

# **FUJITSU Software**

# **ServerView Infrastructure Manager V2.0**

A horizontal band of abstract red and white graphic elements, featuring flowing lines and light effects, positioned between the title and the start guide text.

## **Start Guide**

CA92344-1472-01  
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# Preface

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## Purpose

This manual provides overviews of the functions and installation procedures, and explains the first steps for using FUJITSU Software ServerView Infrastructure Manager (hereafter referred to as ISM). ISM is software for simpler and more efficient operation and management of a multitude of ICT devices that are running in datacenters and server rooms.

## Related Manuals

Manual Name	Notation in this Manual	Description
FUJITSU Software ServerView Infrastructure Manager V2.0 User's Manual	ServerView Infrastructure Manager V2.0 User's Manual	This manual describes the ISM functions, the installation procedure, and methods for operation and troubleshooting. It allows you to quickly grasp all functions and all operations of ISM.
FUJITSU Software ServerView Infrastructure Manager V2.0 Start Guide	ServerView Infrastructure Manager V2.0 Start Guide	This manual describes an overview of the functions and a workflow for installing ISM. It allows you to quickly grasp the procedures for installing ISM.
FUJITSU Software ServerView Infrastructure Manager V2.0 Operating Procedures	ServerView Infrastructure Manager V2.0 Operating Procedures	This manual explains the operating procedures for the initial setup and daily operation (monitoring of nodes, server setups, installation of OSEs on servers, updating of server firmware) of ISM.
FUJITSU Software ServerView Infrastructure Manager V2.0 Glossary	ServerView Infrastructure Manager V2.0 Glossary	The glossary provides definitions of the terminology that you need to understand for using ISM.

Together with the manuals mentioned above, you can also see the latest information about ISM by accessing your local support.

For the respective hardware products for management, see the manuals of the relevant hardware.

For PRIMERGY, see "ServerView Suite ServerBooks" or the manual pages for PRIMERGY.

<http://manuals.ts.fujitsu.com>

## Intended Readers

This manual is intended for readers who consider using the product for comprehensive management and operation of such ICT equipment and possess basic knowledge about hardware, operating systems, and software.

## Notation in this Manual

### Notation

#### Keyboard

Keystrokes that represent nonprintable characters are displayed as key icons such as [Enter] or [F1]. For example, [Enter] means press key labeled "Enter"; [Ctrl]+[B] means hold down the key labeled "Ctrl" or "Control" and then press the B key.

#### Symbols

Items that require your special caution are preceded by the following symbols.



.....  
Describes the content of an important subject.  
.....



Describes an item that requires your attention.

**Variables: <xxx>**

Represents variables that require replacement by numerical values or text strings in accordance with the environment you are using.

Example: <IP address>

**Abbreviation**

You may see the following abbreviations in this manual.

Official name	Abbreviation	
Microsoft(R) Windows Server(R) 2012 R2 Datacenter	Windows Server 2012 R2 Datacenter	Windows Server 2012 R2
Microsoft(R) Windows Server(R) 2012 R2 Standard	Windows Server 2012 R2 Standard	
Microsoft(R) Windows Server(R) 2012 R2 Essentials	Windows Server 2012 R2 Essentials	
Microsoft(R) Windows Server(R) 2012 Datacenter	Windows Server 2012 Datacenter	Windows Server 2012
Microsoft(R) Windows Server(R) 2012 Standard	Windows Server 2012 Standard	
Microsoft(R) Windows Server(R) 2012 Essentials	Windows Server 2012 Essentials	
Microsoft(R) Windows Server(R) 2008 R2 Datacenter	Windows Server 2008 R2 Datacenter	Windows Server 2008 R2
Microsoft(R) Windows Server(R) 2008 R2 Enterprise	Windows Server 2008 R2 Enterprise	
Microsoft(R) Windows Server(R) 2008 R2 Standard	Windows Server 2008 R2 Standard	
Red Hat Enterprise Linux 7.2 (for Intel 64)	RHEL 7.2	Red Hat Enterprise Linux Linux
Red Hat Enterprise Linux 7.1 (for Intel 64)	RHEL 7.1	
Red Hat Enterprise Linux 6.8 (for Intel 64)	RHEL 6.8 (Intel 64)	
Red Hat Enterprise Linux 6.8 (for x86)	RHEL 6.8 (x86)	
Red Hat Enterprise Linux 6.7 (for Intel 64)	RHEL 6.7 (Intel 64)	
Red Hat Enterprise Linux 6.7 (for x86)	RHEL 6.7 (x86)	
VMware(R) vSphere(TM) ESXi 6.0	VMware ESXi 6.0	VMware ESXi
VMware(R) vSphere(TM) ESXi 5.5	VMware ESXi 5.5	

**Terms**

For the major terms and abbreviations used in this manual, see "ServerView Infrastructure Manager V2.0 Glossary".

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# Chapter 1 Overview of ServerView Infrastructure Manager

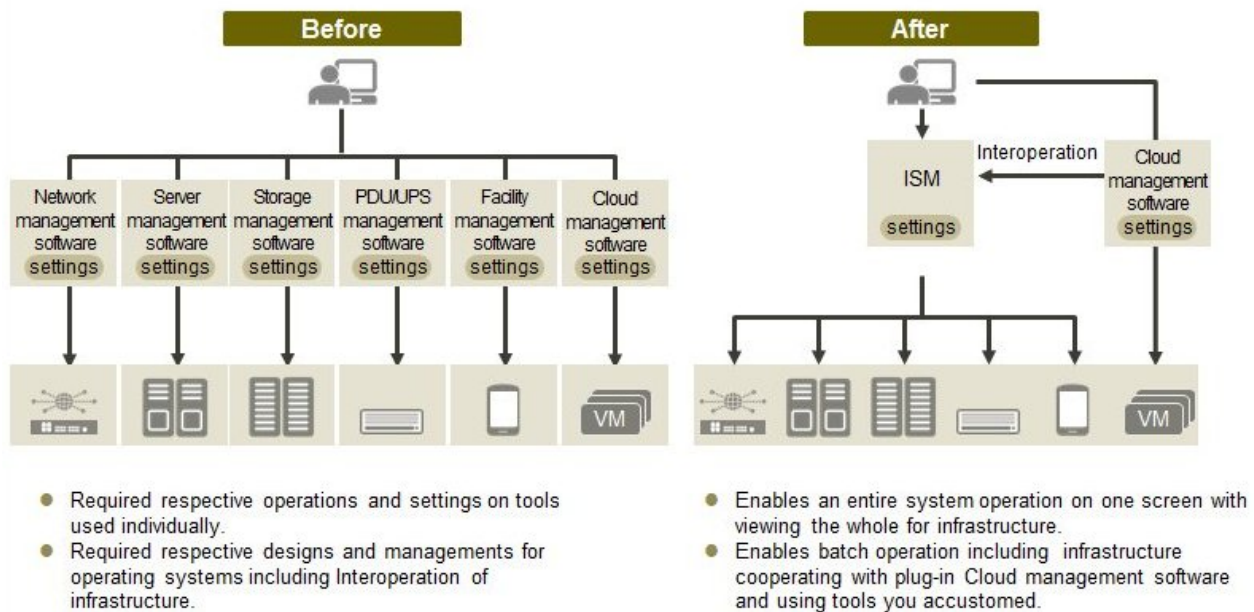
This chapter provides an overview of ServerView Infrastructure Manager.

## 1.1 Overview

ServerView Infrastructure Manager (hereafter referred to as "ISM") is software for simpler and more efficient operation and management of a multitude of ICT and facility equipment that is running in datacenters and server rooms.

We call ICT and facility equipment that is operated and managed in an ISM environment "nodes."

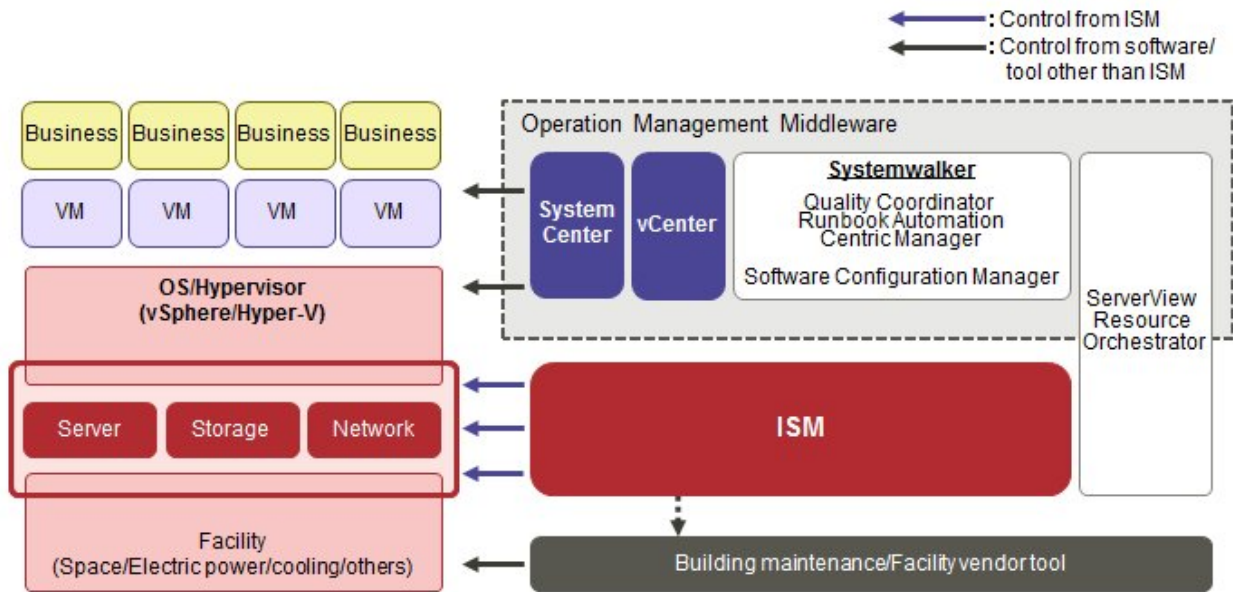
Figure 1.1 Integrated operation and management through installation of ISM



- Optimization of largely centralized operations of physical layers that reach to servers, storages, and networks
  - Collection and management of hardware assets and configuration information
  - Integration of multiple management screens into a single software suite
  - Unified firmware/BIOS update operations for servers, storages, and switches

For the latest information on managed nodes and corresponding functions, access your local support.

Figure 1.2 Working in link with other products



## 1.2 Overview of Functions

This section provides an overview of the ISM functions.

### 1.2.1 Overview of Node Manager

Node Manager is a function that carries out the following actions.

- Device information management  
Manages device information such as model names, serial numbers, and IP addresses.
- Device registration  
Registers nodes to be managed by ISM.

With this function, you can detect and register the nodes that are connected to your network, making your node registration work more efficient. Moreover, you can manage rack locations on datacenter floors, node locations within racks, as well as configurations and current statuses of nodes. By using the functions to visualize the nodes on floors (Floor View) or in racks (Rack View), you can carry out node management tasks intuitively.

For details on Node Manager, see "2.2.1 Node Manager" of the "ServerView Infrastructure Manager V2.0 User's Manual."

### 1.2.2 Overview of Monitoring

Monitoring is a function you can use for monitoring the following events.

- SNMP traps sent from nodes
- Changes in indicated "Normal" and "Error" statuses of nodes
- Whether the values for Air Inlet Temperature, CPU Utilization, and Power Consumption obtained from each node are within the normal ranges you have set in ISM

For these events, you can set up actions such as execution of user-created scripts or transmission of e-mails, and you can monitor nodes according to each user's operating method.

For details on Monitoring, see "2.2.2 Monitoring" of the "ServerView Infrastructure Manager V2.0 User's Manual."

## 1.2.3 Overview of Profile Manager

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Profile Manager is a function that carries out the following actions.

- Function for PRIMERGY servers:

This function implements batch settings for the BIOS and iRMC as well as batch installation of OSes.

- Function for network switches:

This function implements settings for switches, such as switch administrator passwords, SNMP settings, NTP settings, and so on.

- Function for ETERNUS storages:

This function implements configuration of RAID groups, volumes, hot spares as well as Affinity settings.

To make node settings or install an OS, implement the following procedure:

1. Create a settings definition file called "profile" in ISM.
2. Apply the profile to a node.

For effective use of profiles, ISM also provides auxiliary functions such as the "Policy Function," "Group Management," and "Export/Import."

For details on Profile Manager, see "2.2.3 Profile Manager" of the "ServerView Infrastructure Manager V2.0 User's Manual."

## 1.2.4 Overview of Log Manager

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Log Manager is a function that is mainly used for the following purposes:

- Periodical collection of logs according to a schedule you set in advance, separately for each node
- Collection of hardware logs and operating system logs from nodes at any time as needed
- Download and utilization of collected logs
- Lookup and keyword search on a GUI screen

For details on Log Manager, see "2.2.5 Log Manager" of the "ServerView Infrastructure Manager V2.0 User's Manual."

## 1.2.5 Overview of Firmware Manager

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Firmware Manager is a function that is mainly used for the following purposes:

- Checking of currently applied firmware versions that are acquired from each node on the screen
- Updating of node firmware to any version as needed (can also be implemented simultaneously for multiple nodes)
- Lookup of Readme files attached to firmware data and of update history and similar files on ISM screen

These features allow for a centralized management of firmware versions.

Note that, whenever you are going to update the firmware, you have to download the firmware data to be applied from the web or another source in advance and then import it to ISM-VA.

For details on Firmware Manager, see "2.2.4 Firmware Manager" of the "ServerView Infrastructure Manager V2.0 User's Manual."

## 1.2.6 Overview of Network Manager

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Network Manager is a function that is mainly used for the following purposes:

- Checking of network connection statuses among multiple nodes in a connection diagram (Network Map) on the screen
- Checking of changed locations on the screen whenever there is a status change in network connections
- Checking of VLAN and Link Aggregation (LAG) settings for network switches

For details on Network Manager, see "2.2.6 Network Manager" of the "ServerView Infrastructure Manager V2.0 User's Manual."



# 1.3 ISM Functions and Scenarios of Infrastructure Operation and Management

This section describes the major functions of ISM, separately for each scenario of use.

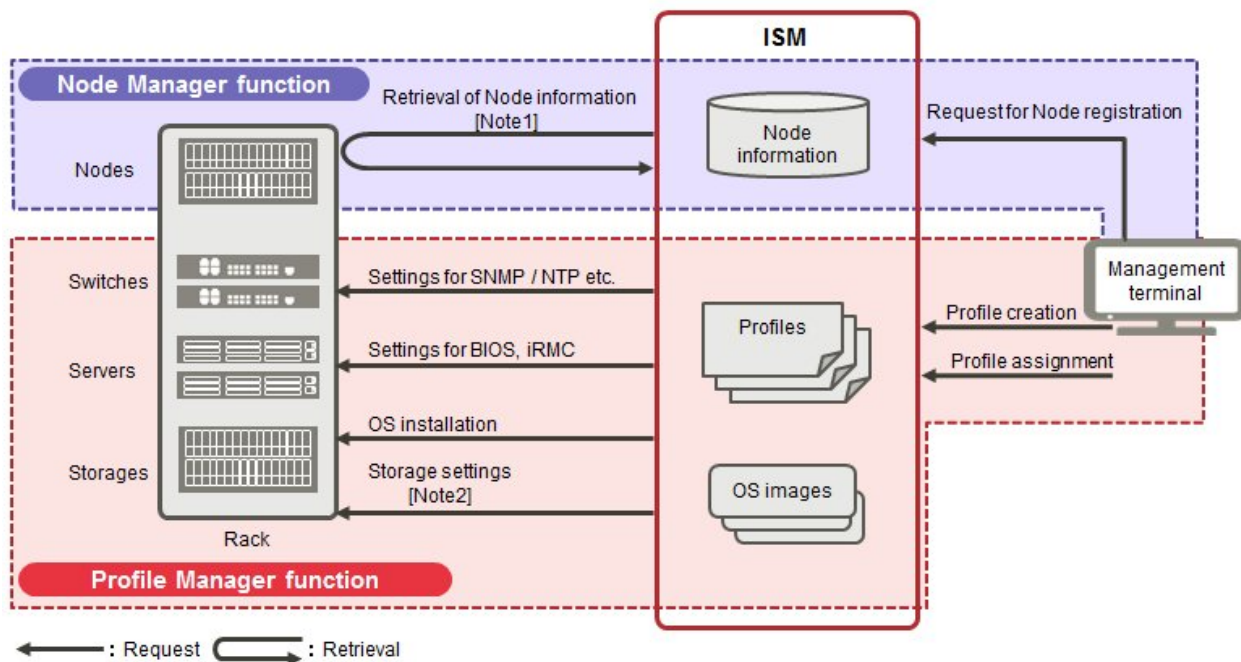
ISM function	Scenario of operation and management		
	System configuration	Monitoring operations for managed nodes	Maintenance of managed nodes
Node Manager	Y	Y	-
Monitoring	-	Y	-
Profile Manager	Y	-	-
Log Manager	-	Y	Y
Firmware Manager	-	-	Y
Network Manager	-	-	Y

## 1.3.1 Images of ISM Functions for Each Scenario of Infrastructure Operation and Management

### (1) System configuration

In the scenario for first-time installation and addition of ICT devices, you can configure systems by effectively using the Node Manager and Profile Manager functions.

Figure 1.3 Image of functions: system configuration



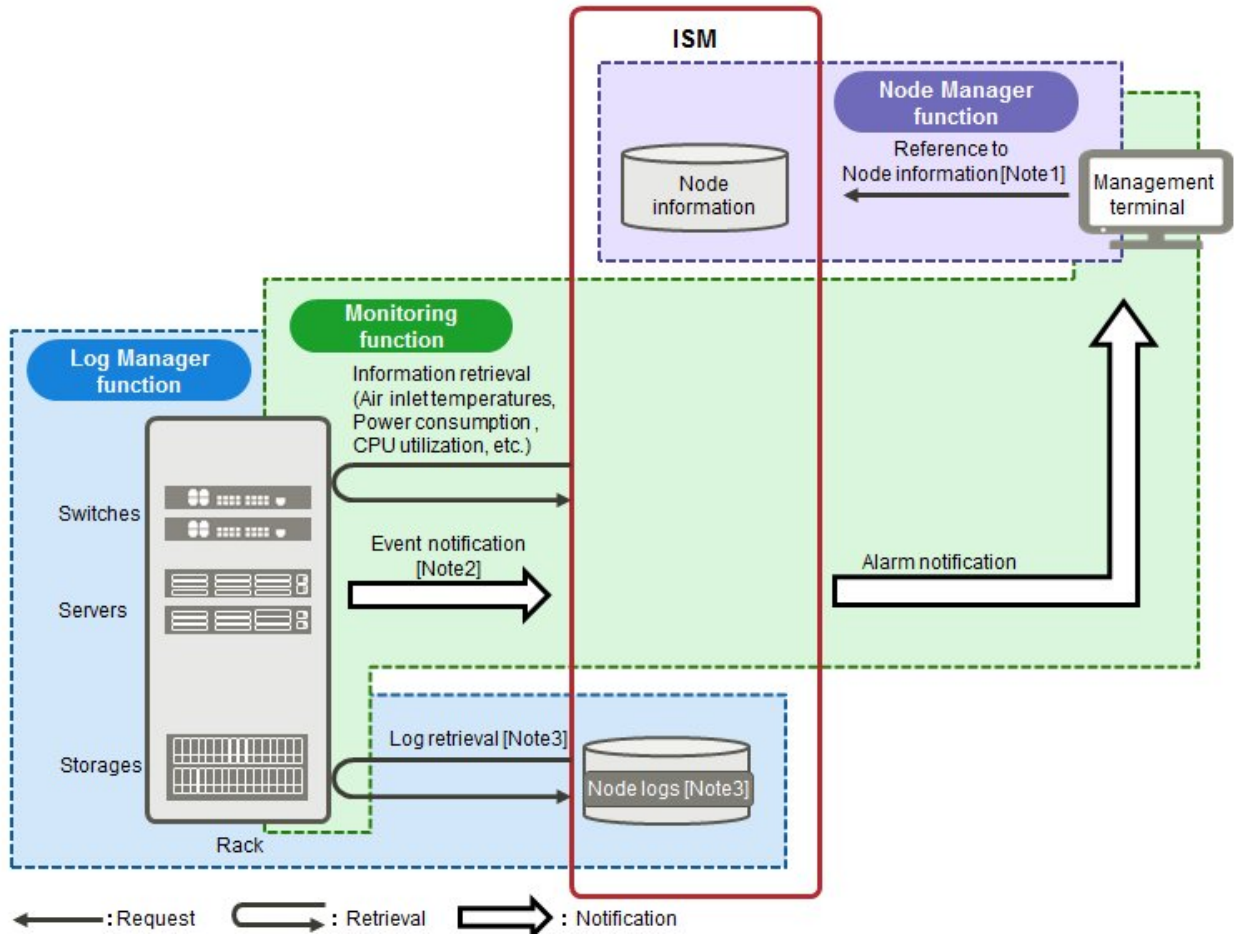
[Note 1] Model names, serial numbers, IP addresses, and similar hardware information

[Note 2] RAID group, volume, hot spare, and Affinity settings

### (2) Monitoring operations for managed nodes

In the scenario for monitoring operations for managed nodes, you can carry out monitoring operations for managed nodes by effectively using the Node Manager, Monitoring, and Log Manager functions.

Figure 1.4 Image of functions: monitoring operations for managed nodes



[Note 1] Model names, serial numbers, IP addresses, installation positions in racks, and similar hardware information

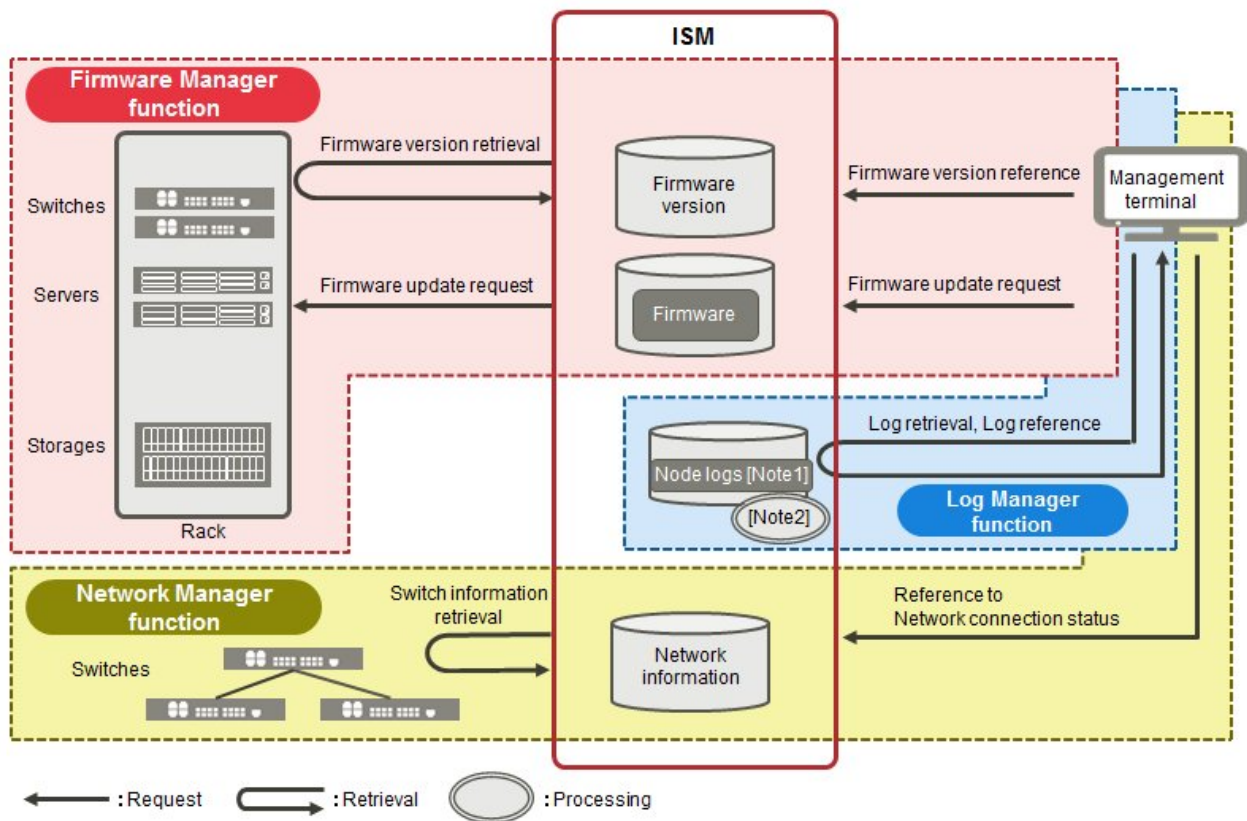
[Note 2] SNMP traps

[Note 3] Hardware logs and operating system logs

### (3) Maintenance of managed nodes

In the scenario for maintenance of managed nodes, you can carry out maintenance of managed nodes by effectively using the Log Manager, Firmware Manager, and Network Manager functions.

Figure 1.5 Image of functions: maintenance of managed nodes



[Note 1] Hardware logs and operating system logs

[Note 2] Processing of log searches

# Chapter 2 System Configuration

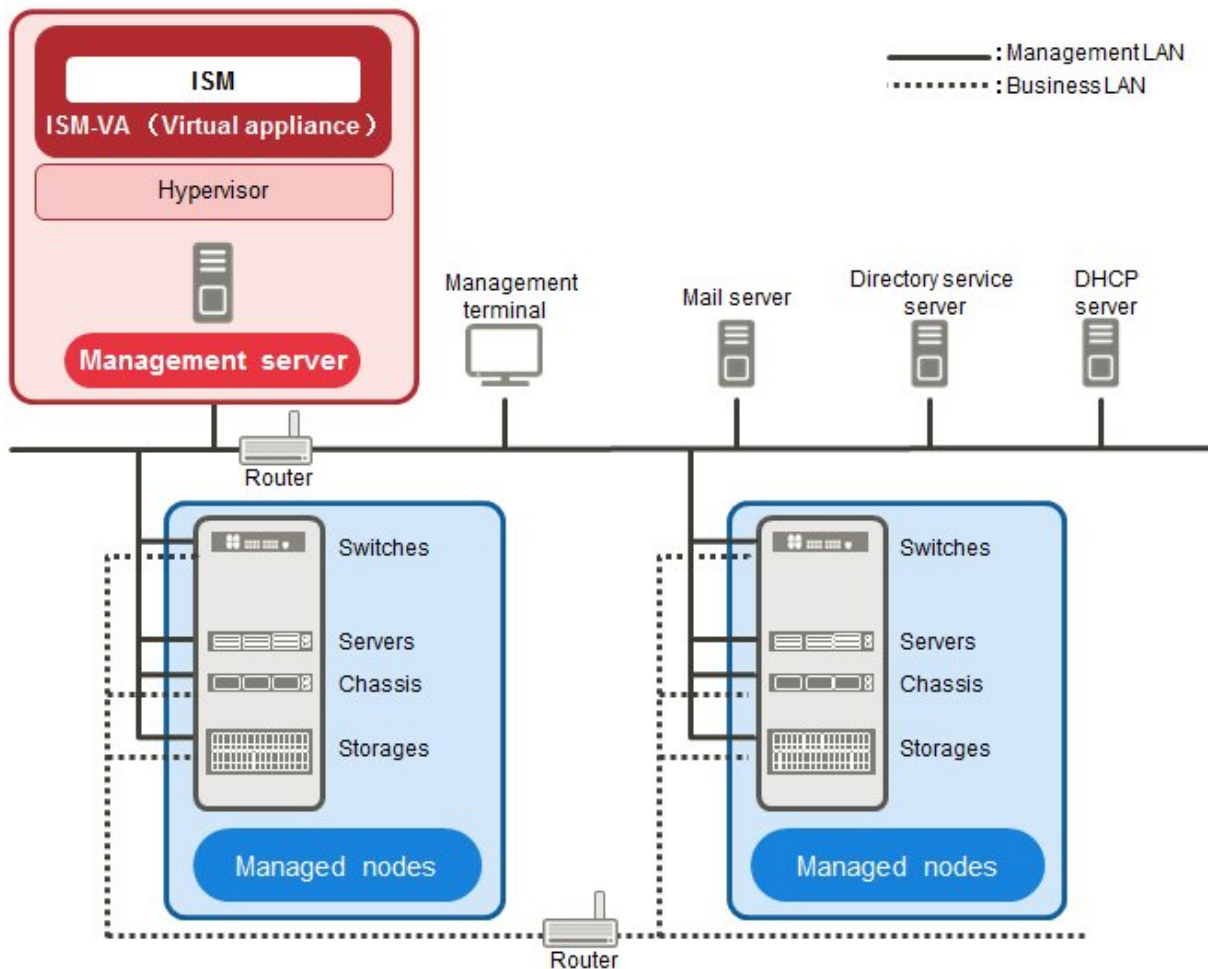
This chapter describes the network configuration and system requirements for operating ISM.

## 2.1 Overview of Network Configuration

In principle, ISM runs on a server that is separate from the servers to be managed. This manual calls devices that are being managed as "nodes" (or "managed nodes"), and to servers on which ISM is running as "management servers." The management server and nodes are connected via LAN.

You can define only one network interface for ISM. If you are going to configure multiple networks, configure the router to enable communication between the networks.

Figure 2.1 Network configuration



Device and function		Description
Network	Management LAN	LAN used for communicating with the managed nodes so ISM can monitor and control these nodes and transfer data. To ensure security, an isolated connection environment is recommended. Since ISM does not support IPv6, please use it with IPv4.
	Business LAN	LAN used for transferring business data between servers and clients. This does not connect to management servers.

Device and function		Description
Management server	ServerView Infrastructure Manager (ISM)	This software. ISM is provided as a virtual appliance into which the software serving as the operating platform is packaged for virtual machines. After installing ISM on a virtual machine, you can control it over a hypervisor console or an SSH client.
Management terminal		Personal computer or tablet that is used for operating ISM through the management LAN.
Managed nodes	Switch	Node that is an object of status monitoring and control by ISM.
	Storage	
	Server (Managed server)	Node that is an object of status monitoring and control by ISM. BMC (iRMC) and onboard LAN interface have to be connected to the management LAN.
Related servers	Mail server	Server that is used for sending e-mails about errors and status changes on managed nodes.
	Directory service (OpenLDAP) server	Connect this only to environments that use directory services.
	DHCP server	This is required only if you are going to install OSES with Profile Manager. In order to enable PXE boots on the node (server) on which an OS is being installed, you should make the settings for the DHCP server to lease appropriate IPv4 addresses to nodes.

For details on designing network configurations and detailed information, access your local support.

## 2.2 System Requirements

This section explains the system requirements for ISM-VA (virtual machines) and management terminals that serve as operating environments for ISM.

### 2.2.1 System Requirements for ISM-VA (Virtual Machines)

The system requirements for virtual machines to run ISM-VA are as follows.

Item	Description
Number of CPU cores	2 cores or more [Note 1]
Memory capacity	8 GB or more [Note 1]
Free disk space	35 GB or more [Note 2] [Note 3]
Network	1 Gbps or higher
Hypervisor	Windows Server 2012/2012R2 VMware ESXi 5.5/6.0 Red Hat Enterprise Linux KVM

[Note 1] The required number of cores and memory capacity depend on the number of nodes to be managed.

Number of nodes	Number of CPU cores	Memory capacity
1 to 100	2	8 GB
101 to 400	4	8 GB
401 to 1000	8	12 GB

[Note 2] This is the minimum disk capacity required for monitoring approximately 100 nodes. The disk space needs to be estimated depending on the number of nodes to be managed and the ISM functions to be used. For information on estimating the disk capacity, see "3.2.1 Estimation of Disk Resources" of the "ServerView Infrastructure Manager V2.0 User's Manual."

[Note 3] For backing up ISM-VA, a management server with free disk space equivalent to or larger than that of ISM-VA is required.

For the latest information on supported hypervisors, access your local support.

## 2.2.2 System Requirements for Management Terminals

### System requirements for GUI (browser)

The system requirements for management terminals to run the GUI of ISM are as follows.

Item	Description
Device	PC, server, iPad, Android tablet
Display	<ul style="list-style-type: none"> <li>- Personal computer and server: 1280 x 768 pixels or more</li> </ul> <p>The window size of your browser for displaying the GUI of ISM must be at least 1280 x 768 pixels.</p> <ul style="list-style-type: none"> <li>- Tablet: display mounted to devices stated above</li> </ul>
Network	100 Mbps or higher
Web browser	<ul style="list-style-type: none"> <li>- PC and server: <ul style="list-style-type: none"> <li>- Internet Explorer</li> </ul> <p>In order to display the "3D View" screen, update version (11.0.15 or higher) must be applied.</p> <ul style="list-style-type: none"> <li>- Microsoft Edge</li> <li>- Mozilla Firefox</li> <li>- Google Chrome</li> </ul> </li> <li>- iPad: Safari 8</li> <li>- Android tablet: Google Chrome</li> </ul>
Related software	Acrobat Reader (for viewing manuals)

For the latest information on supported devices and web browsers, access your local support.

### System requirements for management terminals for file transfer

The system requirements for management terminals to carry out file transfers with ISM-VA, such as of data required for setting up managed nodes or of ISM logs, are as follows.

Item	Description
Device	PC or server
Free disk space	8 GB or more (equivalent to one DVD)
Network	100 Mbps or higher
Required software	FTP client software
Related software	SSH client software

# Chapter 3 Workflow for Installation and Configuration

This chapter provides an overview of the work involved from installing ISM to registering nodes.

## (1) Installation Design

When you are going to install ISM, you have to perform the following tasks in preparation.

- Estimation of disk resources
- Repository settings
- Configuration of network
- Setting node names and profile names

For information on the contents of these tasks, see "3.2 Installation Design for ISM" of the "ServerView Infrastructure Manager V2.0 User's Manual."

## (2) Installing ISM-VA

Install ISM-VA on a management server.

For information on the installation procedure, see "3.3 Installing ISM-VA" of the "ServerView Infrastructure Manager V2.0 User's Manual."

## (3) Setup of ISM-VA Environment

Set up the operating environment in which you installed ISM-VA.

For information on the contents of the environment setup procedure, see "3.4 Environment Settings for ISM-VA" of the "ServerView Infrastructure Manager V2.0 User's Manual."

## (4) Registration of License

Register the license that is required for using ISM.

For information on the tasks necessary to register the license, see "3.5 Registration of Licenses" of the "ServerView Infrastructure Manager V2.0 User's Manual."

## (5) Registration of Users

Register the ISM users.

For information on the tasks necessary to register users, see "3.6 Registration of Users" of the "ServerView Infrastructure Manager V2.0 User's Manual."

## (6) Allocation of Virtual Disks

Allocate virtual disks in order to expand the disk capacities of ISM-VA.

For information on the tasks necessary to expand the disk capacities of ISM-VA, see "3.7 Allocation of Virtual Disks" of the "ServerView Infrastructure Manager V2.0 User's Manual."

# Chapter 4 Operation of ISM

This chapter explains the methods to operate ISM.

## 4.1 Startup of ISM GUI

ISM provides a GUI that can be operated over web browsers.

For details on the GUI of ISM, see ISM Help.



### Point

- In your browser, it is necessary to enable cookies and JavaScript.
- If you are using Firefox, it is necessary to register the server certificate in the browser.
  1. Open Firefox and, from the menu, select [Options].
  2. Select [Advanced] and click [Certificates].
  3. Click [View Certificates].
  4. On the [Servers] tab, click [Add Exception].
  5. Under [Location], enter "https://<IP address of ISM server> or <FQDN name of ISM server>:25566/", and then click [Get Certificate].
  6. Confirm that the [Permanently store this exception] checkbox is checked, and then click [Confirm Security Exception].
- If you are using Internet Explorer, the following settings are required.
  1. Open Internet Explorer and, from the menu, select [Tools] - [Internet options].
  2. On the [Security] tab, click the [Custom level] button and select [Enable] for the following items before you click the [OK] button.
    - [Run ActiveX controls and plug-ins] under [ActiveX controls and plug-ins]
    - [File download] under [Downloads]
    - [Font download] under [Downloads]
  3. On the [Advanced] tab, under [Multimedia], select the "Play animations in web pages" checkbox and click the [OK] button.
- In order to display the "3D View" screen in Internet Explorer 11, Microsoft's technical support information (hereafter referred to as "KB") 2991001 must be applied. The "3D View" screen is a GUI that displays floors, racks, and device locations within racks as three-dimensional images.

<https://support.microsoft.com/en-us/kb/2991001>

If the "3D View" screen does not display the racks, apply Microsoft's security update MS14-051, which also includes KB 2991001. For details, see the following website:

<https://technet.microsoft.com/en-us/library/security/MS14-051>

- If you are using Google Chrome, depending on the hardware capabilities of your terminal and your graphics driver, the WebGL function (for displaying 3D graphics in browsers) may be disabled. If the WebGL function is disabled, you cannot display the "3D View" screen.

You can use the following procedure to check whether the WebGL function is enabled or disabled.

1. Open Google Chrome and enter "chrome://gpu" into the address bar.
2. If, under [Graphics Feature Status], [Hardware accelerated] is displayed for [WebGL], the WebGL function is enabled, otherwise it is disabled.

The procedure for starting up the ISM GUI is as follows.



1. Start a browser and enter the following URL:

`https://<IP address of ISM server> or <FQDN name of ISM server>:25566/`

2. When the login screen is displayed, enter your user name and password, and then click the [Login] button.



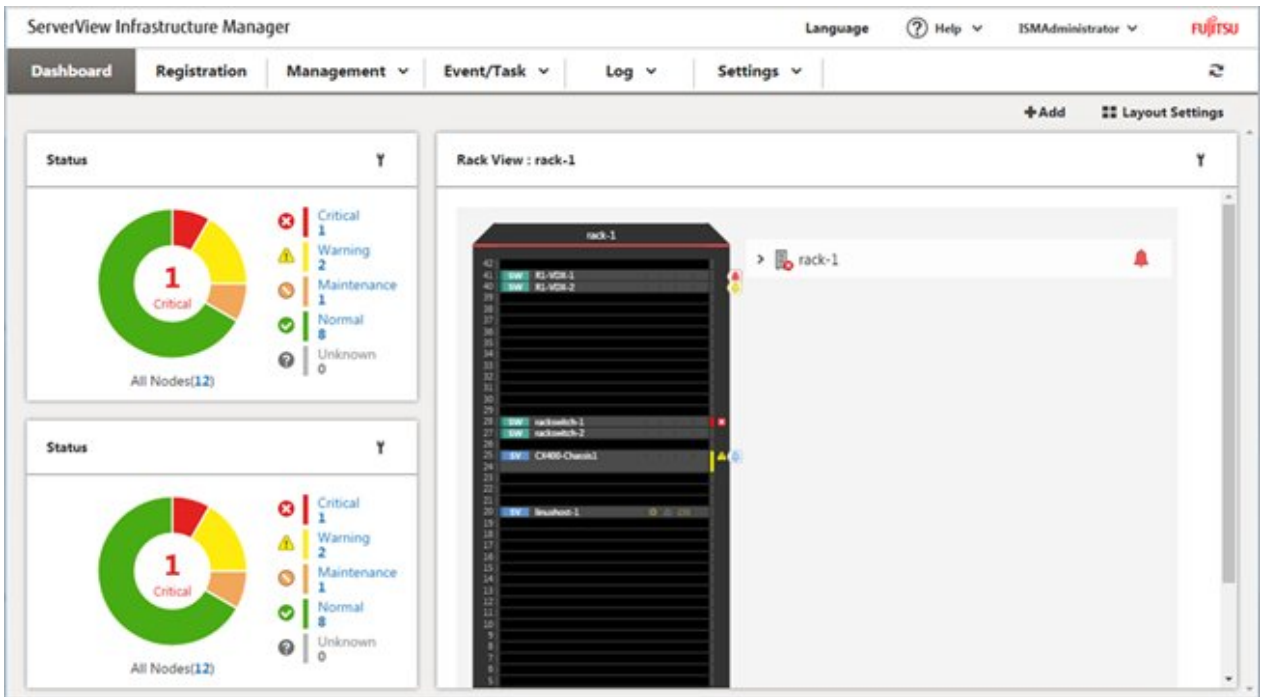
If a warning for the security certificate is displayed, see "4.6 Certificate Activation" of the "ServerView Infrastructure Manager V2.0 User's Manual" and activate the certificate.

**Point**

When you log in for the first time, use the following user name and password. After logging in with this user name, change the password for the default user and create new users before you continue operations.

- User Name: administrator
- Password: admin

If your login is successful, a dashboard screen is displayed.

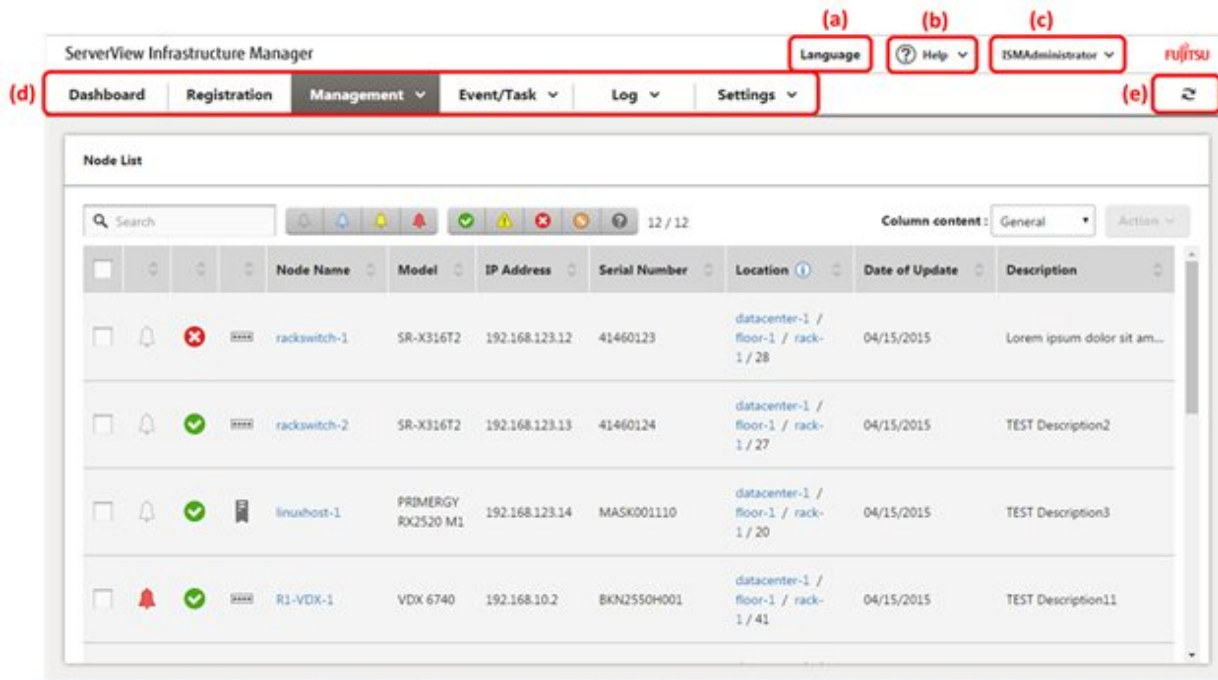




In order to log out, click on the Login User Name that is displayed in the top right corner of the screen.



The structure of ISM's GUI screen is as follows.



(a) Language

You can change the settings for the displayed Language, Date Format and Time Zone on the GUI.

(b) Help

You can access help and guidance information.

(c) User Name

You can view the user name by which you are logged in.

In order to log out from ISM, place the mouse pointer on the user name and click [Log out].

(d) Global Navigation menu

This menu serves to access the various screens of ISM.

(e) Refresh button

Clicking this button refreshes the entire screen.

The GUI screens of ISM are not updated automatically as long as you stay on the same screen. (However, when you move to another screen, the latest information is retrieved again from the server.)

Therefore, to check the latest information, you have to click the [Refresh] button to update the screen.

## **4.2 Basic Operation of ISM**

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For the basic procedures for operating ISM, see "ServerView Infrastructure Manager V2.0 Operating Procedures."

# Chapter 5 Precautions

## Timing of completing OS installation

The status after completing profile assignment varies with the OS type and the OS settings. Likewise, the timing for executing optional scripts as specified by profiles also varies with the OS type.

OS type and settings	Status after completing profile assignment to OS	Timing for executing optional scripts
Windows	EULA screen during OS installation	At first login after accepting EULA and completing license input
Linux	Login prompt after OS has completely booted	First login prompt (execution completed)
X Window enabled in RHEL7	Last setting screen during OS installation	When OS login prompt is displayed after completing last settings
VMware ESXi (IP addresses are fix)	When network communication has become available after OS has completely booted	During OS installation (execution completed)
VMware ESXi (IP addresses are set by DHCP)	After completing OS installation and reboot	During OS installation (execution completed)

## Precautions on using paid support service (SupportDesk Standard) for Red Hat Enterprise Linux (Only for Japanese market)

In order to engage in an agreement for a paid support service and to receive such support, your system configuration needs to fulfill some requirements.

When you use ISM's Profile function to automatically install Red Hat Enterprise Linux, the "Fujitsu Linux Support Package (FJ-LSP)" required for support is not applied, and no memory dump settings are made. Make any necessary settings manually after installation.

For details on setting contents and methods, refer to the Linux user's manual for SupportDesk service subscribers.

## Using automatic data collection by Log Manager

ISM can periodically collect logs according to a schedule you set in advance. If you use this feature, however, you should take note of the following points:

- Logs are not collected by merely registering a node. You have to set the type of log to be collected and the schedule separately for each node.
- If there is any mistake in the node settings or in the settings within ISM, logs cannot be properly collected. After making the respective settings, implement a manual log collection to check that the log files are accumulated correctly and that there is no log collection error recorded in the ISM event log.
- An upper limit is set for the total file size of logs that can be collected. As soon as the log capacity reaches 80% of the upper limit, this is recorded as a warning event in ISM. In such a case, delete logs that are no longer needed in order to reduce the amount of files. On reaching the upper limit, no more logs are saved.
- There is a set period/frequency for retaining collected logs, separately for each node. Old logs are automatically deleted when the set period/frequency is exceeded. When you use the log collection function, change this setting to a value that is appropriate for you.

## Display on the Network Map ([Management] - [Network Map])

Network devices of the CNA type have a logical port splitting function. If you have this logical splitting function enabled, the physical status of the [Logical Splitting Source] port is displayed as "?" on the Network Map. In such a case, refer to [Logical Splitting Destination] for the port status.