creation	√	√

Table F-4: SSH

Host key algorithm		Security strength	
		Default	High
Password verification	RSA1024 verification	-	-
	RSA1024 creation	-	-
	RSA2048 verification	√	√
	RSA2048 creation	√	√
	RSA4096 verification	-	-
	RSA4096 creation	-	-
	DSA1024 verification	√	-
	DSA1024 creation	√	-
Public key verification	RSA1024 verification	√	√
	RSA1024 creation	-	-
	RSA2048 verification	√	√
	RSA2048 creation	-	-
	RSA4096 verification	√	√
	RSA4096 creation	-	-
	DSA1024 verification	√	√
	DSA1024 creation	-	-

Key exchange algorithm	Security strength	
	Default	High
diffie-hellman-group1-sha1	√	√
diffie-hellman-group14-sha1	√	√
diffie-hellman-group-exchange-sha1	√	√
diffie-hellman-group-exchange-sha256	√	√

Cipher algorithm	Security strength	
	Default	High
3des	-	-
3des-cbc	√	√
aes128-cbc	√	√
aes192-cbc	√	√
aes256-cbc	√	√
aes128-ctr	√	√
aes192-ctr	√	√
aes256-ctr	√	√
blowfish-cbc	√	-
cast128-cbc	√	-
arcfour	√	-
arcfour128	√	-
arcfour256	√	-
rijndael-cbc@lysator.liu.se	√	-

Message authentication algorithm	Security strength	
	Default	High
hmac-md5	√	-
hmac-sha1	√	√
hmac-ripemd160	√	-
hmac-ripemd160@openssh.com	√	-
umac-64@openssh.com	√	-
hmac-sha1-96	√	√
hmac-md5-96	√	-
hmac-sha2-256	√	√
hmac-sha2-512	√	√

Table F-5: SNMP v3

Cipher algorithm	Security strength	
	Default	High
None	√	-
DES	√	-
AES128	√	√

Authentication algorithm	Security strength	
	Default	High
None	√	-
MD5	√	-
SHA1	√	√

Hitachi Data Systems

Corporate Headquarters

2845 Lafayette Street
Santa Clara, California 95050-2639
U.S.A.
www.hds.com

Regional Contact Information

Americas

+1 408 970 1000
info@hds.com

Europe, Middle East, and Africa

+44 (0) 1753 618000
info.emea@hds.com

Asia Pacific

+852 3189 7900
hds.marketing.apac@hds.com

