

ServerView Resource Orchestrator Cloud Edition V3.1.0



User's Guide for Tenant Administrators

Windows/Linux

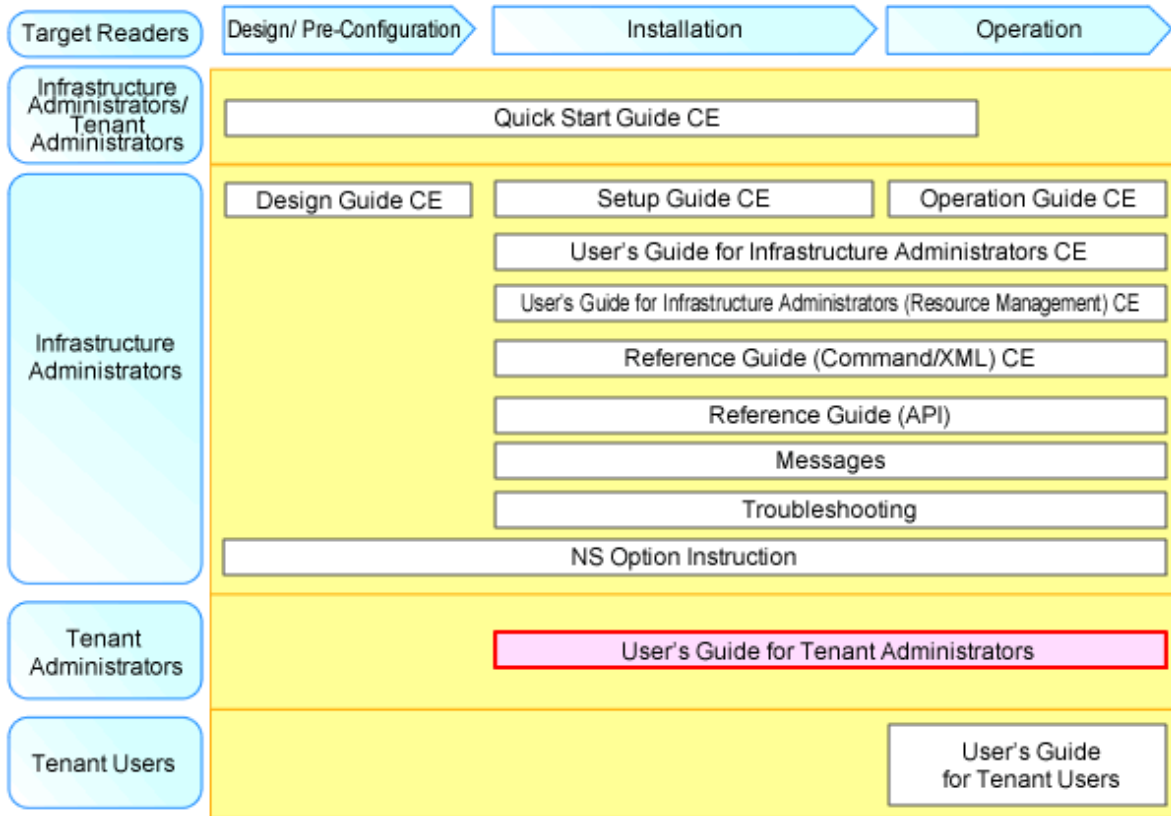
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July 2012

Preface

Resource Orchestrator Documentation Road Map

The documentation road map for Resource Orchestrator is as shown below.

Resource Orchestrator Documentation Road Map



Point

Refer to the user role manuals displayed in the table below for roles that are not in the diagram.

Roles that are not in the diagram	Roles that are in the diagram
Infrastructure operator Infrastructure monitor	Infrastructure administrator
Tenant operator Tenant monitor	Tenant administrator
(Dual-Role) Administrator (Dual-Role) Operator (Dual-Role) Monitor	Infrastructure administrator and Tenant administrator

For information about the documents for Resource Orchestrator, please refer to "Chapter 1 Documentation Road Map" in the "Design Guide CE".

Purpose

This manual provides an outline of ServerView Resource Orchestrator (hereinafter Resource Orchestrator) and the operations and settings required for setup.

Target Readers

This document is intended for Tenant Administrator who display and operate the L-Platforms of the tenants they own, manage user information, or use the operation status to monitor resources.

It is assumed that these users have a general knowledge of server virtualization software products and directory services such as Active Directory and LDAP.

Organization

This manual is composed as follows:

[Chapter 1 Overview](#)

Explains an overview of the ROR Console

[Chapter 2 Login and Logout](#)

Explains how to log in and out of the ROR console.

[Chapter 3 Home](#)

Explains the ROR Console Home window display.

[Chapter 4 Dashboard \(Pool Conditions\)](#)

Explains how to use pool conditions operations

[Chapter 5 Dashboard \(System Conditions\)](#)

Explains how to monitor system conditions

[Chapter 6 Dashboard \(Capacity Planning\)](#)

Explains how to operate capacity planning.

[Chapter 7 Template](#)

Explains how to create and manage L-Platform templates

[Chapter 8 L-Platform](#)

Explains how to use the L-Platform

[Chapter 9 Request](#)

Explains how to operate the application list

[Chapter 10 Tenant](#)

Explains how to manage tenants

[Chapter 11 Accounting](#)

Explains how to operate the usage charge.

[Chapter 12 Account](#)

Explains how to perform account operations

[Glossary](#)

Explains the terms used in this manual. Please refer to it when necessary.

Notational Conventions

The notation in this manual conforms to the following conventions.

- When using Resource Orchestrator and the functions necessary differ due to the necessary basic software (OS), it is indicated as follows:

[Windows Manager]	Sections related to Windows manager
[Linux Manager]	Sections related to Linux manager
[Windows]	Sections related to Windows (When not using Hyper-V)
[Linux]	Sections related to Linux
[Solaris]	Sections related to Solaris or Solaris Containers
[VMware]	Sections related to VMware
[Hyper-V]	Sections related to Hyper-V
[Xen]	Sections related to RHEL5-Xen
[KVM]	Sections related to RHEL-KVM
[Solaris Containers]	Sections related to Solaris containers
[Oracle VM]	Sections related to Oracle VM
[Physical Servers]	Sections related to physical servers
[VM host]	Sections related to Windows Server 2008 with VMware or Hyper-V enabled

- Unless specified otherwise, the blade servers mentioned in this manual refer to PRIMERGY BX servers.
- References and character strings or values requiring emphasis are indicated using double quotes (").
- Window names, dialog names, menu names, and tab names are shown enclosed by brackets ([]).
- Button names are shown enclosed by angle brackets (< >) or square brackets ([]).
- The order of selecting menus is indicated using []-[] .
- Text to be entered by the user is indicated using bold text.
- Variables are indicated using italic text and underscores.
- The ellipses ("...") in menu names, indicating settings and operation window startup, are not shown.
- The ">" used in Windows is included in usage examples. When using Linux, read ">" as meaning "#".
- The URLs in this manual were correct when the manual was written.

Menus in the ROR console

Operations on the ROR console can be performed using either the menu bar or pop-up menus. By convention, procedures described in this manual only refer to pop-up menus.

Abbreviations

The following abbreviations are used in this manual:

Abbreviation	Products
Windows	Microsoft(R) Windows Server(R) 2008 Standard Microsoft(R) Windows Server(R) 2008 Enterprise Microsoft(R) Windows Server(R) 2008 R2 Standard Microsoft(R) Windows Server(R) 2008 R2 Enterprise Microsoft(R) Windows Server(R) 2008 R2 Datacenter Microsoft(R) Windows Server(R) 2003 R2, Standard Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise Edition Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition

Abbreviation	Products
	Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition Windows(R) 7 Professional Windows(R) 7 Ultimate Windows Vista(R) Business Windows Vista(R) Enterprise Windows Vista(R) Ultimate Microsoft(R) Windows(R) XP Professional operating system
Windows Server 2008	Microsoft(R) Windows Server(R) 2008 Standard Microsoft(R) Windows Server(R) 2008 Enterprise Microsoft(R) Windows Server(R) 2008 R2 Standard Microsoft(R) Windows Server(R) 2008 R2 Enterprise Microsoft(R) Windows Server(R) 2008 R2 Datacenter
Windows 2008 x86 Edition	Microsoft(R) Windows Server(R) 2008 Standard (x86) Microsoft(R) Windows Server(R) 2008 Enterprise (x86)
Windows 2008 x64 Edition	Microsoft(R) Windows Server(R) 2008 Standard (x64) Microsoft(R) Windows Server(R) 2008 Enterprise (x64)
Windows Server 2003	Microsoft(R) Windows Server(R) 2003 R2, Standard Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise Edition Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition
Windows 2003 x64 Edition	Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition
Windows 7	Windows(R) 7 Professional Windows(R) 7 Ultimate
Windows Vista	Windows Vista(R) Business Windows Vista(R) Enterprise Windows Vista(R) Ultimate
Windows XP	Microsoft(R) Windows(R) XP Professional operating system
Linux	Red Hat(R) Enterprise Linux(R) 5 (for x86) Red Hat(R) Enterprise Linux(R) 5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.1 (for x86) Red Hat(R) Enterprise Linux(R) 5.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.2 (for x86) Red Hat(R) Enterprise Linux(R) 5.2 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.3 (for x86) Red Hat(R) Enterprise Linux(R) 5.3 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.5 (for x86) Red Hat(R) Enterprise Linux(R) 5.5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.6 (for x86) Red Hat(R) Enterprise Linux(R) 5.6 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.7 (for x86) Red Hat(R) Enterprise Linux(R) 5.7 (for Intel64) Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64) SUSE(R) Linux Enterprise Server 11 for x86 SUSE(R) Linux Enterprise Server 11 for EM64T
Red Hat Enterprise Linux	Red Hat(R) Enterprise Linux(R) 5 (for x86) Red Hat(R) Enterprise Linux(R) 5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.1 (for x86) Red Hat(R) Enterprise Linux(R) 5.1 (for Intel64)

Abbreviation	Products
	Red Hat(R) Enterprise Linux(R) 5.2 (for x86) Red Hat(R) Enterprise Linux(R) 5.2 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.3 (for x86) Red Hat(R) Enterprise Linux(R) 5.3 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.5 (for x86) Red Hat(R) Enterprise Linux(R) 5.5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.6 (for x86) Red Hat(R) Enterprise Linux(R) 5.6 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.7 (for x86) Red Hat(R) Enterprise Linux(R) 5.7 (for Intel64) Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64)
Red Hat Enterprise Linux 5	Red Hat(R) Enterprise Linux(R) 5 (for x86) Red Hat(R) Enterprise Linux(R) 5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.1 (for x86) Red Hat(R) Enterprise Linux(R) 5.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.2 (for x86) Red Hat(R) Enterprise Linux(R) 5.2 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.3 (for x86) Red Hat(R) Enterprise Linux(R) 5.3 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.5 (for x86) Red Hat(R) Enterprise Linux(R) 5.5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.6 (for x86) Red Hat(R) Enterprise Linux(R) 5.6 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.7 (for x86) Red Hat(R) Enterprise Linux(R) 5.7 (for Intel64)
Red Hat Enterprise Linux 6	Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64)
RHEL5-Xen	Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Linux Virtual Machine Function Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Linux Virtual Machine Function
RHEL-KVM	Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Virtual Machine Function Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64) Virtual Machine Function
DOS	Microsoft(R) MS-DOS(R) operating system, DR DOS(R)
SUSE Linux Enterprise Server	SUSE(R) Linux Enterprise Server 11 for x86 SUSE(R) Linux Enterprise Server 11 for EM64T
Oracle VM	Oracle VM Server for x86
ESC	ETERNUS SF Storage Cruiser
GLS	PRIMECLUSTER GLS
Navisphere	EMC Navisphere Manager
Solutions Enabler	EMC Solutions Enabler
MSFC	Microsoft Failover Cluster
SCVMM	System Center Virtual Machine Manager 2008 R2 System Center 2012 Virtual Machine Manager
VMware	VMware vSphere(R) 4 VMware vSphere(R) 4.1 VMware vSphere(R) 5

Abbreviation	Products
VMware ESX	VMware(R) ESX(R)
VMware ESX 4	VMware(R) ESX(R) 4
VMware ESXi	VMware(R) ESXi(TM)
VMware ESXi 5.0	VMware(R) ESXi(TM) 5.0
VMware Tools	VMware(R) Tools
VMware vSphere 4.0	VMware vSphere(R) 4.0
VMware vSphere 4.1	VMware vSphere(R) 4.1
VMware vSphere 5	VMware vSphere(R) 5
VMware vSphere Client	VMware vSphere(R) Client
VMware vCenter Server	VMware(R) vCenter(TM) Server
VMware vClient	VMware(R) vClient(TM)
VMware FT	VMware(R) Fault Tolerance
VMware DRS	VMware(R) Distributed Resource Scheduler
VMware DPM	VMware(R) Distributed Power Management
VMware vDS	VMware(R) vNetwork Distributed Switch
VMware Storage VMotion	VMware(R) Storage VMotion
VIOM	ServerView Virtual-IO Manager
ServerView Agent	ServerView SNMP Agents for MS Windows (32bit-64bit) ServerView Agents Linux ServerView Agents VMware for VMware ESX Server
RCVE	ServerView Resource Coordinator VE
ROR	ServerView Resource Orchestrator
ROR VE	ServerView Resource Orchestrator Virtual Edition
ROR CE	ServerView Resource Orchestrator Cloud Edition
Resource Coordinator	Systemwalker Resource Coordinator Systemwalker Resource Coordinator Virtual server Edition

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Chapter 1 Overview

This chapter explains the ROR Console.

1.1 Function List

This section explains the functions provided by ROR Console.

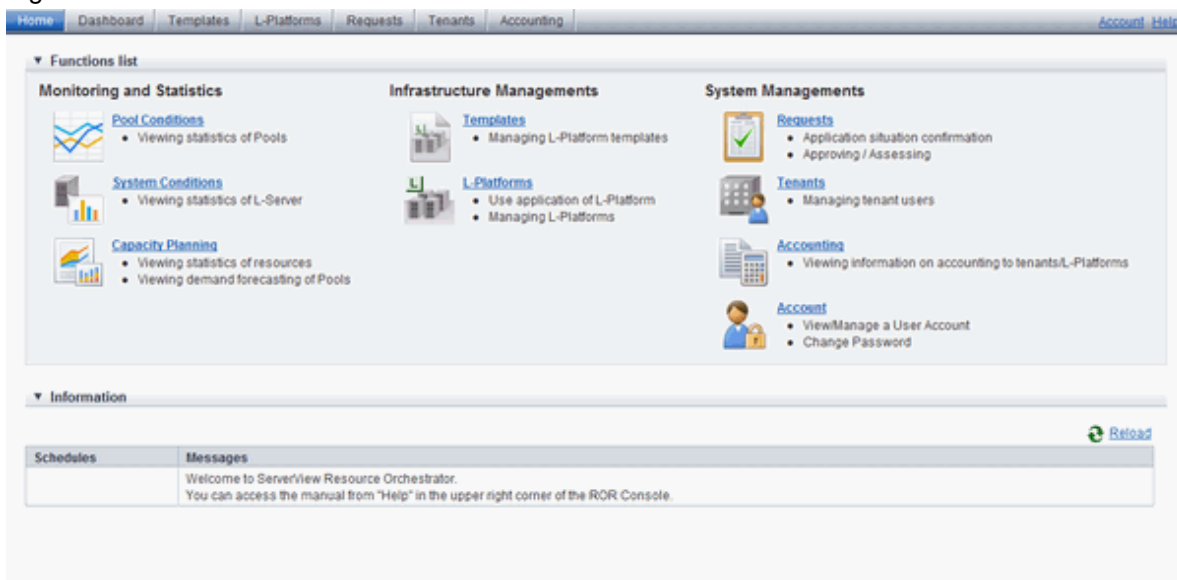
ROR Console has two parts: "operation windows for tenant administrators and tenant users" and "operation windows for infrastructure administrators".

Windows intended for Tenant Administrators and tenant users are provided for L-Platform and user information operations. These windows are configured by Tenant Administrators themselves, and have been provided to reduce the Infrastructure Administrator workload.

Operation windows and dashboard windows intended for Infrastructure Administrators are also provided for L-Platform and user information operations. These windows are provided to enable Infrastructure Administrators to display and operate all L-Platform and tenant information and to access important information quickly.

The ROR Console displays are customized for the user's role, to provide appropriate functions to each user. For example, tabs that the current user cannot operate are not displayed.

Figure 1.1 ROR Console



The table below shows the functions provided by the ROR Console.

These functions correspond to the tabs displayed at the top of the ROR Console.

Function	Overview	Tenant Administrator	Tenant user
Home	The window displayed immediately after login to the ROR Console. A function list and notifications are displayed.	Yes	Yes
Dashboard(Pool Conditions)	Displays the resource pool usage status	Yes	No
Dashboard (System Conditions)	Displays L-Server performance information and configuration information	Yes	Yes

Function	Overview	Tenant Administrator	Tenant user
Dashboard(Capacity Planning)	Displays the demand for resource pools and perform simulations of VM guest reallocations.	Yes	Yes
Template	A window for managing L-Platform Templates	Yes	No
L-Platform	A window for managing L-Platform	Yes	Yes
Request	A window for assessing and approving L-Platform usage applications and other applications from tenant users	Yes	Yes
Accounting	Usage charge for L-Platforms is displayed.	Yes	No
Tenant	A window for managing tenants and users belonging to tenants	Yes	No
Account	A window for changing a logged in user's information and password	Yes	Yes
Help	Displays this product's manual	Yes	Yes

Yes: Displayed (However, some functions may not be displayed according to the user's access rights.)

No: Not displayed

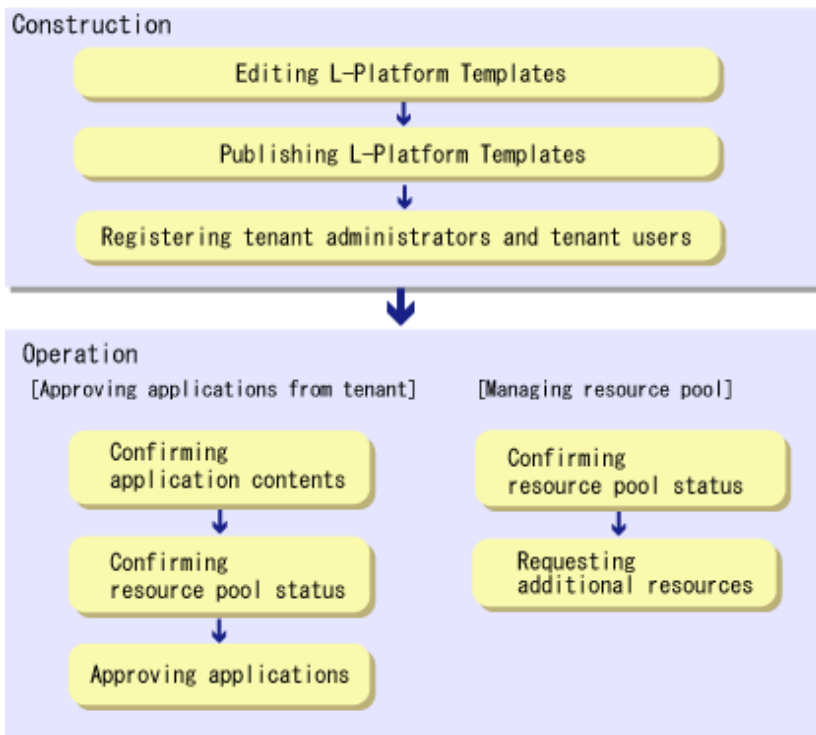
Refer to Chapter 2, "Home", and subsequent chapters for details on these functions.

However, refer to the "User's Guide for Infrastructure Administrators (Resource Management) CE" for information on the "Resource" function.

1.2 Flow of Operations

This section explains the flow of operations using the ROR Console, from construction to operation, maintenance, and monitoring.

Flow from Construction to Operation (Tenant Administrator)



Construction

1. Editing L-Platform Templates
If a tenant-specific L-Platform Template is required, edit an L-Platform Template based on an existing L-Platform Template. Refer to "[7.3.4 Editing L-Platform Template](#)" for details.
2. Publishing L-Platform Templates
Publish the L-Platform Template to tenant users. Refer to "[7.3.6 Publishing and Hiding L-Platform Template](#)" for details.
3. Registering Tenant Administrator and tenant users
Register the Tenant Administrator and tenant users. Refer to "[10.3 Registering a User](#)" for details.

Operation

[Approving Applications from Tenant]

Follow the procedure below if the application process when there are an effective case and approval.

1. Confirming application contents
Check the content of applications from the Tenant Administrator and tenant users. Refer to "[9.1 Checking an Application Status](#)" for details.
2. Confirming resource pool status
Check the resource pool usage status in order to confirm whether or not the requested necessary resources can be guaranteed. Refer to "[Chapter 4 Dashboard \(Pool Conditions\)](#)" for details.
3. Approving applications
Approve the content of applications from the Tenant Administrator and tenant users. Refer to "[9.3 Approving an Application](#)" for details.

[Managing Resource Pool]

1. Confirming resource pool status

Check the resource pool usage status to confirm that there are sufficient unused resources in the resource pool.
Refer to "[Chapter 4 Dashboard \(Pool Conditions\)](#)" for details.

2. Requesting additional resources

If required, ask the Infrastructure Administrator for additional resources.

Chapter 2 Login and Logout

This chapter describes how to open and close the ROR console.

Preparations

Before opening the ROR console, be sure to read through the following instructions and restrictions.

- When accessing the ROR console from Internet Explorer 8 or 9, be sure to enable the Compatibility View in Internet Explorer. Select [View]-[Encoding] in Internet Explorer, and check if [Auto-Select] is checked. If [Auto-Select] is not checked, select it.
- When downloading files using the ROR console, it is necessary to disable [Do not save encrypted pages to disk] in the Advanced Settings of the browser.
- The ROR console uses the Web browser's standard fonts and is designed to be viewed in a window of 1024 by 768 pixels or larger. When using a monitor with a higher resolution than this, it is recommended to enlarge the screen size. If the Web browser is resized by a significant amount, the display quality may deteriorate.
- The ROR console uses JavaScript, Active Script, Cookies, and IFRAMES. These must be enabled in the Web browser settings before using the ROR console. Use SSL 3.0 and TLS 1.0.
- Specify either one of the following for the Web browser pop-up blocker:
 - Disable the pop-up blocker
 - Add the URL of the ROR Console to the **Address of web site to allow** setting. Check with the system administrator for the URL of the ROR Console.
- Surrogate pair characters cannot be used on the ROR Console.
- When opening the ROR console right after launching a Web browser, a warning window concerning the site's security certificate will be displayed.

With Internet Explorer 8, or 9, the following message is displayed: "There is a problem with this web site's security certificate." This warns the user that Resource Orchestrator uses a self-signed certificate to encrypt its HTTPS (SSL) communication with the Web browser.

Resource Orchestrator generates a unique, self-signed certificate for each admin server during manager installation.

Within a firewall-protected intranet, a network where the risk of identity theft is low, or where all correspondents are trusted, there is no risk in using self-signature certificates for communications. Accept the warning to display the Resource Orchestrator login screen.

With Internet Explorer 8, or 9, the login screen can be displayed by selecting the following option: "Continue to this web site (not recommended)."
- When connecting to the manager from Internet Explorer 8 or 9, the background of the address bar will become red and the words "Certificate Error" will be displayed on the right side of the address bar of the login screen, the ROR console, and BladeViewer. Furthermore, the Phishing Filter may show a warning on the status bar. These warnings are referring to the same self-signed certificate issue discussed in the previous bullet. It is safe to continue with the current browser settings.
- To stop displaying the security certificate warning screen and the certificate error icon, create a certificate associated with the IP address or hostname of the admin server and add it to the Web browser.

A login window with a URL differing from the address bar's URL in which the IP address or host name (FQDN) may be displayed depending on the OS configuration. There are no problems with using the displayed window.

Refer to "Appendix B HTTPS Communication" in the "Design Guide CE" for details.

Opening the ROR Console

This section explains how to access the ROR console.

Add the URL of the ROR console to the "Trusted sites" of the browser.

Start a Web browser from an admin client and specify the URL of the ROR console for connection.

If the port number was changed, specify the new port number.

When the ROR console is connected, the login window is displayed.

When Single Sign-On authentication has already been performed, the ROR console can be started without displaying the login window.

Refer to "Chapter 12 Installing and Defining Single Sign-On" in the "Design Guide CE" for details on Single Sign-On.

URL: `https://Admin_server_FQDN:23461/`

On a Windows admin server, the ROR console can also be opened by selecting [start]-[All Programs]-[Resource Orchestrator]-[ROR console].

Note

- If the login screen is not displayed, confirm the following.
 - URL entered in address bar of the Web browser.
 - The proxy settings of the Web browser are correct.
 - The firewall settings on the admin server are correct.
- If already logged in from another Web browser window, login may be performed automatically (without displaying the login screen).

Login

In the login screen, enter the following items, and click <Login>.

The ROR console or BladeViewer is displayed after a successful login.

- User ID
- Password

However, opening multiple Web browsers from an already opened browser window (e.g. using the [File]-[New Window] menu from a Web browser) may disable logging in as a different user.

To log in as a different user, start up a new Web browser from the Windows start menu.

Logout

To log out, select "Logout" in the global header, and click <OK> in the confirmation dialog.

Note

- If the Web browser is closed without logging out first, user authentication may be skipped the next time Resource Orchestrator is accessed. In that case, users will be automatically logged in using the previously used session. It is advised that the users log out properly after using the ROR console or BladeViewer.
- If the ROR console or BladeViewer has been opened simultaneously in several Web browser windows, those login sessions may be terminated.

Chapter 3 Home

This chapter explains the ROR Console Home window display.

When the ROR Console is started, the Home window is displayed. Refer to "[Chapter 2 Login and Logout](#)" for information on how to start the ROR Console.

The elements of the Home window are explained below.

- Functions list

The functions list displays the items that can be operated using ROR Console tabs.

Click the triangle icon next to the Function list to toggle Display/Hide.

- Information

Information from the System Administrator and Infrastructure Administrator is displayed.

Chapter 4 Dashboard (Pool Conditions)

This chapter explains how to use dashboard operations.

4.1 Pool Conditions Overview

The Dashboard can be used to monitor resource pool use.

This section provides an overview of the Pool Conditions.

Pool Conditions window

The Pool Conditions displays charts for each of the following resource pools:

- VM pool (CPU)
- VM pool (memory)
- Storage pool
- Network pool
- Server pool (*1)
- Address pool (*1)

*1: Only displayed if physical servers are registered to the server pool.

Resource pool types

There are two types of resource pool:

- Infrastructure administrator: Global pools
- Tenant Administrator: Local pools managed by the Tenant Administrator
- Dual-role administrator: Global pools and local pools

Items displayed in charts

The following items are displayed in each of the resource pool charts:

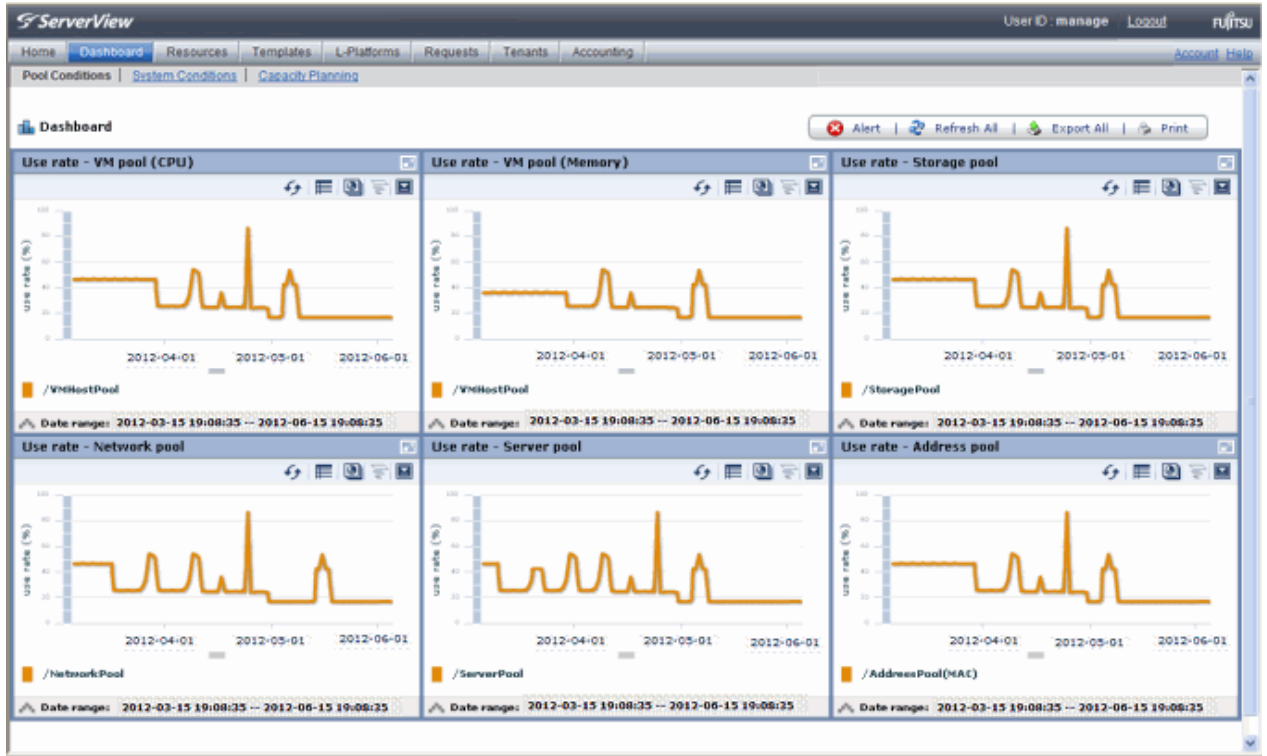
- Vertical axis: Resource pool use rate (%)
- Horizontal axis: Date and time (Three months)
- Polyline graph: If there are multiple resource pools, the five with the highest use rate (the five with the highest total values of the series) are displayed.

4.2 Pool Conditions Display

Perform the following steps to display the Pool Conditions:

1. From the ROR console, select the **Dashboard** tab, then select **Pool Conditions** in the displayed sub tab.

Charts are displayed for use rate of each resource pool.






The following table lists the six types of charts available.

Chart	Explanation
VM pool (CPU)	Displays the VM pool (CPU) use rate of each pool as polyline graphs. Always displayed.
VM pool (memory)	Displays the VM pool (memory) use rate of each pool as polyline graphs. Always displayed.
Storage pool	Displays the storage pool use rate of each pool as polyline graphs. Always displayed.
Network pool	Displays the network pool use rate of each pool as polyline graphs. Always displayed.
Server pool	Displays the server pool use rate of each pool as polyline graphs. This is only displayed if physical servers are registered to the server pool.
Address pool	Displays the address pool use rate of each pool as polyline graphs. This is only displayed if physical servers are registered to the server pool.

The table below shows the icons displayed in charts.

Icon	Explanation
	Displays the relationship chart menu Selects the relationship chart for either "Use state" or "Allocatable L-Servers".
	Switches between the use rate chart and the relationship chart.
	Updates the chart with the most recent information


Icon	Explanation
	Toggles between table and polyline graph displays
	Displays a list of functions The following functions may be used: <ul style="list-style-type: none"> - Refresh: Updates the chart to the latest information. - Change table/graph: Switches between the table and the graph. - Drill up: If the relationship chart is displayed, this function will switch to the use rate chart. - Comments: Comments related to charts can be registered. Related comments can also be referred to. - Export CSV: Data from the displayed chart can be output as a CSV file. - Configure: The chart's appearance can be modified temporarily. Modified content will not be saved.
	Enlarges the chart display

2. Display detailed information in other charts.

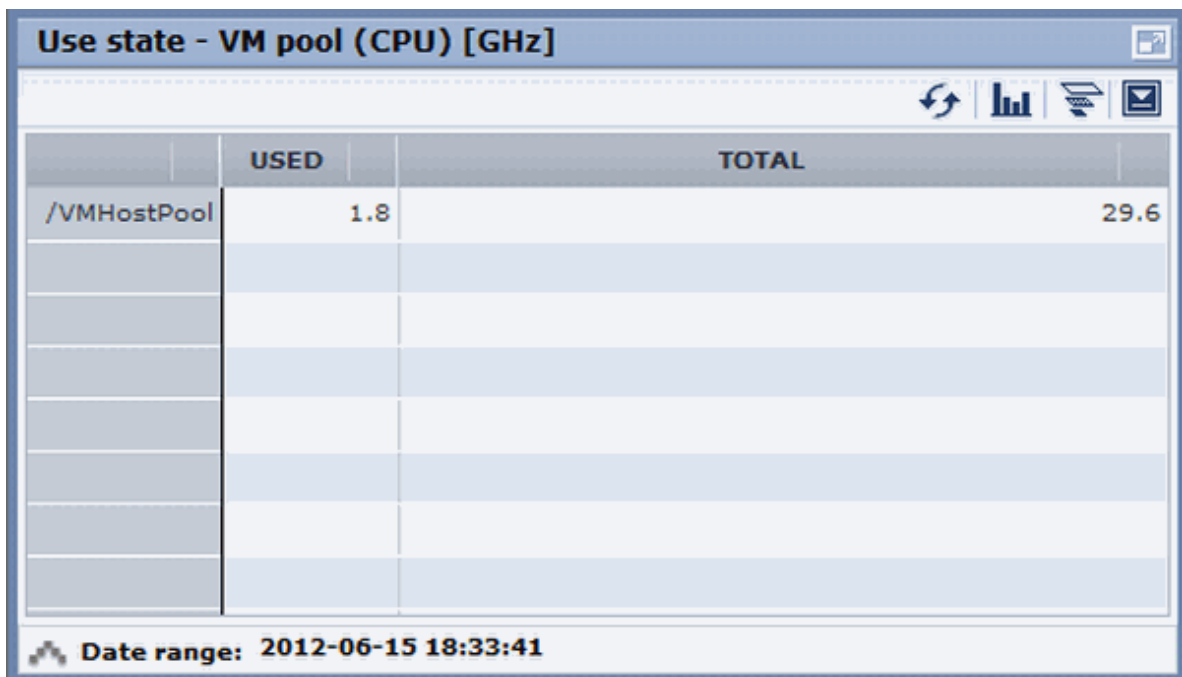
If required, display detailed information in other charts.

Refer to "4.3 Chart Display" for details of the information displayed in other charts.


The table below shows how to display detailed information.

Item	Display method	Contents displayed
Relationship chart	Click the relationship chart icon () and select the chart to display from the drop-down menu.	Displays a relationship chart in which the focus is switched to a display of resource pool absolute values or similar. The chart displayed varies depending on the resource pool. For example, the overall amount and used amount are displayed for the selected resource pool.

A window example is shown below.



Point

When returning to the use rate window from the relationship chart window, click on the  icon to move the displayed slider to the top.

Note

- If the Pool Conditions window is left open in a Web browser, the connection to the server may time-out and an error may display in the window. If this occurs, close the Web browser, and then display the Pool Conditions window again.
- If the administrator changes the setting of the Pool Conditions while the ROR console window is displayed, the following messages are displayed.
 - The graph cannot be displayed.
 - The table cannot be displayed.
 - Failed to display Analytics screen.
 - The Analytics Server is not started.
 - The connection to the Analytics Server failed.
 - Session is invalid.
 - Unexpected error has occurred.

If this occurs, refresh the window of the Web browser or close the Web browser and then display the Dashboard window again. When the same message is displayed, try it again a few minute later.

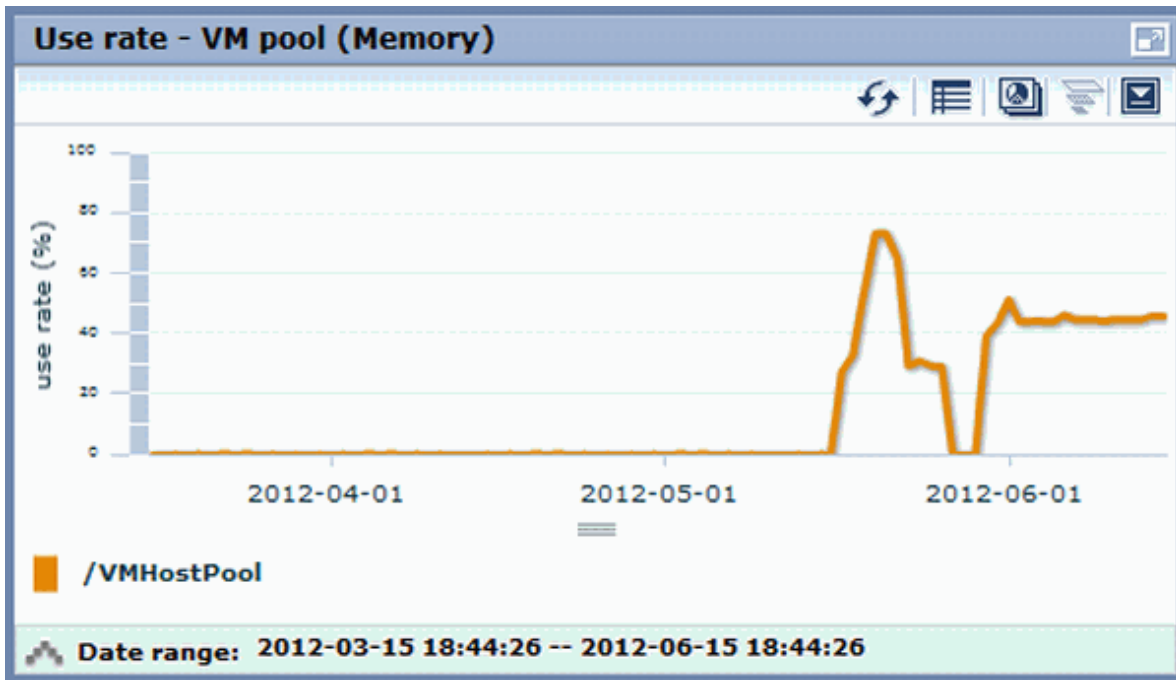
- When a linked service is stopped, just a border may be displayed, or the display may indicate that there is no data. Contact the Tenant Administrator.
-

4.3 Chart Display

This section explains the charts for each resource pool.

The resource pool charts display resource pool use rates as polyline graphs for each resource pool. If there are multiple resource pools, the use rates of the display periods of each of the resource pools are added together, and the top five are displayed in order, starting with the one with the highest total.

A VM pool (Memory) window example is shown below.



Detailed information can be displayed in other charts in the resource pool charts.

The table below shows the detailed information and usage scenarios. Refer to Step 2 under "4.2 Pool Conditions Display" for the operation method.

The table below shows the other charts.

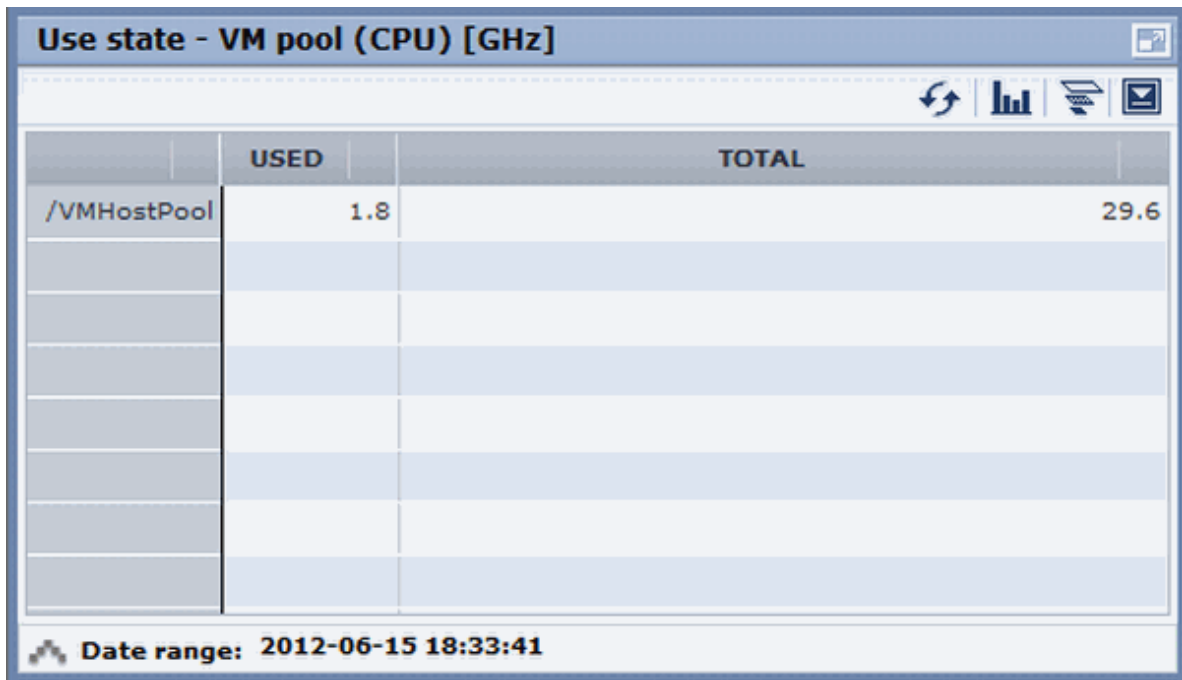
	Display format	Detailed information	Usage scenario
Relationship chart (Usage state)	Table	Displays the total amount and the used amount of the resource pool. The units are as follows: <ul style="list-style-type: none"> - VM pool (CPU): GHz - VM pool (memory): GB - Storage pool: GB - Network pool: Number of networks - Server pool: Number of physical servers - Address pool: Number of addresses 	Use this chart to check the number values (absolute values) for the used amount and number of networks/servers/addresses.
Relationship chart (Allocatable L-Servers) (*1)	Table	Displays the number of L-Servers that can be deployed to the resource pool (*2)	If there is insufficient free space or too few servers, use this chart to check the number of L-Servers that can be deployed.

*1: The relationship chart that displays the number of deployable L-Servers is not displayed for network pools and address pools. L-Servers can be deployed even if the network pool and address pool are exhausted.

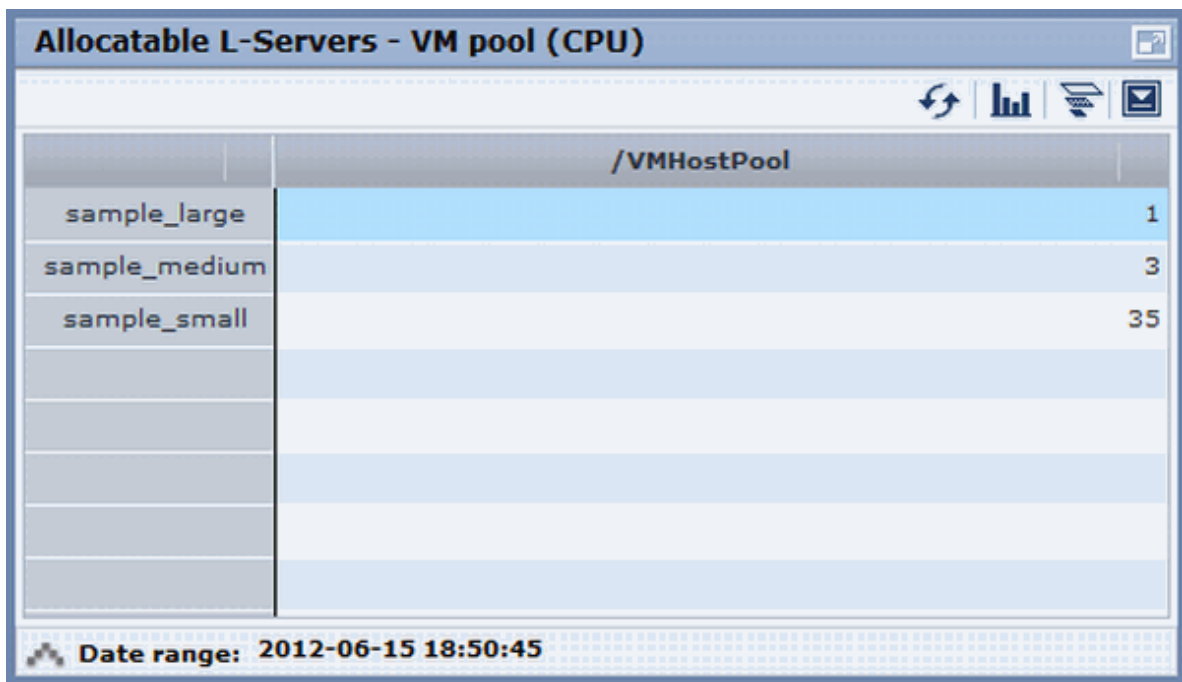
*2: For all storage pools that have thin provisioning function enabled, zero is displayed as the number of L-Servers that can be deployed, regardless of the L-Platform Template type. Specify thin provisioning function enable/disable separately for each storage pool.

VM pool (CPU) relationship chart windows are shown below.

- Example: The number values (absolute values) for the used amount and number is shown below.



- Example: L-Servers that can be deployed is shown below.



4.4 Alert List Display

When the **Alert** button is clicked from the Pool Conditions window, the Alert list (all) window will be displayed. This window will not be used to display the local pools managed by the tenant administrators, since they cannot be the target of the alert settings.

Chapter 5 Dashboard (System Conditions)

This chapter explains how to monitor system conditions.



The following message may be displayed during monitoring of system conditions:

The authority error occurred. Closing the browser.

This error occurs if, for example, the same user ID is used to log in from a different client. In this case, log in again correctly.

5.1 System Conditions Display Range

The system conditions can display the following information for the tenant belonging to the Tenant Administrator:

- CPU utilization
- Disk R/W usage
- Disk R/W count
- Memory usage
- Network usage



For tenants

- The above information is not displayed for L-Servers incorporated in the system using the L-Server import function of this product.
- Disk R/W usage, disk R/W count, memory usage, and network usage are not displayed if the virtualization software is Hyper-V. However, if the dynamic memory setting is enabled, memory usage is displayed.
- Disk R/W usage is not displayed if the virtualization software is RHEL5-Xen.
- Disk R/W usage is not displayed if the virtualization software is RHEL-KVM.
- The performance graph (CPU utilization, disk R/W usage, disk R/W count, memory usage, and network usage) will not be displayed if the virtualization software used is Solaris Container.
- Network usage is not displayed if the physical L-Server is Linux.

5.2 L-Platform System Conditions Display

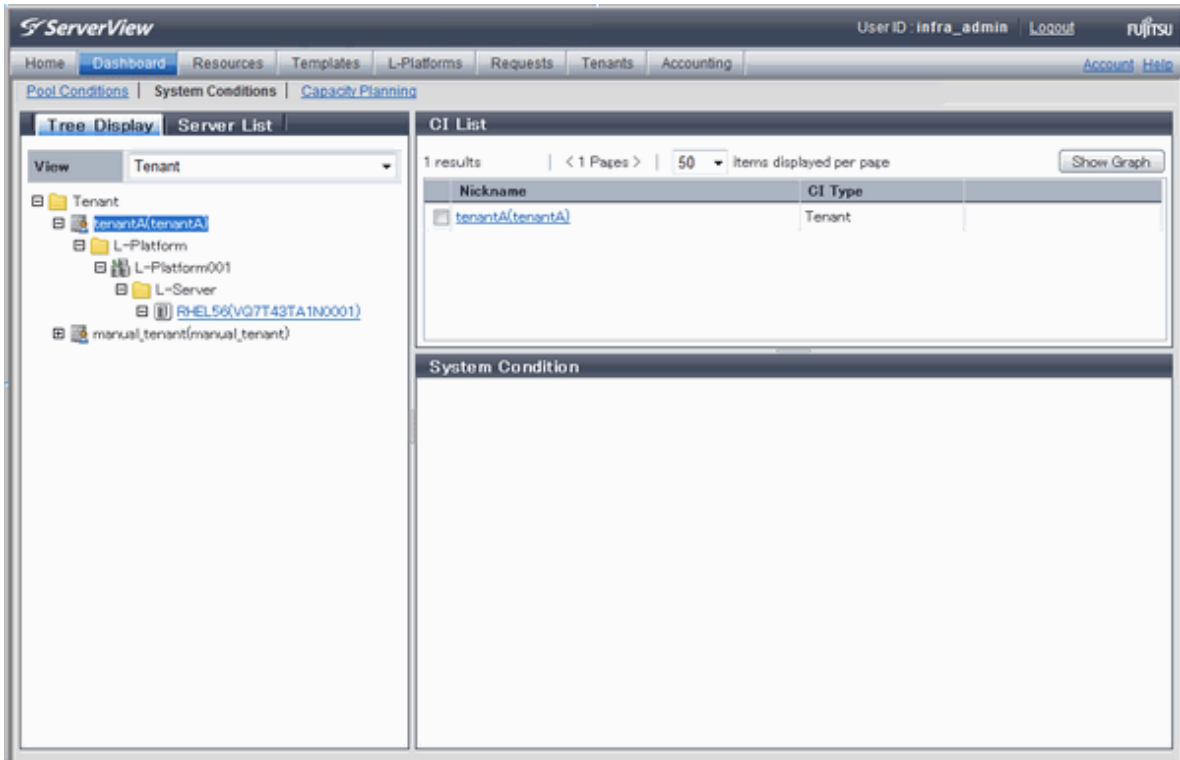
Perform the following steps to display the L-Platform system conditions:

1. From the ROR console, select the **Dashboard** tab, then select **System Conditions** in the displayed sub tab.

The **System Conditions** window is displayed.

- In the **System Conditions** window, select the **Tree Display** tab.

The configuration of all owned tenants is displayed in the tree at the left.



Point

If there are a large number of L-Platforms, expand the tree of the tenant in the pane on the left, then use the browser's "find on this page" feature to find the L-Platform while the L-Platform list is displayed.

- From the tree at the left, select the L-Platform for which to display the system conditions.

The selected L-Platform is displayed in the CI list on the right.

If the "L-Platform" folder is selected in the tree, all L-Platforms under the folder are displayed in the CI list.

If an L-Server is selected in the tree, information about the selected server is displayed in the CI list.

The L-Platforms and L-Servers under each folder in the tree are displayed in descending order based on their update date and time.

- Select an L-Platform in the CI list, and then click the **Show Graph** button.

The system conditions is displayed in the lower part of the CI list. Refer to "5.2.1 System Conditions Display" for details on the displayed system conditions.

The table below explains the displayed items.

Item	Explanation
Nickname	<p>Displays the display name of the configuration item.</p> <p>If the CI list Nickname link is clicked, the configuration information of the target tenant, L-Platform or L-Server is displayed in a separate window. Refer to 5.2.2 Configuration Information Display for the displayed configuration information.</p> <p>The following display names are displayed in accordance with the CI type:</p> <ul style="list-style-type: none"> - For the tenant CI type: The tenant name determined during tenant registration ("tenant name (tenant ID)")

Item	Explanation
	<ul style="list-style-type: none"> - For the L-Platform CI type: The L-Platform subscription name set during L-Platform subscription - For the L-Server CI type: The L-Server name set during L-Platform subscription or L-Platform reconfiguration ("server name (host name)")
CI Type	<p>This column displays the configuration item type. The CI type displayed depends on the element selected in the tree at the left. The CI types are as follows:</p> <ul style="list-style-type: none"> - Tenant: If a tenant is selected - L-Platform: If an L-Platform is selected - L-Server: If an L-Server is selected



Note

Clicking the CI list column headers to sort the columns is effective only for the range displayed in that page. The sorting specification is reset when the next or previous page is displayed. Sorting spanning multiple pages is not available.

5.2.1 System Conditions Display

The system conditions of the L-Platforms selected in the system conditions window CI list is displayed as a graph at **System Conditions** in the lower part of the window. Up to five L-Servers can be displayed at once in the graphs. If more than five L-Servers are selected, the first five are displayed.

The system conditions contents can be switched by clicking the **System Conditions** tabs.

The table below shows the contents under the **System Conditions** tabs.

Tab name	Display content (*1)	Graph type	Display interval	Display interval switching (*2)
Total	Totals for each status	Vertical bar graph	30 minutes, starting from the current time	Not possible
CPU	CPU utilization	Horizontal polyline graph	One hour/day/month/year from the current time	Possible
Disk	Disk R/W usage (*3)	Horizontal polyline graph	One hour/day/month/year from the current time	Possible
	Disk R/W count (*4)	Horizontal polyline graph	One hour/day/month/year from the current time	Possible
Memory	Memory usage (*5)	Horizontal polyline graph	One hour/day/month/year from the current time	Possible
Network	Network usage (*6)	Horizontal polyline graph	One hour/day/month/year from the current time	Possible
All	Overview of all the above statuses	Horizontal polyline graph	One hour/day/month/year from the current time	Possible

*1: Information is displayed using a different color for each L-Server.

*2: The display interval can be switched to a shorter interval by clicking the data plotting area of a horizontal polyline graph, or switched to a longer interval by clicking outside the data plotting area.

*3: Disk usage and network usage are not displayed if the virtualization software is Hyper-V and RHEL5-Xen.

*4: The disk R/W count is not displayed if the virtualization software is Hyper-V and RHEL-KVM.

*5: The memory usage is not displayed if the virtualization software is Hyper-V. However, it is displayed if the dynamic memory setting is enabled.

*6: The network usage is not displayed if the virtualization software is Hyper-V and the physical L-Server is Linux.

*7: The performance graph (CPU utilization, disk R/W usage, disk R/W count, memory usage, and network usage) will not be displayed if the virtualization software used is Solaris Container.

Note

- Information obtained from virtualization software is displayed in the system conditions. Virtual Memory usage is not included.
- The system conditions data is not reflected in the display until collection at the fixed intervals shown below is completed. Check the display after the fixed intervals shown below.

Note that, if the contents are empty after a fixed interval, the connection destination L-Platform may be stopped. Contact the Tenant Administrator.

Tab name	Display period (*)	Collection time required before displaying
Total	30 days	one whole day (from 0:00 to 23:59)
CPU	one hour	ten whole minutes (from 0 minutes to 9 minutes)
Disk	one day	one whole hour (from 0 minutes to 59 minutes)
Memory	one month/one year	one whole day (from 0:00 to 23:59)
Network	one month/one year	one whole day (from 0:00 to 23:59)

*: The display period in each tab except for Total tab can be selected from one hour, one day, one month, or one year.

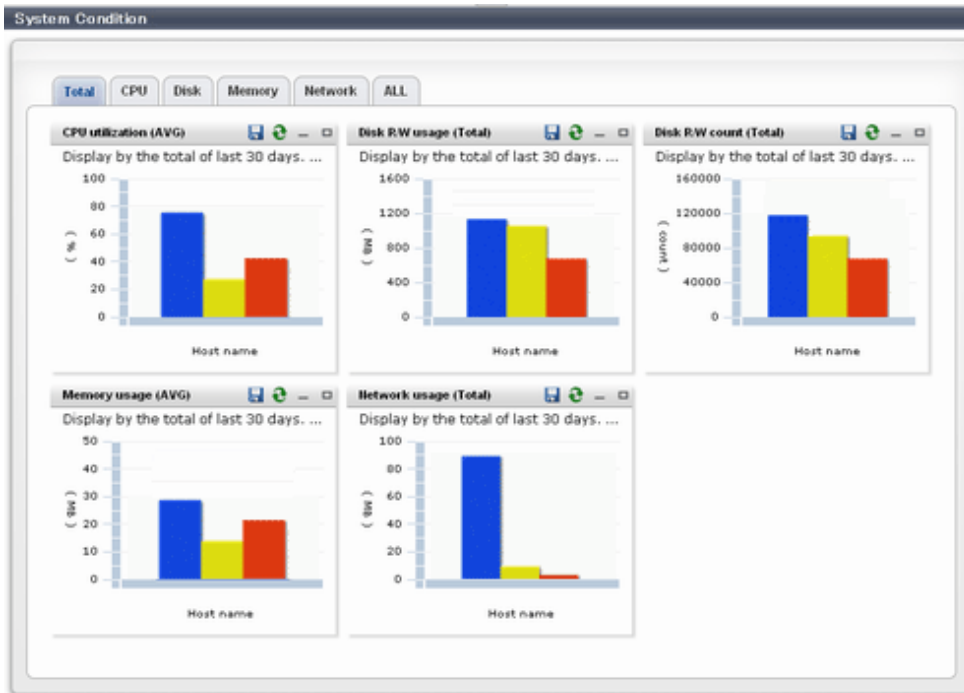
- System conditions data is not displayed if the power is off at the monitored L-Server.
- If the CPU utilization status continues at 100% at the monitored L-Server, data collection timing may be delayed and an error of about one second may occur. This may cause CPU utilization (average value for a specified unit of time) to exceed 100%. Take into account the possibility of data errors when using this display.

Example:

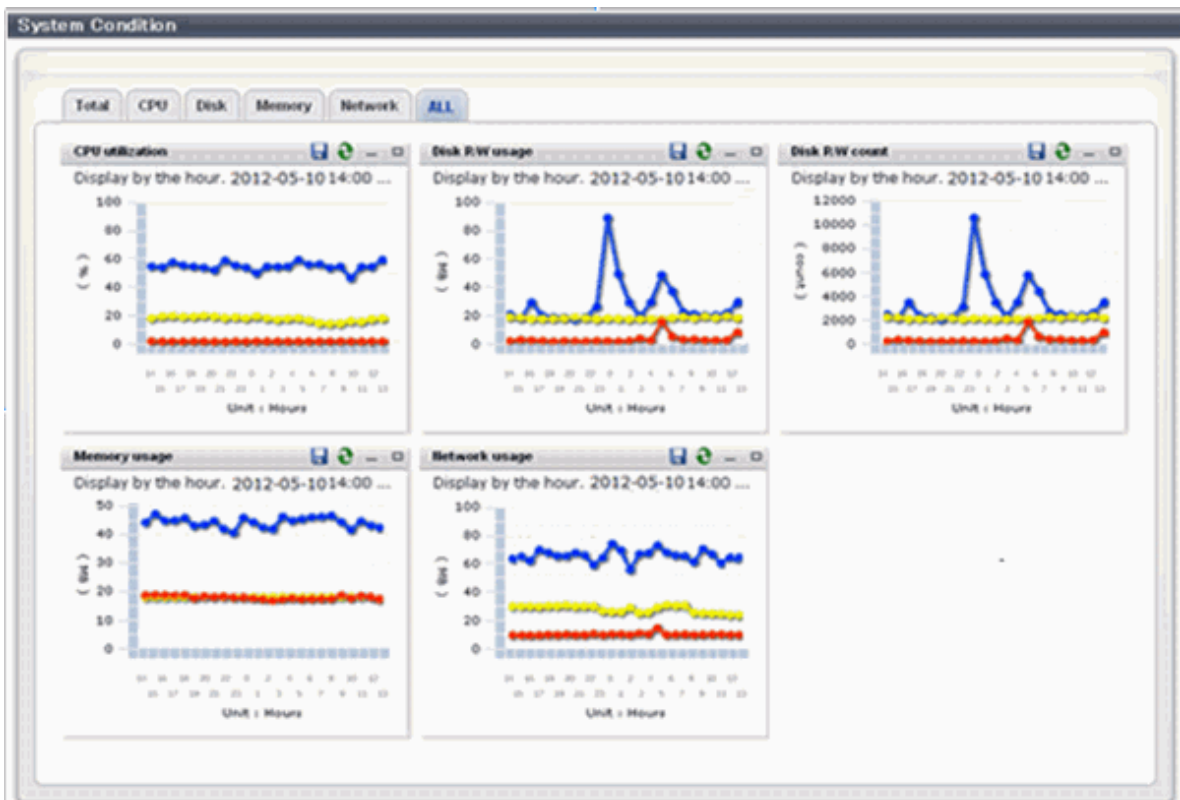
If a monitored L-Server has one CPU and is displayed in units of one hour, the value in the system conditions graphs and CSV file data may be displayed as 100.03% (60.02 minutes (near equal 3601 seconds)/60 minutes) even though the upper limit for CPU utilization is 100%.

Display examples for the **Total** tab and the **All** tab are shown below.


- Total tab







- All tab



At each tab, the following icons displayed in the title bar can be used:

Icon	Tool tip	Explanation
	Update	Updates the displayed contents

Icon	Tool tip	Explanation
	Download CSV file	Downloads the graph data in CSV format
	Minimize	Minimizes the specified window
	Maximize	Maximizes the specified window
	Restore	Restores the maximized window

The table below shows the CSV file items if data is downloaded from each graph.

Note that the CSV file encoding is Shift-JIS.

Graph type	Column name	Explanation	Unit	Description
CPU utilization	sdattim	Collection start time (*1)		yyyy-mm-dd HH:mm:ss
	resrcid	Resource ID		<ul style="list-style-type: none"> - in case of physical servers and Windows: "#" + CPU number or _Total - in case of physical servers and Linux: CPU number or _Total - in case of Hyper-V: VM name + ":Hv VP" + virtual Processor number
	recid	Record ID		Output any of the following <ul style="list-style-type: none"> - WIN_CPUBUSY - UX_CPUBUSY - VMW_GCPU - HV_VCPU - XEN_CPU - KVM_CPU
	consintl	Interval time	second	<ul style="list-style-type: none"> - in case of interval time is 10 minutes: 600 - in case of 1 hour: 3600 - in case of 24 hour: 86400
	coverage	Data coverage	(0 to 1)	
	cpupcent	CPU utilization	%	Output only in case of physical servers and Windows/Linux Processor utilization
	vmgcused	CPU utilization	%	Output only for VMware Physical CPU utilization consumed per resource pool or a virtual machine
	physres	Physical CPU information or virtual CPU information		Output only for VMware
	ptrtim	CPU utilization	%	Output only for Hyper-V Utilization of virtual processors

Graph type	Column name	Explanation	Unit	Description
				allocated to a virtual machine and consumed by hypervisor code
	xenpcused	CPU utilization	%	Output only for RHEL5-Xen CPU utilization (total utilization of virtual CPUs set in the domain)
	xenpcun	Number of virtual CPUs in the domain	number	Output only for RHEL5-Xen
	Nickname	VM name		Output only for VMWare/Hyper-V/ RHEL5-Xen
	kvmcpupcent	CPU utilization	%	Output only for RHEL-KVM CPU utilization (total utilization of virtual CPUs set in the domain)
	kvmcpus	Number of virtual CPUs in the domain		Output only for RHEL-KVM
Disk R/W usage	sdattim	Collection start time (*1)		yyyy-mm-dd HH:mm:ss
	resrcid	Resource ID		- in case of physical servers and Windows: drive name or _Total - in case of physical servers and Linux: device name
	recid	Record ID		Output any of the following - WIN_PHYDISKBUSY - UX_DISKBUSY - VMW_DISK - KVM_DISK
	consintl	Interval time	second	- in case of interval time is 10 minutes: 600 - in case of 1 hour: 3600 - in case of 24 hour: 86400
	coverage	Data coverage	(0 to 1)	
	preadbyt	Disk read usage	bytes	Output only for Windows
	pwritbyt	Disk write usage	bytes	Output only for Windows
	iokreads	Disk read usage	Kbytes	Output only for Linux
	iokwrite	Disk write usage	Kbytes	Output only for Linux
	vmdmbread	Disk read usage	Mbytes	Output only for VMWare Disk read usage for virtual machine and storage device units
	vmdmbwrt	Disk write usage	Mbytes	Output only for VMWare Disk write usage for virtual machine and storage device units
	Nickname	VM name		Output only for VMWare/Hyper-V/ RHEL5-Xen
	kvmdiskblockrdby	Disk read usage	bytes	Output only for RHEL-KVM Disk read usage in the domain

Graph type	Column name	Explanation	Unit	Description
	kvmdiskblockwrby	Disk write usage	bytes	Output only for RHEL-KVM Disk write usage in the domain
Disk R/W count	sdattim	Collection start time (*1)		yyyy-mm-dd HH:mm:ss
	resrcid	Resource ID		- in case of physical servers and Windows: drive name or _Total - in case of physical servers and Linux: device name
	recid	Record ID		Output any of the following - WIN_PHYDISKBUSY - UX_DISKBUSY - VMW_DISK
	consintl	Interval time	second	- in case of interval time is 10 minutes: 600 - in case of 1 hour: 3600 - in case of 24 hour: 86400
	coverage	Data coverage	(0 to 1)	
	preadsec	Disk read count		Output only for Windows Physical disk read operation count
	pwritsec	Disk write count		Output only for Windows Physical disk write operation count
	ioreads	Disk read count		Output only for Linux read count
	iowrite	Disk write count		Output only for Linux write count
	vmdreads	Disk read count		Output only for VMware Disk read count for virtual machine and storage device units
	vmdwrites	Disk write count		Output only for VMware Disk write count for virtual machine and storage device units
	vbdrd	Disk read count		Output only for RHEL5-Xen Virtual block device read count
	vbdwr	Disk write count		Output only for RHEL5-Xen Virtual block device write count
Nickname	VM name		Output only for VMware/Hyper-V/ RHEL5-Xen	
Memory usage	sdattim	Collection start time (*1)		yyyy-mm-dd HH:mm:ss
	resrcid	Resource ID		- in case of physical servers and Windows: MEMORY - in case of physical servers and Linux: FREEMEM
	recid	Record ID		Output any of the following - WIN_MEMORY

Graph type	Column name	Explanation	Unit	Description
				<ul style="list-style-type: none"> - UX_MEMFREE - VMW_MEM - HV_DMEM_VM - XEN_MEM - KVM-MEM
	consintl	Interval time		<ul style="list-style-type: none"> - in case of interval time is 10 minutes: 600 - in case of 1 hour: 3600 - in case of 24 hour: 86400
	coverage	Data coverage	(0 to 1)	
	comtot	Memory usage	bytes	Output only for Windows Commit size
	freememp	Memory usage	bytes	Output only for Linux Memory size utilization for user processes
	memuse	Memory usage	percent	Output only for Linux
	Vmgmtm	Memory usage	Mbytes	Output only for VMware Estimated working set size of resource pool and virtual machine units
	ppmemdmvm	Memory usage	Mbytes	Output only for Hyper-V Current memory capacity of virtual machine
	xenavm	Memory usage	Mbytes	Output only for RHEL5-Xen Memory capacity allocated to domain
	Nickname	VM name		Output for VMware/Hyper-V/ RHEL5-Xen
	kvmmemused	Memory usage	Mbytes	Output only for RHEL-KVM Memory capacity allocated to domain
Network utilization	sdatim	Collection start time (*1)		yyyy-mm-dd HH:mm:ss
	resrcid	Resource ID		Output only for Windows Network device name
	recid	Record ID		Output any of the following <ul style="list-style-type: none"> - WIN_NET_INTERFACE - VMW_NET - XEN_NET - KVM-NET
	consintl	Interval time		<ul style="list-style-type: none"> - in case of interval time is 10 minutes: 600 - in case of 1 hour: 3600 - in case of 24 hour: 86400

Graph type	Column name	Explanation	Unit	Description
	coverage	Data coverage	(0 to 1)	
	ifbytin	Network usage (received)	bytes	Output only for Windows Amount of received data(byte)
	ifbytot	Network usage (sent)	bytes	Output only for Windows Amount of sent data(byte)
	vmnmpmvr	Network usage (sent)	Mbits	Output only for VMware Amount of data transferred by virtual network device port unit
	vmnmpmbrecv	Network usage (received)	Mbits	Output only for VMware Amount of data received by virtual network device port unit
	xenkbtx	Network usage (sent)	Kbytes	Output only for RHEL5-Xen Amount of data sent by virtual network interface
	xenkbrx	Network usage (received)	Kbytes	Output only for RHEL5-Xen Amount of data received by virtual network interface
	Nickname	VM name		Output only for VMware/Hyper-V/ RHEL5-Xen
	kvmnetrxby	Network usage (received)	bytes	Output only for RHEL-KVM Amount of data sent by virtual network interface
	kvmnettxby	Network usage (sent)	bytes	Output only for RHEL-KVM Amount of data received by virtual network interface

*1: When the information from the virtual L-server where the live migration was performed is output to CSV, the following phenomena may occur:

- Information for a certain point of time is output twice
- Information for a certain point of time is not output

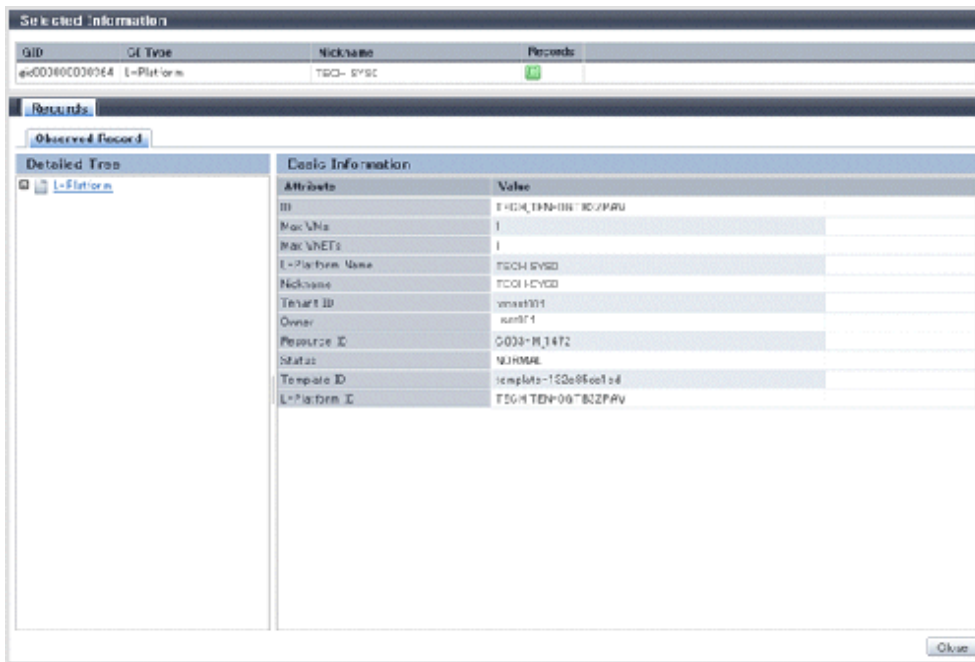
If there is a large difference in the time and date in the VM host where the live migration was performed, the above phenomena will be more likely to occur.

5.2.2 Configuration Information Display

The tenant, L-Platforms and L-Servers displayed in the CI list of the system conditions window are managed as configuration items (CIs).

When the GID link in the CI list of the system conditions window is clicked, the configuration information of the target tenant, L-Platform or L-Server is displayed in a separate window.

A display example is shown below.



The table below explains the displayed items.

	Item	Explanation
Selected Information	GID	Displays the identifier set by the system to identify the configuration item.
	CI Type	Displays the configuration item type. The CI types are as follows: <ul style="list-style-type: none"> - Tenant: If a tenant is selected - L-Platform: If an L-Platform is selected - L-Server: If an L-Server is selected
	Nickname	Displays the display name of the configuration item. The following display names are displayed in accordance with the CI type: <ul style="list-style-type: none"> - For the tenant CI type: The tenant name determined during tenant registration ("tenant name (tenant ID)") - For the L-Platform CI type: The L-Platform subscription name set during L-Platform subscription - For the L-Server CI type: The L-Server name set during L-Platform subscription or L-Platform reconfiguration ("server name (host name)")
	Record	Displays the type of records held by the configuration item. [0], indicating the actual information, is displayed.
Record	Detailed Tree	This is a tree of the elements comprising the configuration item. The following elements are displayed in accordance with the CI type: <ul style="list-style-type: none"> - For the tenant CI type: Tenants - For the L-Platform CI type: Instances - For the L-Server CI type: L-Server node information When an element is selected, the element attribute values are displayed in the basic information. Values are displayed as attribute values, and differ depending on the element: <ul style="list-style-type: none"> - If the element is a tenant: The value determined during tenant registration

Item		Explanation	
		<ul style="list-style-type: none"> - If the element is an instance: The value set during L-Platform subscription - If the element is L-Server node information: The value set during L-Platform subscription or L-Platform reconfiguration 	
	Basic Information	Attribute	Displays the attribute name. When the label in the upper part is clicked, items can be sorted by attribute name.
		Value	Displays the attribute value. When the label in the upper part is clicked, items can be sorted by attribute value.
Close button		When this button is clicked, the window closes.	

Chapter 6 Dashboard (Capacity Planning)

This chapter describes capacity planning operations. Scenarios are prepared in the **Capacity Planning** window to suit any operational purpose. Analysis and planning are facilitated by checking each report in turn



Note

If the character " ' " is used in the display name of a tenant, it is displayed as the character " _ " on the Capacity Planning window.

6.1 Report Types

This section describes the types of reports for each category. Refer to "6.3 Operations Using Scenarios" for information on the categories.

VMware resource allocation optimization

Reports	Display item	Description
VMware res. usage cond. (List of virtual machine)	- CPU (usage amount and rate) - Memory (usage amount and rate)	Displays the virtual machines located in VM hosts and the resource usage status.

ServerView Resource Orchestrator Resource pool

Reports Reports	Display item	Description
VM pool(CPU) (demand forecast)	VM pool(CPU) (demand forecast)	Perform regression analysis based on historical CPU usage and memory usage to anticipate future resources that will be used.
VM pool(Memory) (demand forecast)	VM pool(Memory) (demand forecast)	
Storage pool (demand forecast)	Storage pool (demand forecast)	
Network pool (demand forecast)	Network pool (demand forecast)	
Server pool (demand forecast)	Server pool (demand forecast)	
Address pool (demand forecast)	Address pool (demand forecast)	

6.2 Capacity Planning Operations

This section explains capacity planning operations.

How to open the Configuration Management screens

1. From the ROR console, select the **Dashboard** tab, then select **Capacity Planning** in the displayed sub tab.
2. The **Capacity Planning** window will be displayed.

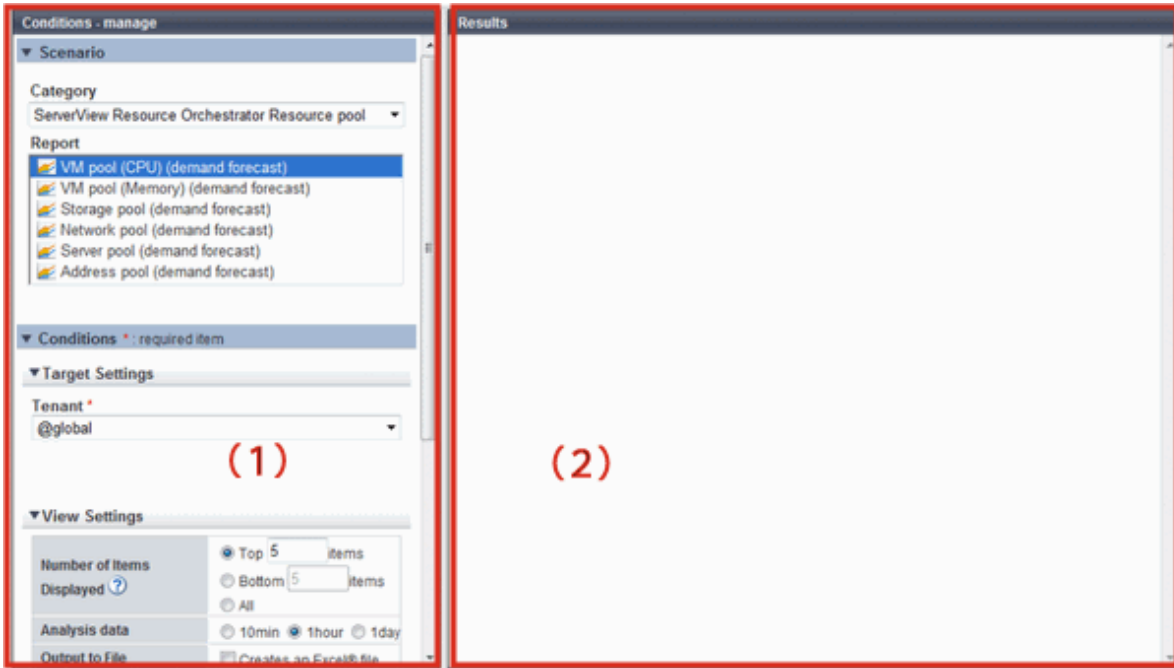


Note

Do not perform operations in the **Capacity Planning** window using the right-click shortcut menu.

Capacity planning layout

When started, the following Capacity Planning window is displayed:



The **Capacity Planning** window is made up of the following elements:

Item No.	Component	Description
(1)	Conditions window	Set categories, reports, and the analysis conditions for the various reports. Operations in this window are described in following sections:
(2)	Results window	The contents of the reports are displayed.

Conditions window layout

The screenshot shows the 'Conditions - manage' window with the following sections and highlighted elements:

- Scenario** (1): A dropdown menu for 'Category' with the value 'VMware resource allocation optimization' selected.
- Report** (2): A list of reports with 'VMware rsc. usage cond.(List of virtual machine)' selected.
- Conditions * : required item** (3): A section containing 'Target Settings' with dropdowns for 'Tenant *' (set to '@global') and 'Host *'.
- View Settings** (4): A section with 'Operating time' (00:00 - 23:50), 'Analysis data' (radio buttons for 10min, 1hour, 1day), and 'Output to File' (checkbox for 'Creates an Excel® file').
- Period** (5): A section with 'Start date' (2012-06-08 00:00) and 'End date' (2012-06-08 23:50) using date and time pickers.
- Display** (6): A button located at the bottom right of the window.

Basic operations in the conditions window

Item No.	Component	Description
(1)	Category	Select a category that matches the purpose of operation.
(2)	Report	Select a report that matches the purpose of operation.
(3)	Target Settings	A specification relating to the target of the report.

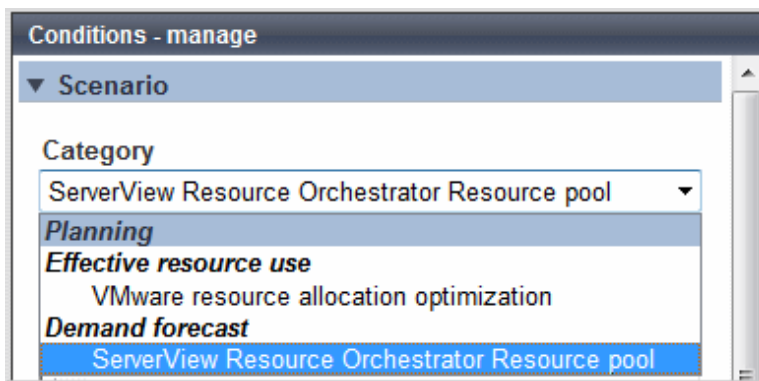
Item No.	Component	Description
(4)	View Settings	Specify report data intervals, number of display items, and file output. The way to specify the number of display items depends on the type of report. Available memory capacity is used to avoid system stoppages due to extremely low memory availability, so is extracted from the lowest up. The number of data items that can be displayed in the graph is approximately up to 10..
(5)	Period	Specify the periods for analysis.
(6)	Operation button(Display)	Button for displaying the results of analysis as a report (content).

6.2.1 Scenario

Scenarios are prepared in the **Capacity Planning** window to suit any operational purpose. Analysis and planning is possible by checking each report in turn.

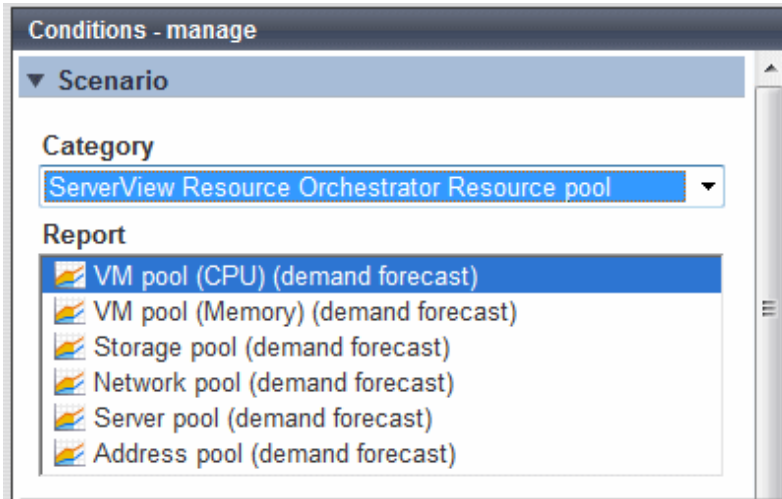
Category

Categories are divided into types to match different purposes of operation. The reports can be selected once the category is selected.



Report

Select the appropriate report. The items in **Conditions** depend on the report selected.

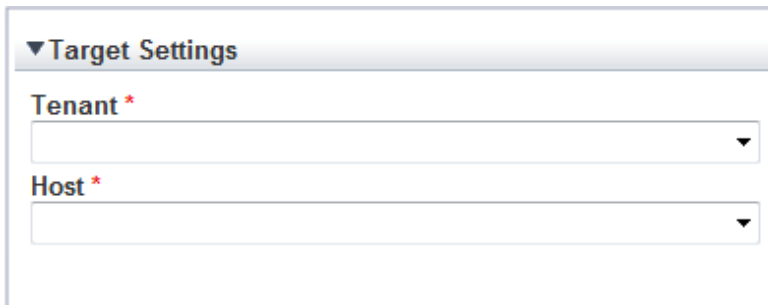


6.2.2 Conditions

6.2.2.1 Target Settings

When a report is specified, the following items are displayed: The items displayed are report specific.

The following is an example window when Tenant and Host are specified:



The items that are specified are explained below for the different types.

Tenant specified

Item	Description
Tenant	Select the tenant to be analyzed from the tenant menu.

Tenant and Host specified

Item	Description
Tenant	Select the tenant to be analyzed from the tenant menu.
Host	Select the host to be analyzed from the host menu. The host menu displays the hosts that have been registered with the selected tenant. This will be empty if a host is not registered in the tenant. Select the tenant where the host is registered.

6.2.2.2 View Settings

The following explains specifications relating to the number of display items, data intervals, and file output:

The items to be set differ depending upon the report type.

Item	Description
Number of Items Displayed	<p>Select the number of data items to use for analysis.</p> <p>The number of data items can be selected as follows:</p> <ul style="list-style-type: none"> - Top (Bottom) An integer between 1 and 1000 can be entered. Only the entered number of data items will be displayed. If there is a large amount of data to be displayed, it may be difficult to read the graphs. Therefore, it is recommended you specify 10 items only. - All All data will be displayed.
Operating time	Specify the time period to output the results of the analysis.
Analysis data	<p>Select the data interval to use for analysis.</p> <p>The following data intervals can be selected:</p> <ul style="list-style-type: none"> - 10 min Data retention period: 7 days Appropriate for analysis of about one day's worth of data. - 1 hour Data retention period: 6 weeks Appropriate for analysis of about one week's worth of data. - 1 day Data retention period: 13 months Appropriate for analysis of one month or mores' worth of data. It may not be possible to select this with some report types or methods of analysis.
Output to File	<p>The content of the results window is output as an Excel file.</p> <p>If the Creates an Excel(R) file check box is selected, the Save in Excel(R) format button becomes active at the bottom of the results window. Click this button and the displayed content can be downloaded in Excel format.</p> <p>Disable clipboard redirection if operation is to be performed using a remote desktop connection.</p> <p>If downloading files from the Save in Excel(R) format button, the ".xlsx" or ".xlsm" extension files can be downloaded. Note that you must enable the macro if the ".xlsm" extension file is opened.</p>

Detail Settings

As, depending on the report type, the **Detail Settings** area may be displayed, the items to be set may differ.

The **Detail Settings** area is shown closed when a report is selected. Click the title bar of the **Detail Settings** to edit advanced settings.

Item	Description
Threshold (Arbitrariness)	<p>Specify the pool usage rates that will be tolerated on the consolidation destination server (optional).</p> <p>If this is specified, it is shown as a red line in the graph.</p>

6.2.3 Period

This section explains periods.

Item	Description
Start date	Specify the period of the analysis.
End date	Select the minute, hour, day, month and year using a drop-down list box to select the date and time that analysis will start and stop.

Note

If a period prior to the data retention period is specified, no data will be displayed.
Refer to Analysis data in "[6.2.2.2 View Settings](#)" for information on data retention periods.

6.2.4 Operation Buttons (Display)

The operation buttons are explained below.

Button	Description
Display	Report is created based on the specified conditions. Reports are displayed in the results window.

The message "Loading..." is displayed while the content is being generated. While this message is displayed, the **Display** button will be disabled.

6.2.5 Results Window

This section describes the operations that can be performed on the displayed content, including displayed report content.

Table sorting

When a column header is selected in the table in the results window, the table is resorted using the selected column as the key. Sorting can be toggled between ascending and descending order.

Note

Numerical sorting works correctly only when all values in the specified column are numerical values. Sorting cannot be performed correctly if the column includes non-numerical data such as null values.

Save in CSV format / Save in Excel(R) format / Print

The following buttons are displayed at the bottom of the results window.

Button	Description
Save in CSV format	This link enables the displayed range of data to be downloaded in CSV format. Refer to "CSV File Items" for information on the downloaded CSV file items.
Save in Excel(R) format	This is displayed if the Creates an Excel(R) file checkbox is selected in the display settings for the condition settings window. This link enables the displayed content to be downloaded in Excel(R) format.
Display in separate window	It is possible to show the currently displayed content in a separate window. Additionally, you can display other content in multiple windows to facilitate side-by-side comparison.

Button	Description
Print	This button appears when you click the Display in separate window button. It prints the displayed content.

When the ServerView Resource Orchestrator Resource pool category is selected

The table with the latest information for the resource pool shows the value at the point of Date and time/Date time. However, it changes as shown below depending upon the specification of [Conditions]-[View Setting]-[Analysis data].

- "10min" is specified:
"Date and time" in the extreme right column is the average value of the time period after 10 minutes have elapsed.
- "1hour" is specified:
"Date and time" in the extreme right column is the average value of the time period after 1 hour has elapsed.
- "1day" is specified:
"Date time" in the extreme right column is the average value of the time period after 1 day has elapsed.



Point

ALL_ROR_SERVER, which includes all servers within tenants, is displayed in **Host Name** at the top of the results window.

6.2.6 CSV File Items

Use the **Save in CSV format** button to display downloaded CSV file items by category. Note that the CSV file encoding is Shift-JIS.

6.2.6.1 Effective resource use (VMware resource allocation optimization)

This section describes CSV file items for different reports.

VMware rsc. usage cond. (List of virtual machine)

Item	Column name	Explanation	Unit	Description
CPU	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		VMware unique ID is specified before the colon, and the virtual machine name is specified after the colon.
	recid	Record ID		VMW_GCPU
	consflag	Interval (flag displayed)		- If collection interval is 10 minutes: 1 - If collection interval is 1 hour: 2 - If collection interval is 24 hours: 3
	consintl	Interval	second	- If collection interval is 10 minutes: 600 - If collection interval is 1 hour: 3600 - If collection interval is 24 hours: 86400
	coverage	Data coverage ratio		Displays the ratio of data collected during the interval from 0 through 1
	vmgcused	CPU utilization	%	

Item	Column name	Explanation	Unit	Description
	vmgcallmin	resource allocation (reserved) of a resource pool or a virtual machine	MHz	
	vmgcallmax	resource allocation (Limit) of a resource pool or a virtual machine	MHz	If there is no limit, -1 will be displayed.
	vmgcallshrs	resource allocation (Shared) of a resource pool or a virtual machine	MHz	The value for the shared memory of a VMware virtual machine
	vmgcnmcpu	CPU number	number	
	vmgcusemhz	Virtual machine CPU usage	MHz	
Memory	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		VMware unique ID is specified before the colon, and the virtual machine name is specified after the colon.
	recid	Record ID		VMW_MEM
	consflag	Interval (flag displayed)		- If collection interval is 10 minutes: 1 - If collection interval is 1 hour: 2 - If collection interval is 24 hours: 3
	consintl	Interval	second	- If collection interval is 10 minutes: 600 - If collection interval is 1 hour: 3600 - If collection interval is 24 hours:86400
	coverage	Data coverage ratio		Displays the ratio of data collected during the interval from 0 through 1
	vmgmallim	reserved memory of a resource pool or a virtual machine	Kbytes	
	vmgmallmax	upper limit memory size of a resource pool or a virtual machine	Kbytes	If there is no limit, -1 will be displayed.
	vmgmallsh	shared memory of a resource pool or a virtual machine	Kbytes	The value for the shared memory of a VMware virtual machine
	vmgmmems	Physical memory size	Mbytes	resource pool or virtual machine units
	vmgmtm	Estimated size of the working set	Mbytes	resource pool or virtual machine units
	vmgmacest	Ratio of physical memory in use	%	resource pool or virtual machine units (instant value)<VMware ESX>



Note

About the data output as CSV

At the collection start time, information for the analysis period is output. Data for anticipated periods in the future is not output.

6.2.6.2 Demand Forecast (ServerView Resource Orchestrator Resource pool)

This section describes CSV file items for different reports.

VM pool (CPU) (demand forecast)

Column name	Explanation	Unit	Description
sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
sysname	System name		
resrcid	Resource ID		tenant name:/pool name
recid	Record ID		ROR_VMPOOLCPU
consflag	Interval (flag displayed)		- If collection interval is 10 minutes: 1 - If collection interval is 1 hour: 2 - If collection interval is 24 hours: 3
consintl	Interval	second	- If collection interval is 10 minutes: 600 - If collection interval is 1 hour: 3600 - If collection interval is 24 hours:86400
coverage	Data coverage ratio		Displays the ratio of data collected during the interval from 0 through 1
vmpoolproccused	VMPool CPU usage	GHz	
vmpoolproctotal	VMPool CPU total size	GHz	

VM pool (Memory) (demand forecast)

Column name	Explanation	Unit	Description
sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
sysname	System name		
resrcid	Resource ID		tenant name:/pool name
recid	Record ID		ROR_VMPOOLMEM
consflag	Interval (flag displayed)		- If collection interval is 10 minutes: 1 - If collection interval is 1 hour: 2 - If collection interval is 24 hours: 3
consintl	Interval	second	- If collection interval is 10 minutes: 600 - If collection interval is 1 hour: 3600 - If collection interval is 24 hours:86400
coverage	Data coverage ratio		Displays the ratio of data collected during the interval from 0 through 1
vmpoolmemused	VMPool memory usage	Gbytes	

Column name	Explanation	Unit	Description
vmpoolmemtotal	VMPool total memory	Gbytes	

Storage pool (demand forecast)

Column name	Explanation	Unit	Description
sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
sysname	System name		
resrcid	Resource ID		tenant name:/pool name
recid	Record ID		ROR_STORAGEPOOL
consflag	Interval (flag displayed)		<ul style="list-style-type: none"> - If collection interval is 10 minutes: 1 - If collection interval is 1 hour: 2 - If collection interval is 24 hours: 3
consintl	Interval	second	<ul style="list-style-type: none"> - If collection interval is 10 minutes: 600 - If collection interval is 1 hour: 3600 - If collection interval is 24 hours:86400
coverage	Data coverage ratio		Displays the ratio of data collected during the interval from 0 through 1
vmpoolserverused	StoragePool usage	Gbytes	
vmpoolservertotal	StoragePool total capacity	Gbytes	

Network pool (demand forecast)

Column name	Explanation	Unit	Description
sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
sysname	System name		
resrcid	Resource ID		tenant name:/pool name
recid	Record ID		ROR_NETWORKPOOL
consflag	Interval (flag displayed)		<ul style="list-style-type: none"> - If collection interval is 10 minutes: 1 - If collection interval is 1 hour: 2 - If collection interval is 24 hours: 3
consintl	Interval	second	<ul style="list-style-type: none"> - If collection interval is 10 minutes: 600 - If collection interval is 1 hour: 3600 - If collection interval is 24 hours:86400
coverage	Data coverage ratio		Displays the ratio of data collected during the interval from 0 through 1
vmpoolnetworkused	Number of addresses being used by NetworkPool	number	
vmpoolnetworktotal	Total number of NetworkPool addresses	number	

Server pool (demand forecast)

Column name	Explanation	Unit	Description
sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
sysname	System name		
resrcid	Resource ID		tenant name:/pool name
recid	Record ID		ROR_SERVERPOOL
consflag	Interval (flag displayed)		<ul style="list-style-type: none"> - If collection interval is 10 minutes: 1 - If collection interval is 1 hour: 2 - If collection interval is 24 hours: 3
consintl	Interval	second	<ul style="list-style-type: none"> - If collection interval is 10 minutes: 600 - If collection interval is 1 hour: 3600 - If collection interval is 24 hours:86400
coverage	Data coverage ratio		Displays the ratio of data collected during the interval from 0 through 1
vmpoolserverused	Number of servers used by ServerPool	number	
vmpoolservertotal	Total number of ServerPool servers	number	

Address pool (demand forecast)

Column name	Explanation	Unit	Description
sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
sysname	System name		
resrcid	Resource ID		tenant name:/pool name
recid	Record ID		ROR_ADDRESSPOOL
consflag	Interval (flag displayed)		<ul style="list-style-type: none"> - If collection interval is 10 minutes: 1 - If collection interval is 1 hour: 2 - If collection interval is 24 hours: 3
consintl	Interval	second	<ul style="list-style-type: none"> - If collection interval is 10 minutes: 600 - If collection interval is 1 hour: 3600 - If collection interval is 24 hours:86400
coverage	Data coverage ratio		Displays the ratio of data collected during the interval from 0 through 1
vmpooladdressused	Number of addresses used by AddressPool	number	
vmpooladdresstotal	Total number of AddressPool addresses	number	



Note

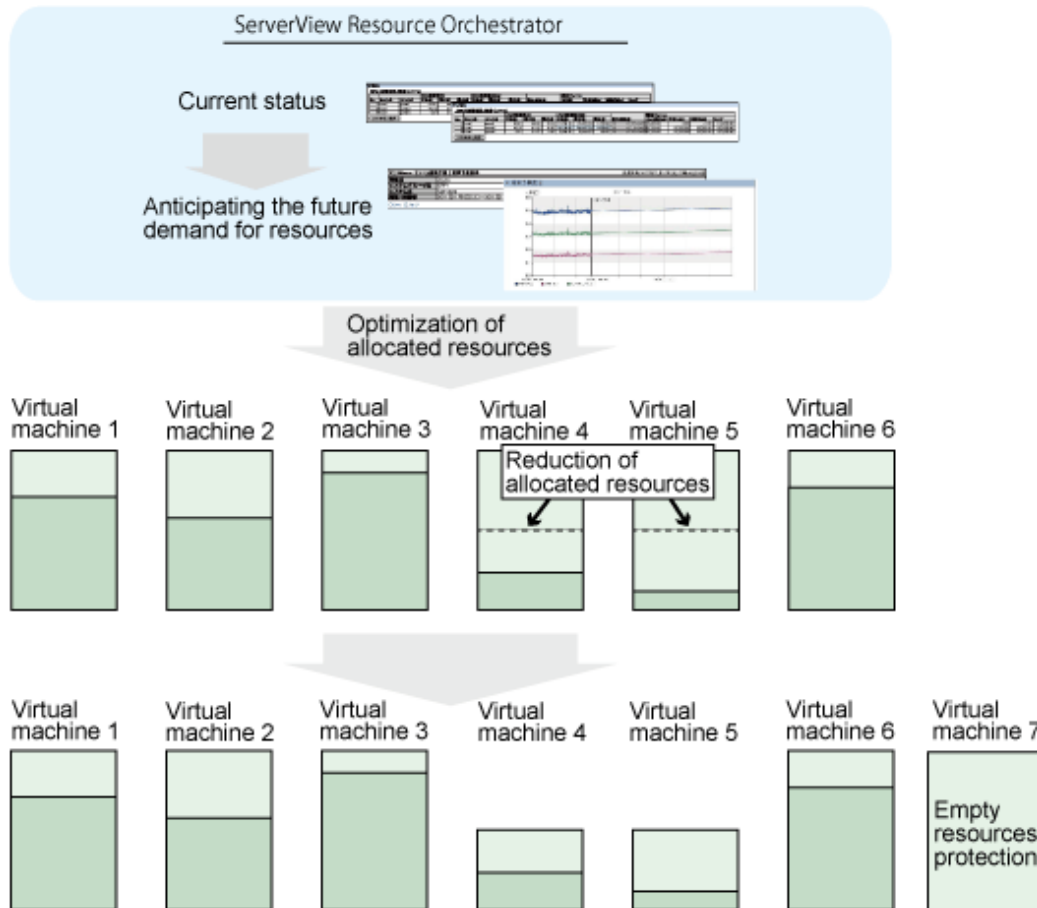
About the data output as CSV

At the collection start time, information for the analysis period is output. Data for anticipated periods in the future is not output.

6.3 Operations Using Scenarios

6.3.1 Optimization of Resources Allocated to a Virtual Machine : [VMware resource allocation optimization]

The virtual machines with low resource usage rates are detected from the L-Servers held. Using the results, any excess resources that have been allocated can be reviewed, or added to where they are lacking, thereby optimizing resource allocations.



This section describes the procedure for attempting to optimize resource by using the **VMware resource allocation optimization** category scenario.

Understanding the current status

In the **Capacity Planning** window, select the **VMware rsc. usage cond. (List of virtual machine)** report of the **VMware resource allocation optimization** category, set the analysis conditions and display the report.

Refer to "[6.2 Capacity Planning Operations](#)" for information on how to configure analysis conditions.

CPU usage rate								
No .	Category	System name	Virtual machine name	AVG	MAX	MIN	CPU number	Reservation
1	CPU usage rate (%)	192.0.2.1	tech_ct-6N74UUHZ-S-0001-30	2.03	5.06	1.85	1.00	100.0
2	CPU usage rate (%)	192.0.2.1	tenant-A-6N8FXZ3KH-S-0001-130	4.66	7.30	3.98	3.00	1,500.0
3	CPU usage rate (%)	192.0.2.1	xie-UEWWDXG0W-S-0001-55	1.00	1.18	0.97	3.00	3,000.0

CPU usage								
No .	Category	System name	Virtual machine name	AVG	MAX	MIN	CPU number	Reservation
1	CPU usage (MHz)	192.0.2.1	tech_ct-6N74UUHZ-S-0001-30	36.72	95.25	33.17	1.00	100.0
2	CPU usage (MHz)	192.0.2.1	tenant-A-6N8FXZ3KH-S-0001-130	29.39	47.00	24.89	3.00	1,500.0
3	CPU usage (MHz)	192.0.2.1	xie-UEWWDXG0W-S-0001-55	5.76	6.83	5.64	3.00	3,000.0

Save in CSV format

▼ Memory

Memory usage rate								
No .	Category	System name	Virtual machine name	AVG	MAX	MIN	Hardware memory capacity(MB)	Reser

Sort by CPU usage and memory usage to detect virtual machines with available resources and reduce the allocation of resources to virtual machines with low usage rates.

6.3.2 Anticipating the Future Demand for Resources : [ServerView Resource Orchestrator Resource pool]

Use the past resource pool usage to anticipate the demand for resource pools.

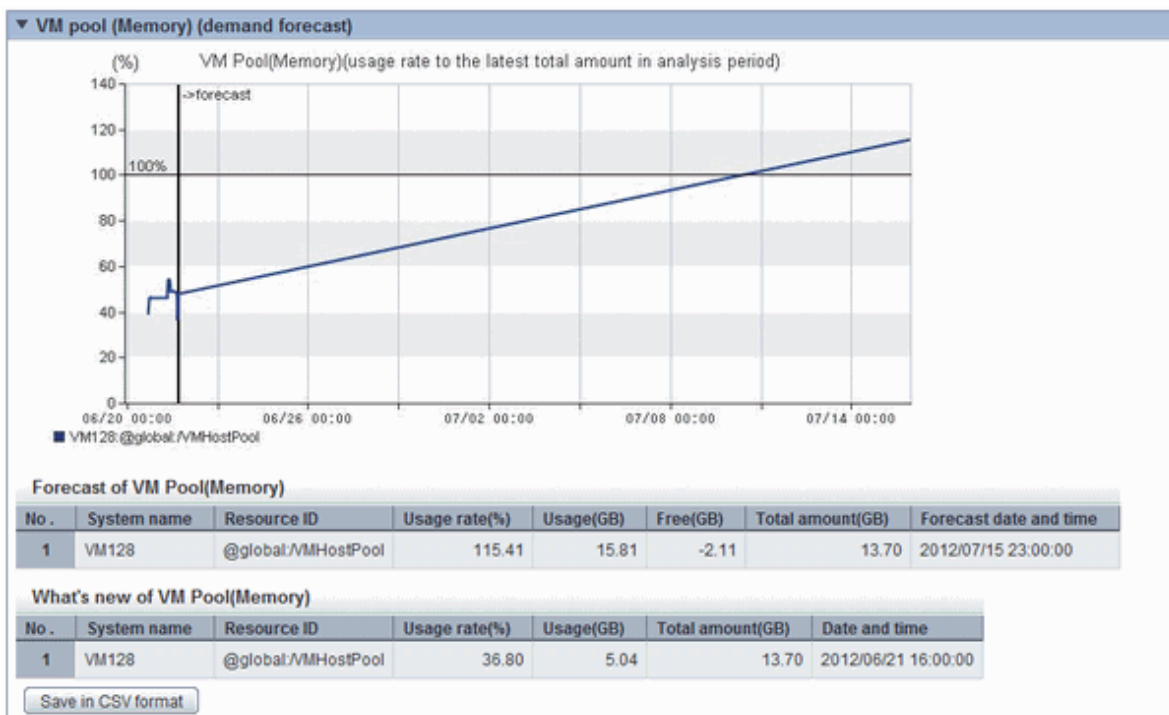
By determining inadequate resource amounts beforehand, it is possible to plan for the expansion of facilities.

This section describes the procedure for anticipating future resource demand for resources by using the **ServerView Resource Orchestrator Resource pool** category scenarios.

Demand Forecast

In the **Capacity Planning** window, select the appropriate report of the **ServerView Resource Orchestrator Resource pool** category, set the analysis conditions and display the report.

Refer to "6.2 Capacity Planning Operations" for information on how to configure analysis conditions.



Perform regression analysis based on past CPU usage and memory usage to anticipate the resources that will be used.

Chapter 7 Template

This chapter explains how to create and manage L-Platform templates.

7.1 L-Platform Template Components

This section explains the types of information comprising an L-Platform template.

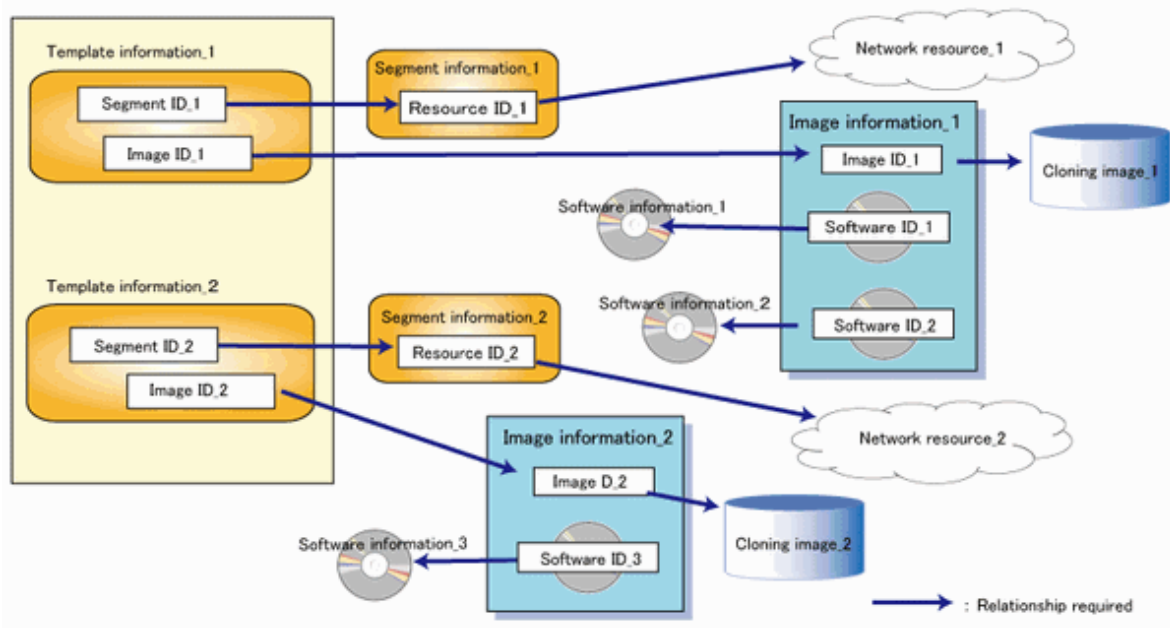
The table below shows the information comprising an L-Platform template.

Table 7.1 Information comprising an L-Platform template

Information	Description
Template information	Defines the L-Platform template configuration
Segment information	Defines the network resource configuration
Image information	Defines the cloning image configuration
Software information	Defines the software configuration contained in the cloning image

The relationship between information comprising the L-Platform template is shown below.

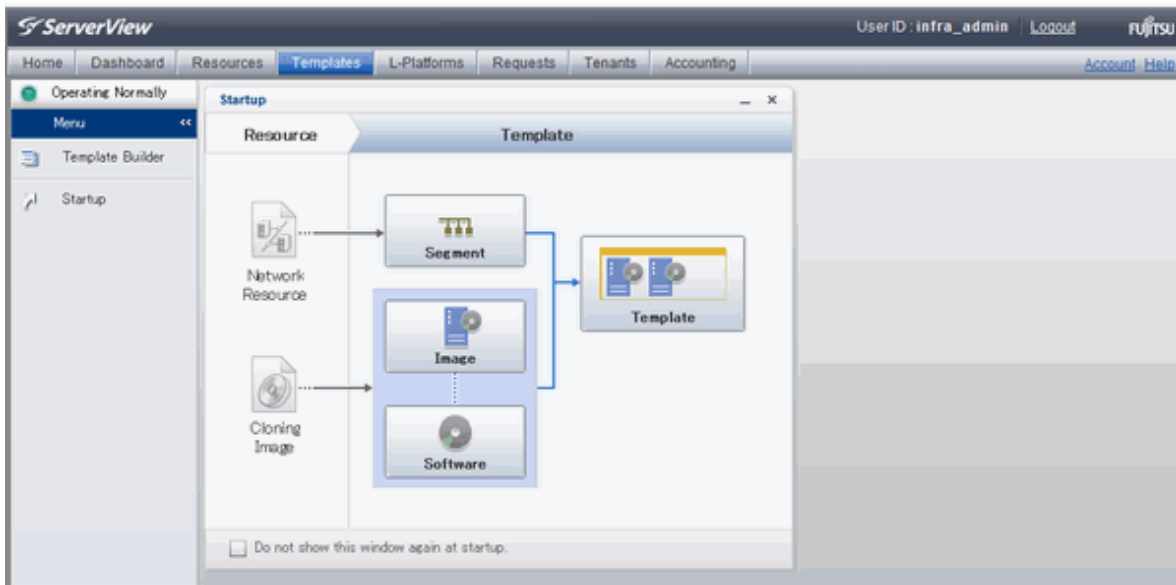
Figure 7.1 Figure The relationship between information comprising the L-Platform template



7.2 Explanation of Windows

This section explains the ROR Console **Template** tab window.

The following figure shows the ROR Console **Template** tab window.



7.2.1 Menu

The following are the menus displayed in the **Templates** tab of the ROR console:

Template Builder

The **L-Platform Template** window will be displayed.

Startup

The **Startup** window is displayed.



Note

- During L-Platform template operations, if stoppage of the Admin Server or something similar inhibits connection, the lamp on the menu changes to grey and "Not Operating" is displayed. If this occurs, contact the system administrator.

7.2.2 Startup Window

The steps to compile the information that makes up L-Platform templates are displayed as buttons in the **Startup** window displayed in the **Templates** tab of the ROR console.

When the button image for each type of information is clicked, the corresponding tab of the **L-Platform Template** window is displayed.

7.2.3 L-Platform Template Window

The L-Platform template window is displayed according to one of the following methods:

- Selecting **Template builder** from the menu
- Clicking the button image of an information type on the **Startup** window

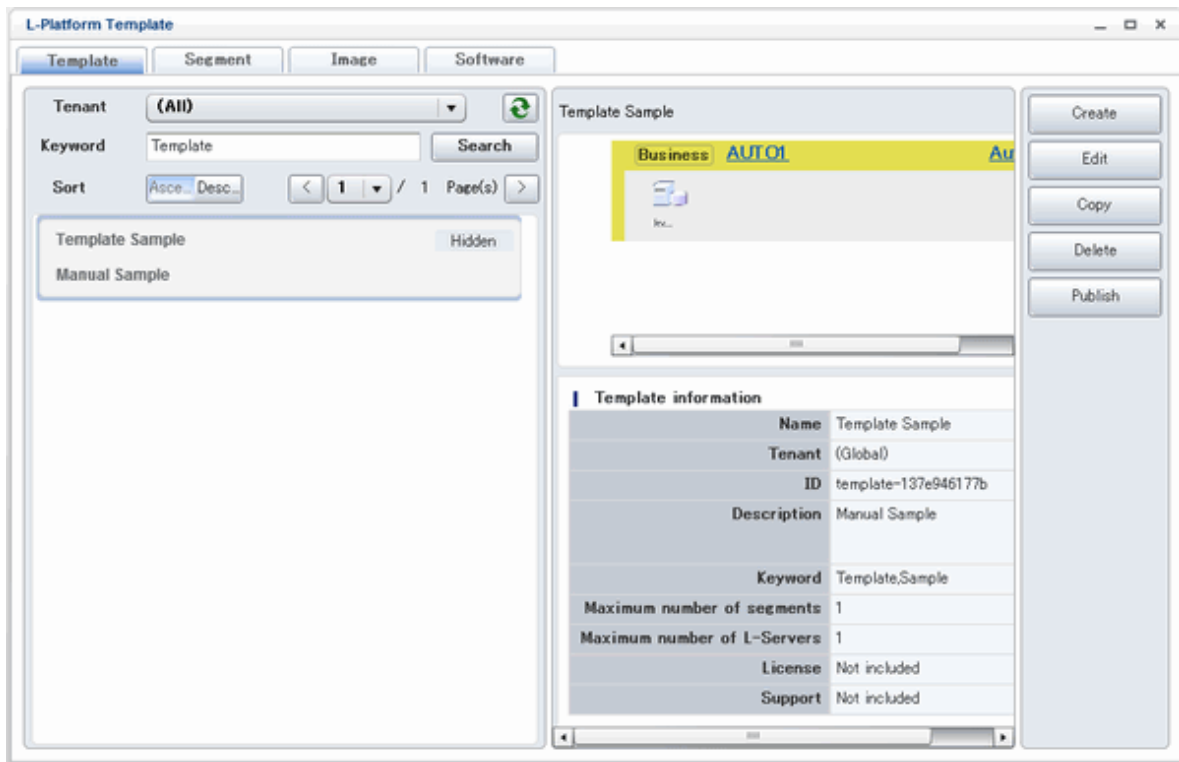
The **L-Platform Template** window is comprised of four tabs. The table below shows the correspondences between the tab names and the information comprising the L-Platform template.

Table 7.2 Correspondences between tab names and the information comprising the L-Platform template


Tab Name	Information
Template	Template information
Segment	Segment information
Image	Image information
Software	Software information

7.2.3.1 Template Tab

The following figure shows the **Template** tab of the **L-Platform Template** window.



Window Explanation

- The left side of the page displays a list of L-Platform templates.
- When an L-Platform template is selected in the L-Platform template list, the right side of the page displays an image of the selected L-Platform template configuration (upper part) and template information details (lower part).
- Tenants and keywords can be used as L-Platform template list filters.
- Clicking the reload button () resets sorting, pages, and selected states.

Point

Strings included in the keyword filter are those that were specified in "keyword" in basic information of the template information.

Explanation of Buttons

- Edit
Edits the contents of existing registered template information.
Refer to "7.3.4 Editing L-Platform Template" for details.
- Copy
Creates new template information based on existing registered template information.
Refer to "7.3.3 Copying L-Platform Template" for details.
- Delete
Deletes template information.
Refer to "7.3.5 Deleting L-Platform Template" for details.
- Publish
Publishes an L-Platform template.
Refer to "7.3.6 Publishing and Hiding L-Platform Template" for details.
- Hide
Hides an L-Platform template.
Refer to "7.3.6 Publishing and Hiding L-Platform Template" for details.

7.2.3.2 Segment Tab

The following figure shows the **Segment** tab of the **L-Platform Template** window.


The screenshot shows the 'L-Platform Template' window with the 'Segment' tab selected. The window has a title bar with standard window controls. Below the title bar are tabs for 'Template', 'Segment', 'Image', and 'Software'. The 'Segment' tab is active, showing a table of network resources. The table has columns for 'Network resource name', 'Tenant', 'Type', 'Resource ID', 'Address set', 'Number ...', and 'Segment type'. One row is highlighted in blue, representing a segment named 'Business' for tenant 'eyoumu1' with 38 IP addresses. To the right of the table is a 'Create' button. Below the table, there is a detailed view of the selected segment, showing fields for 'Address set', 'Number of available IP addresses', 'Subnet address', 'Subnet mask', 'Start address', 'End address', and 'Excluded addresses 1'. To the right of this view are 'Edit' and 'Delete' buttons.




Network resource name	Tenant	Type	Resource ID	Address set	Number ...	Segment type
Business	eyoumu1	(Global)	CT03-M_1292	eyoumu1	38	

Business		Subnet	Others
Address set	eyoumu1		
Number of available IP addresses	38		
Subnet address	192.0.20		
Subnet mask	255.255.255.0		
Start address	192.0.21		
End address	192.0.24		
Excluded addresses 1	192.0.10 - 192.0.24		

Window Explanation

- The upper part of the page displays a list of segment information.

- When segment information is selected in the segment information list, the lower part of the page displays details of the selected segment information.
- The display sequence in the segment information list can be changed to ascending order or descending order. To change the sequence, click the header (Category, Network resource name, etc.).
- Tenants and categories (Business, Management) can be used as segment information list filters.
- Clicking the reload button () resets sorting and selected states.
- Icons displayed on this window are as follows.

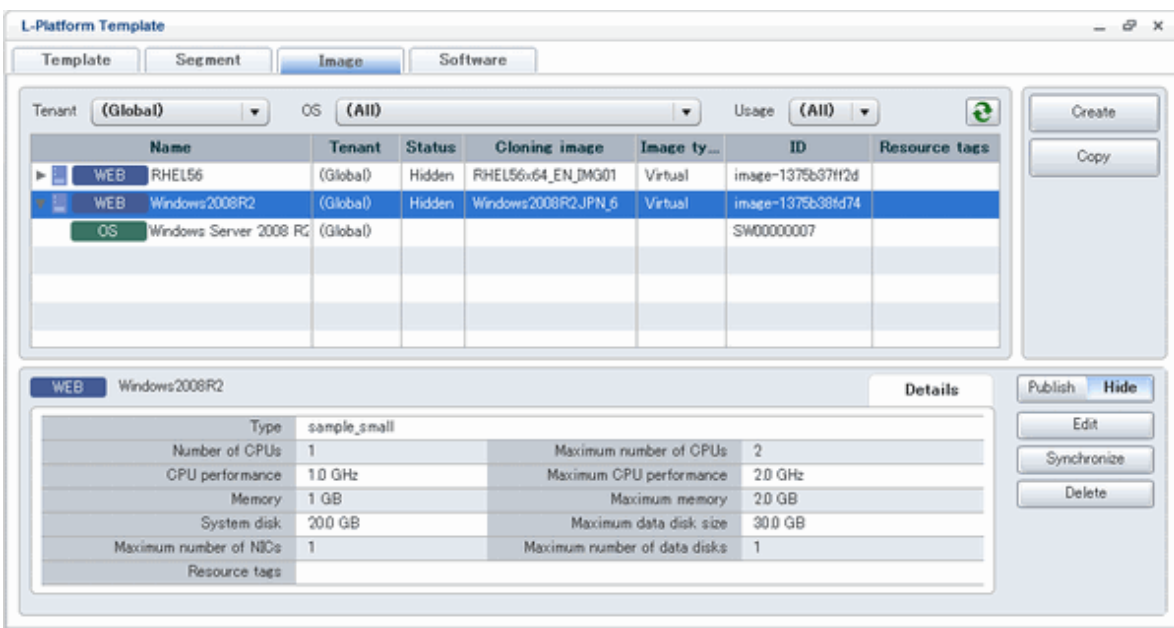
Icon	Explanation
	Management segment
	Business segment
	The associated network resource does not exist.

Explanation of Buttons


- Create
Creates new segment information.
Refer to "7.3.2 Creating New L-Platform Template" for details.
- Edit
Edits the contents of existing registered segment information.
Refer to "7.3.4 Editing L-Platform Template" for details.
- Delete
Deletes segment information.
Refer to "7.3.5 Deleting L-Platform Template" for details.





7.2.3.3 Image Tab

The following figure shows the **Image** tab of the **L-Platform Template** window.



Window Explanation

- The upper part of the page displays a list of image information. Note that the software information and patch information included in the image information is displayed in a tree format.
- When image information is selected in the image information list, the lower part of the page displays details of the selected information. If the cloning image associated with image information includes a data disk, a **Disk** tab is displayed. Note that if software information or patch information is selected in the image information list, details of that selected information are displayed.
- The display sequence in the image information list can be changed to ascending order or descending order. To change the sequence, click the header (Name, ID, etc).
- Tenants, the OS, and Usage can be used as image information list filters.
- Clicking the reload button () resets sorting and selected states.
- Icons displayed on this window are as follows.

Icon	Explanation
	Virtual image information without data disks
	Physical image information without data disks
	Virtual image information with data disks
	The associated cloning image does not exist.

Explanation of Buttons

- Create
Creates new image information.
Refer to "[7.3.2 Creating New L-Platform Template](#)" for details.
- Copy
Creates new image information based on existing registered image information.
Refer to "[7.3.3 Copying L-Platform Template](#)" for details.
- Publish
Publishes image information.
Refer to "[7.3.7 Publishing Image Information](#)" for details.
- Hide
Hides image information.
Refer to "[7.3.7 Publishing Image Information](#)" for details.
- Edit
Edits the contents of existing registered image information.
Refer to "[7.3.4 Editing L-Platform Template](#)" for details.
- Synchronize
Updates the image information if the cloning image has been updated.
This button is enabled only if image information synchronization is necessary.
Refer to "[7.3.8 Synchronizing Image Information](#)" for details.

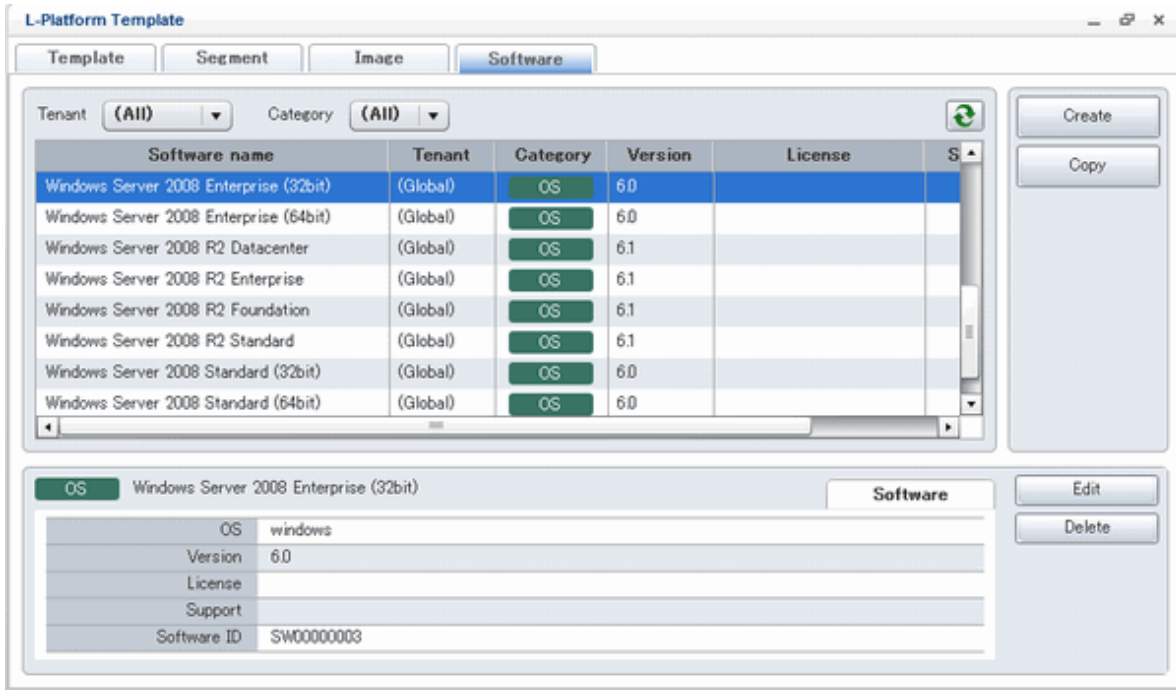
- Delete

Deletes image information.


Refer to "7.3.5 Deleting L-Platform Template" for details.

7.2.3.4 Software Tab

The following figure shows the **Software** tab of the **L-Platform Template** window.



Window Explanation

- The upper part of the page displays a list of software information.
- When software information is selected in the software information list, the lower part of the page displays details of the selected software information.
- The display sequence in the software information list can be changed to ascending order or descending order. To change the sequence, click the header (category, software name, etc.).
- Tenants can be used as software information list filters.
- Clicking the reload button () resets sorting and selected states.

Explanation of Buttons

- Create
Creates new software information.
Refer to "7.3.2 Creating New L-Platform Template" for details.
- Copy
Creates new software information based on existing registered software information.
Refer to "7.3.3 Copying L-Platform Template" for details.
- Edit
Edits the contents of existing registered software information.

Refer to "[7.3.4 Editing L-Platform Template](#)" for details.

- Delete

Deletes the software information.

Refer to "[7.3.5 Deleting L-Platform Template](#)" for details.

7.3 L-Platform Template Operations

This section explains L-Platform template operations.

7.3.1 L-Platform Template Operations and Roles

Infrastructure Administrators and Tenant Administrators can perform L-Platform template operations.

There are two types of L-Platform templates: tenant-specific templates that can be used only by a specific tenant, and global templates that can be used by all tenants.

The Tenant Administrator can perform operations for only tenant-specific templates owned by tenants managed by that Administrator.

Note that Tenant Administrators cannot create new template information. However, they can add tenant-specific templates to the tenants they manage by copying from global templates or tenant-specific templates.

7.3.2 Creating New L-Platform Template

For the various types of information comprising an L-Platform template, the following information can be newly created:

- Segment information
- Image information
- Software information

Note that a Tenant Administrator must prepare tenant-specific network resources before creating new segment information.

Follow the procedure below to newly create the above information:

1. On the **L-Platform Template** window, select the tab (Segment, Image, or Software) of the information to be newly created.
1. Click the **Create** button.
2. Set information in the new creation window.
Refer to "[7.4 Items to Set for Each Type of L-Platform Template Information](#)" for details on the information to be set.
3. Click the **Create** button.

A message indicating that the template has been created is displayed and the template is created.

7.3.3 Copying L-Platform Template

For the various types of information comprising an L-Platform template, the following information can be copied:

- Template information
- Image information
- Software information

Follow the procedure below to copy the above information:

1. On the **L-Platform Template** window, select the tab (Template, Image, or Software) of the information to be copied.
2. From the list, select the information to be referenced.
3. Click the **Copy** button.
4. The information set in the copy window is the same as the referenced information. If required, change this information.
Refer to "[7.4 Items to Set for Each Type of L-Platform Template Information](#)" for details on the information to be set.
5. Click the **Create** button.

A message indicating that the template has been created is displayed and the template is created.

7.3.4 Editing L-Platform Template

For the various types of information comprising an L-Platform template, the following information can be edited:

- Template information
- Segment information
- Image information
- Software information

Follow the procedure below to edit the above information:

1. On the **L-Platform Template** window, select the tab (Template, Segment, Image, or Software) of the information to be edited.
2. From the list, select the information to be edited.
3. Click the **Edit** button.
4. Change the information on the edit window.
Refer to "[7.4 Items to Set for Each Type of L-Platform Template Information](#)" for details on the information to be set.
5. Click the **OK** button.

A message indicating that the template has been edited is displayed and the template is changed.



- Image information cannot be edited if it is in use by published template information or if it is published.
- Software information cannot be edited if it is in use by published template information.
- When image information is edited, it is updated to the latest cloning image resource ID.

7.3.5 Deleting L-Platform Template

For the various types of information comprising an L-Platform template, the following information can be deleted:

- Template information
- Segment information
- Image information
- Software information

Follow the procedure below to delete the above information:

1. On the **L-Platform Template** window, select the tab (Template, Segment, Image, or Software) of the information to be deleted.
2. From the list, select the information to be deleted.

3. Click the **Delete** button.

A deletion confirmation message is displayed.

4. Click the **Yes** button.

The selected information is deleted.

Note that information must be deleted in the following sequence if all types of information comprising an L-Platform template are being deleted:

1. Template information
2. Segment information
3. Image information
4. Software information

However, the order of Items 2 and 3 can be reversed.



-
- Image information cannot be deleted if it is in use by any template information, or if it is published.
 - Software information cannot be deleted if it is in use by any image information.
-

7.3.6 Publishing and Hiding L-Platform Template

An L-Platform template can be published or hidden.

Publication enables an L-Platform to be created on the basis of the L-Platform template.

If hidden, an L-Platform cannot be created on the basis of the L-Platform template.

Follow the procedure below to publish or hide an L-Platform template:

1. On the **L-Platform Template** window, select the **Template** tab.
2. From the L-Platform template list, select the L-Platform template to be published or hidden.
3. Click the **Publish** button or the **Hide** button.

The selected L-Platform template is published or hidden.

7.3.7 Publishing Image Information

Create an L-Platform on the basis of an L-Platform template.

An L-Platform can be created with the same configuration as the L-Platform template, or the configuration can be changed.

Normally, when changing a configuration, only the image information defined in the L-Platform template is displayed as a usable server list. However, by publishing the image information, the published image information can also be displayed in the server list as usable information regardless of the definitions in the L-Platform template.

This enables image information other than the image information defined in the L-Platform template to be added when creating an L-Platform.

Follow the procedure below to publish or hide image information:

1. On the **L-Platform Template** window, select the **Image** tab.
2. From the image information list, select the image information to be published or hidden.

3. Click the **Publish** button or the **Hide** button.

The selected image information is published or hidden.

7.3.8 Synchronizing Image Information

Cloning image resource IDs are held in the image information.

If an cloning image is updated, the resource IDs are changed. Therefore, the resource IDs held in the image information must be updated. This is known as image information synchronization.

Follow the procedure below to synchronize image information:

1. On the **L-Platform Template** window, select the **Image** tab.
2. From the image information list, select the cloning image to be synchronized.
3. Click the **Synchronize** button.
4. If required, change the information on the **Synchronize Image Information** window.

Refer to "[7.4 Items to Set for Each Type of L-Platform Template Information](#)" for details of the information to be set.

5. Click the **OK** button.

A message indicating that the image information has been edited is displayed and the image information is changed.

7.4 Items to Set for Each Type of L-Platform Template Information

This section explains to items to be set in the various types of information comprising an L-Platform template.

Refer to the settings items explained here when performing the following L-Platform template operations:

- [7.3.2 Creating New L-Platform Template](#)
- [7.3.3 Copying L-Platform Template](#)
- [7.3.4 Editing L-Platform Template](#)
- [7.3.8 Synchronizing Image Information](#)

Note that only those items that can be set are explained here. Items that cannot be changed are not explained.

7.4.1 Software Information

This section explains software information.

Explanation of Items

- OS

Select one of the following software operating systems:

- Windows
 - Linux
 - Windows (64 bit)
 - Linux (64 bit)
- Software name

Enter up to 85 characters (excluding <, >, &, ", and ') for the software name

If this is filtered by category and operating system, the list of registered software information will be displayed. The software name can also be selected from the list and edited.

- Version

Enter up to 10 bytes (excluding <, >, &, ", and ') for the software version

- License

Enter up to 85 characters (excluding <, >, &, ", and ') for the software license information

If OS was specified for Category, specify the product key for the Windows operating system. This cannot be specified in Linux operating systems.

- When the virtualization software is VMware

For Windows Server 2003, specify the product key for the Windows operating system.

For an operating system that is not Windows Server 2003, specify " " (an empty string).

- When the virtualization software is Hyper-V

Specify the product key for the Windows operating system.

- Support

Enter up to 85 characters (excluding <, >, &, ", and ') for the software support information.

Operation Procedure

Follow the procedure below for operations at the window for setting software information:

1. Set each of the software information items.
2. Click the **Create** button.

The **Software** tab list window is displayed.



When the **Software** tab list window is displayed, tenant and keyword filtering, sorting, pages, and selected states are all reset.

7.4.2 Image Information

Set image information on the following five pages:

1. Select Image page (this page is only seen when creating new image information)
2. Set Basic Info page
3. Select Software page
4. Add Patch Info page
5. Confirm page

Note that the windows displayed when new image information is being created are used as examples in this explanation.

7.4.2.1 Select Image Page

On the Select Image page, select the cloning image that will be used.

Operation Procedure

Follow the procedure below for operations at the **Select Image** page:

1. Select an cloning image from the list.
2. Click the **Next** button.

The **Set Basic Info** page is displayed.

7.4.2.2 Set Basic Info Page

On the Set Basic Info page, set the basic information for the image information.

Explanation of Items

- Image information name

Enter up to 85 characters (excluding <, >, &, ", and ') for the image information name

- Type

Selects the registered L-Server template.

L-Server templates in which a model name is specified are not displayed. An L-Server template that does not specify a model name must be prepared before image information can be created for a physical L-Server.

- Usage

Selects the usage of the server included in the image from those shown below. Multiple options can be selected.

- WEB: Web Server

- AP: Application Server

- DB: DB Server

- System disk

Specifies the size of the system disk for a server included in the cloning image. Range: 0.1-99999.9 GB.

- Maximum number of CPUs

Specifies the maximum number of CPUs that can be specified when creating a new L-Platform.

Specify a value in the range from 1 to the upper limit value for the registered VM pool.

When the **Don't set upper value** checkbox is selected, behavior will be as if the maximum value of the registered VM pool has been specified.

- Maximum CPU performance

Specifies the maximum CPU performance in GHz, which can be specified when creating a new L-Platform.

Specify a value in the range from 0.1 to the upper limit value for the registered VM pool.

When the **Don't set upper value** checkbox is selected, behavior will be as if the maximum value of the registered VM pool has been specified.

- Maximum memory

Specifies the maximum memory size in GB, which can be specified when creating a new L-Platform.

Specify a value in the range from 0.1 to the upper limit value for the registered VM pool.

When the **Don't set upper value** checkbox is selected, behavior will be as if the maximum value of the registered VM pool has been specified.

- Maximum number of data disks

Specifies the maximum number of data disks that can be added to the server. Range: 0-99.

However, if the image includes a data disk, the minimum will be the maximum value of the data disk number.

- Maximum data disk size

Specifies the maximum size of the data disk size in GB, which can be specified when creating a new L-Platform.

Specify a value in the range from 0.1 to the upper limit value for the registered storage pool.

However, if the image includes a data disk, the minimum will be the largest disk capacity of all appended data disks.

When the **Don't set upper value** checkbox is selected, behavior will be as if the maximum value of the registered storage pool has been specified.

- Maximum number of NICs

Specifies the number of NICs. Range: 1-99.

- Initial password

Enter up to 85 characters (excluding <, >, &, ", and ') for the password for the users below.

[Windows]

Specified password is set to OS.

Can be omitted. if omitted, it is generated automatically.

- When the virtualization software is VMware

Specifies the password for the user name "Administrator".

- When the virtualization software is Hyper-V

Specifies the password for the local administrator account used in the L-Server that will be created.

[Linux]

Specifies the superuser password.

The password must match the password already set in the cloning image.

- Initial password (confirm)

Specifies the same value as Initial password.

- Resource tags

Enter up to 85 characters (excluding <, >, &, ", and ') for the character string that filters the resources to be displayed as deployment destination VM pool/server pool options when creating a new L-Platform

The only resources displayed as options are those for which the character string in the VM pool/server pool comment field contains the character string specified as the resource tags.



Example

Example: If the specification is as follows, only /VMPool1 and /VMPool2 are displayed as options:

/VMPool1 comment: web

/VMPool2 comment: web

/VMPool3 comment: ap

Resource tags: web

Operation Procedure

The operation procedure on the Basic information page is as follows:

1. Set the various basic information items for the image information.
2. Click the **Next** button.

The **Select Software** page is displayed.



Point

If an input item contains an error, and error message is displayed. If an error message is displayed, refer to the error message and correct the setting.

7.4.2.3 Select Software Page

On the Select Software page, set the software used in the cloning image in the image information.

Operation Procedure

The operation procedure on the Select Software page is as follows:

1. Select the check box for the software that will be set.
2. Click the **Next** button.

The **Add Patch Info** page is displayed.

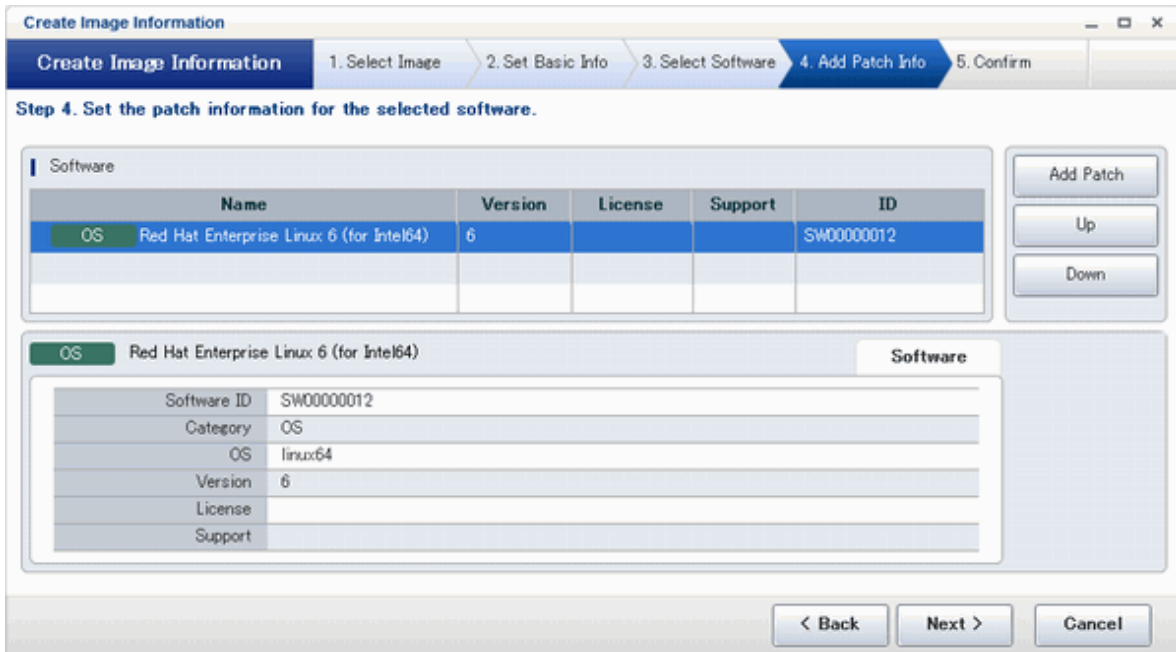
Point

If no selection is made or if multiple selections are made, an error message is displayed. Ensure that one selection is made.

7.4.2.4 Add Patch Info Page

Add, change, or delete software patch information at the **Add Patch Info** page.

The **Add Patch Info** page is shown below.



The screenshot shows a window titled "Create Image Information" with a progress bar indicating the current step is "4. Add Patch Info". The main content area is titled "Step 4. Set the patch information for the selected software." and contains a table of software information and a details panel for the selected software.

Name	Version	License	Support	ID
OS Red Hat Enterprise Linux 6 (for Intel64)	6			SW00000012

Buttons: Add Patch, Up, Down

Details Panel (Selected Software):

Software ID	SW00000012
Category	OS
OS	linux64
Version	6
License	
Support	

Navigation buttons: < Back, Next >, Cancel

Window Explanation

The upper part of the page displays a list of software information or patch information.

When software information or patch information is selected in the list, the lower part of the page displays details of the selected information.

Explanation of Buttons

- Add Patch

Adds patch information.

When the software or patch information is selected from the list at the top of the page, the **Add Patch** button will be displayed.

Refer to "[Add Patch Information](#)" for details.

- Up, Down

When the patch information is selected from the list at the top of the page and the **Up** or **Down** button is clicked, the patch information that was selected moves up or down.

- Delete

Deletes patch information.

When the patch information is selected from the list at the top of the page, the **Delete** button will be displayed.

Refer to "[Delete Patch Information](#)" for details.

Add Patch Information

The procedure to add patch information is as follows:

1. From the list at the top of the page, select the software or patch information for which the patch is to be added.
2. Click the **Add Patch** Button.

The patch information will be added below the selected software information or patch information.

3. The component name for the patch information and the input field for the description will be displayed at the bottom of the page. Enter the required items.

4. Click the **Next** button.

The **Confirm** page is displayed.

Explanation of Items

- Patch ID

Enter up to 32 bytes (an ASCII character string excluding <, >, &, ", and ') for the patch ID

The same patch ID cannot be set multiple times for one type of software.

The default is 'PATCH + "consecutive numbering (from 1)''.

- Component Name

Enter up to 85 characters (excluding <, >, &, ", and ') for the name of the component to which the patch is applied

- Description

Enter up to 85 characters (excluding <, >, &, ", and ') for the patch explanation.

Change Patch Information

To change the patch information that was set:

1. From the list in the upper part of the page, select the patch information to be changed.
2. Detailed information about the selected patch information will be displayed at the bottom of the page. Change the information as necessary.
3. Click the **Next** button.

The **Confirm** page is displayed.



.....
If the selected patch information was changed, the syntax check for the changed values will be performed automatically. If the syntax is correct, the patch information will be changed. If a syntax error occurred, an error message will be displayed and the pre-change values will be restored.
.....

Delete Patch Information

The procedure to delete patch information is as follows:

1. From the list in the upper part of the page, select the patch information to be deleted.
2. Click the **Delete** button.
A deletion confirmation message is displayed.
3. Click the **Yes** button.
The patch information is deleted.

7.4.2.5 Confirm Page

Check the set image information at the **Confirm** page, and create, copy, or edit the image information.

Operation Procedure

The operation procedure on the Confirm page is as follows:

1. Check whether the displayed content is valid.
If it is invalid, go back using the **Back** button, and configure correct settings.
2. Click the **Create** button.
A message indicating that the image information has been created is displayed, and the image information is registered.
Then, the **Image** tab list window is displayed.



When the **Image** tab list window is displayed, tenant, operating system, and usage filtering, and also sorting and selected states, are all reset.

7.4.3 Segment Information

This section explains segment information.

Explanation of Items

- Category

Select one of the following categories:

- Business Segment
- Manager Segment

- Segment type

Enter any character string (an ASCII character string not including <, >, &, ", or ') of up to 32 bytes to identify the segment.

To set a network resource for segment information that is specified in a rule set of a firewall, specify the same character string as SegmentType specified in the parameter file of the rule set.

Operation Procedure

The procedure to create segment information is as follows:

1. Set each of the segment information items.
2. Click the **Create** button.
The **Segment** tab list window is displayed.



Note

When the **Segment** tab list window is displayed, tenant and category filtering, sorting, and selected states are all reset.

7.4.4 Template Information

Set template information on the following three pages:

1. Set Basic Info page
2. Configure page
3. Confirm page

Note that the windows displayed when new template information is being created are used as examples in this explanation.

7.4.4.1 Set Basic Info Page

On the Set Basic Info page, set the basic information for the template information.

Explanation of Items

- Template name

Enter up to 85 characters (excluding <, >, &, ", and ') for the L-Platform template name

The L-Platform template name specified here is used for the default system name for the L-Platform.

For the system name, the characters that can be used and the length of the name vary depending on the method for setting resource names that has been specified by the system administrator.

It is recommended that L-Platform template names be specified within the following range, which is effective for any method for setting resource names.

- Names consisting of no more than 23 alphanumeric characters, underscores ("_") and hyphens ("-")

When the L-Platform template name is entered, it will be set as a keyword automatically. However, if the L-Platform template name is changed once the cursor has been moved to the keyword field, these changes will not be reflected in the keyword.

- Description

Enter up to 85 characters (excluding <, >, &, ", and ') to describe the L-Platform implemented by the L-Platform template, the contents of the L-Platform template, and so on.

- Keyword

Enter up to 85 characters (excluding <, >, &, ", and ') for the L-Platform template search keyword

If multiple keywords are set, separate each keyword using a space.

- Firewall

When setting a firewall, click **Set**, then select the ruleset from the **Firewall** window. This can be selected when creating a new template.

When deleting a firewall, click **Set**, then select None from the **Firewall** window.

- Maximum number of segments

Specify the maximum number of segments that can be used by the L-Platform. Specify a number between 1 and 99.

If a firewall rule set is selected, the values specified in the rule set are used as the maximum value and the initial value.

- Maximum number of L-Servers

Specify the maximum number of servers that can be used by the L-Platform. Specify a number between 1 and 30.

- License

Select whether a license has been assigned.

- Support

Select whether support has been assigned.

Operation Procedure

The operation procedure on the Set Basic Info page is as follows:

1. Set the various basic information items for the template information.
2. Click the **Next** button.

The **Configure** page is displayed.

Point

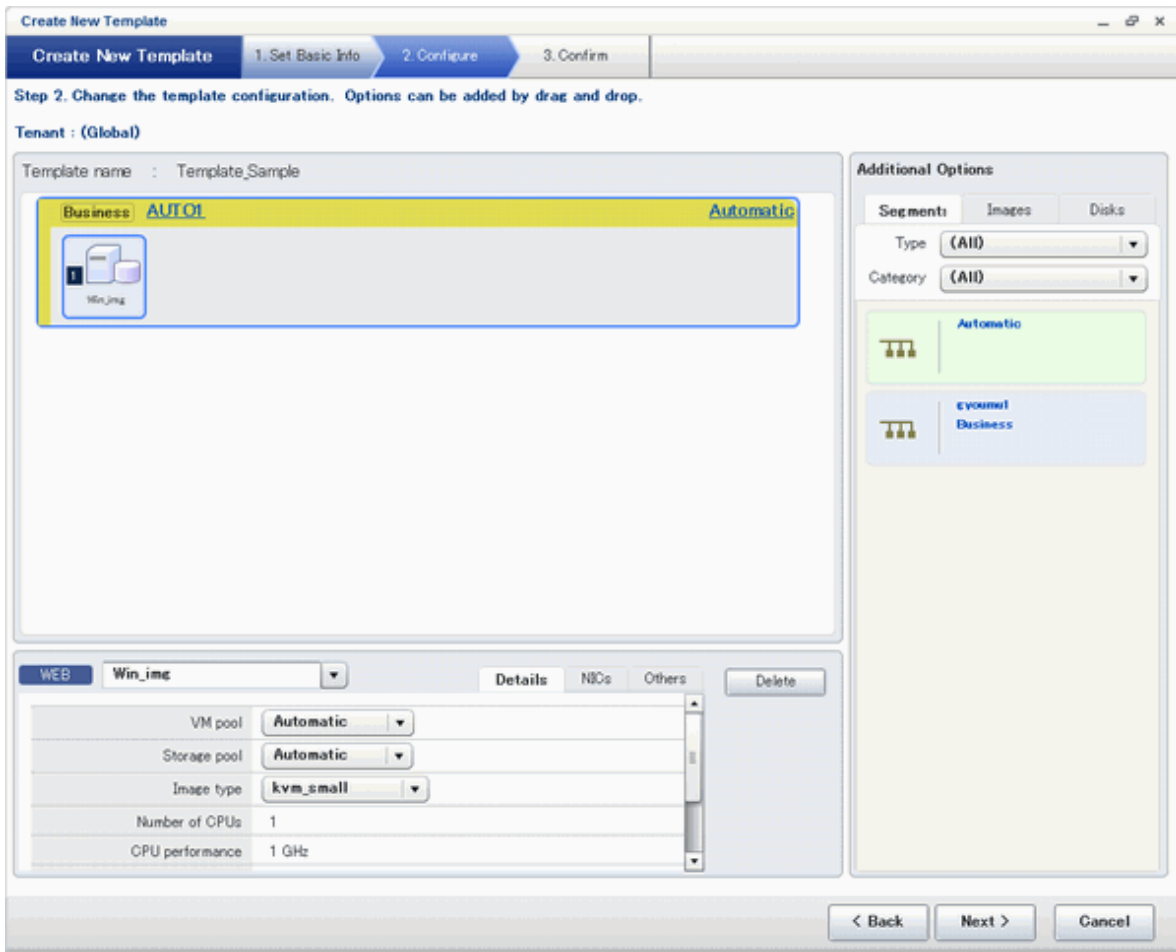
.....
If an input item contains an error, and error message is displayed. If an error message is displayed, refer to the error message and correct the setting.
.....

7.4.4.2 Configure Page

On the Configure page, set the segment, image, and disk configurations.






The segments, images, and disks that can be added are displayed in a list in Additional Options.






The **Configure** page is shown below.









Window Explanation

- The upper part of the page displays the L-Platform template configuration. This part is called the configuration display area.
- The lower part of the page displays details of the resource (firewall, segment, image, or disk) selected in the configuration display area.
- The right side of the page displays a list of the resources (segments, images, and disks) that can be added to the L-Platform template. This part is called the additional options.
- Icons displayed in the configuration display area are as follows.

Icon	Explanation
	Virtual server without data disks
	Virtual server with one data disk
	Virtual server with multiple data disks
	Physical server without data disks
	Physical server with one data disk

Icon	Explanation
	Physical server with multiple data disks
	NIC of a Virtual server
	NIC of a Physical server
	Grouped NICs
	Firewall

- Icons displayed in the Add options area are as follows.

Icon	Explanation
	Virtual image information without data disks
	Physical image information without data disks
	Virtual image information with data disks
	Management segment
	Business segment
	Data disk

Explanation of Items (Firewall)

- Firewall name

Enter up to 32 bytes (excluding <, >, &, ", and ') for the firewall name

- Settings value

Click **Set** to display the **Setting** window.

The **Setting** window displays a list of the various types of information defined in the rule set.

Only the settings values can be changed.

Explanation of Items (Segments)

- Segment name

Enter up to 20 bytes (ASCII character string excluding <, >, &, ", and ') for the segment name

- Category

Select one of the following categories:

- Business

- Management

However, the category can be selected only for automatic selection segments.

- Segment type

Enter any character string (an ASCII character string not including <, >, &, ", or ') of up to 32 bytes to identify the segment.

However, a segment identifier can be specified only for automatic selection segments.

- Maximum number of NICs

Enter the maximum number of servers that can connect to the segment. Specify a number between 1 and 30.

However, for segments defined in the firewall, the upper limit is the value specified in the firewall rule set.

If multiple NICs of the same server were connected to the same segment, each NIC will be mounted as one server.

- Resource ID

Select a network resource. It is selectable only when creating or copying the L-Platform template.

The network resources displayed in the list are the automatically selected networks and those matching the character string specified by the segment identification information.

If desired network resources are not listed, create or edit the segment information for each of these network resources and specify the segment identification information same as in the rule set.

Information

.....

An automatic selection segment refers to segment information that has not been related to a network resource.

Network resources are automatically selected for automatic selection segments, and network resources are selected automatically when an L-Platform is created.

.....

Explanation of Items (Images)

- Server name

Enter up to 85 characters (excluding <, >, &, ", and ') for the server name

- VM pool

Select the VM pool resource that is the server deployment destination.

This can also be changed at the time of deployment.

- Storage pool

Select the storage pool resource that is the server deployment destination.

This can also be changed at the time of deployment.

- Image type

Selects the registered L-Server template that will be selected by default.

Note

.....

- If an existing disk is added, the L-Server template cannot be changed from an RHEL-KVM L-Server template if the VM-type is an RHEL-KVM L-Server template.

- If a new disk is added, the L-Server template cannot be changed to an RHEL-KVM L-Server template if the VM-type is not an RHEL-KVM L-Server template.

.....

- Boot priority

Sets the priority order when performing batch power supply operations in either the L-Platform or the tenant. Range:1-256.

The smaller the value, the higher the priority order.

Explanation of Items (Disks)

- Storage pool

Select the storage pool resource that is the data disk deployment destination.

This cannot be modified in the following cases:

- With an existing disk
 - When the storage pool of the data disk is the same as the storage pool of the system disk when the data disk has been appended to a cloning image
- Data disk size

Specify the size of the disk in GB.

This cannot be modified in the following cases:

- With an existing disk
- When the data disk has been appended to a cloning image

Operation Procedure

Follow the procedure below to perform **Configure** page operations:

1. In the additional options, select the tab (Segment, Image, or Disk) of the resource to be added
2. Drag and drop to the resource configuration area the resource to be added to add it to the template information.

The table below shows the correspondences between resources to be added and information that can be dragged and dropped.

Table 7.3 Correspondences between resources to be added and information that can be dragged and dropped

Resource to be added	Drag and drop information
Segment	Template
Image	Segment
Disk	Image

Note

- If the resource being added is an image, the only segments that can be dropped in an image created from a physical L-Server are control segments.
- If the resource being added is a disk, the only existing disks that can be dropped are the following:
 - An image created from a physical L-Server
 - An image whose L-Server template VM type is RHEL-KVM
- If the resource being added is a disk, it is not possible to drag-and-drop a new disk to an image whose L-Server template VM type is RHEL-KVM.
- Disks cannot be added or deleted from cloning images that include data disks.

3. Select the added resource, and then edit the resource.
4. Click the **Next** button.

The **Confirm** page is displayed.

Information

If an image was dragged from Additional Options and then dropped in a segment, then all the NICs will be set in that segment.

While the image is selected, the NIC ID for that image will be displayed.

Point

If an input item contains an error, and error message is displayed. If an error message is displayed, refer to the error message and correct the setting.

7.4.4.3 Confirm Page

On the **Confirm** page, check the configuration of the set template information, and create, copy, or edit the L-Platform template.

Operation Procedure

The operation procedure on the Confirm page is as follows:

1. Check whether the displayed content is valid.

If it is invalid, go back using the **Back** button, and configure correct settings.

2. Click the **Create** button.

A message indicating that the template information has been created is displayed, and the L-Platform template is registered.

Then, the **Template** tab list window is displayed.

Note

When the **Template** tab list window is displayed, tenant and keyword filtering, sorting, pages, and selected states are all reset.

Chapter 8 L-Platform

This chapter explains how to use the L-Platform.

8.1 Display L-Platform

This section explains how to display the L-Platform and describes the top page.

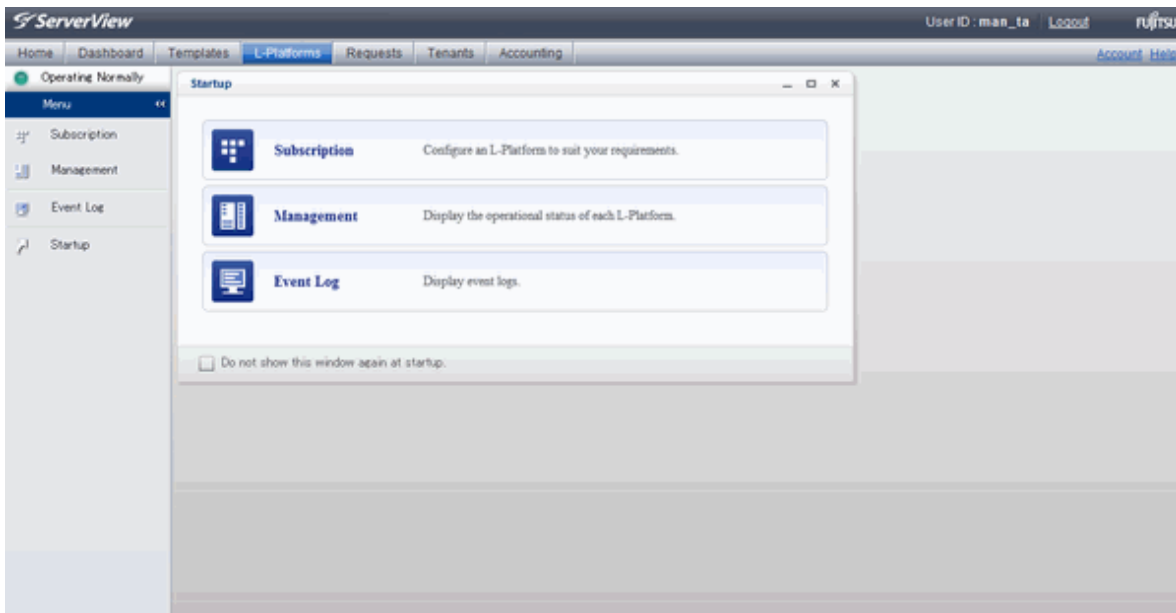
How to display the L-Platform

To display the L-Platform:

- On the ROR Console after login, select the **L-Platform** tab.

L-Platform Top Page

An example of the L-Platform home page is shown below.



The following section explains the contents of the L-Platform operation menu:

- L-Platform Subscription
When **Subscription** is selected, the page used to subscribe to a service will be displayed.
Refer to "[8.2 Subscribe to an L-Platform](#)" for the L-Platform management method.
- L-Platform Management
When Management is selected, a list of created L-Platforms is displayed.
Refer to "[8.3 L-Platform Management](#)" for the L-Platform management method.
- Event logs
When Event Log is selected, logs of information about errors that have occurred while using the L-Platform functions will be displayed.
Refer to "[8.4 Display Event Logs](#)" for the event log display method.
- Startup
When Startup is selected, major functions of L-Platform and their overview will be displayed.

Point

The **Startup** page is displayed as the home page of L-Platform. To prevent the **Startup** page from being displayed as the home page, select the **Do not show this window again at startup** check box.

- **Close** link

When **Close** link is clicked, the confirmation window for closing the window will be displayed. Click **Yes** on the confirmation window to close the L-Platform window.

Note

- If it becomes impossible to connect by the management server stop and etc. when L-Platform is being operated, the lamp in the menu becomes gray and the message "Not Operating" is displayed. In this case, contact the system administrator. According to the displayed window and the performed operation, an error message like the following may be displayed.
 - Failed to get system configuration.
 - Failed to get the access right.

8.2 Subscribe to an L-Platform

This section explains how to subscribe to an L-Platform

Point

It may take several minutes for an L-Platform subscription request to be accepted according to the number and the configuration of servers that compose the L-Platform.

After the **Subscribe** button is clicked, operations such as closing the browser, clicking the **Back** button of the browser, or reloading the current page, before the subscription request is accepted, may cause the request to be cancelled. Do not perform other operations before the request is accepted.

8.2.1 Subscribe to a New L-Platform

On the **Subscription** page of L-Platform, the user can subscribe to an L-Platform on the basis of the specification that has been registered.

Two methods are available to subscribe to a new L-Platform. The method to be used is determined by the method of subscription that the Infrastructure administrator department has specified.

- L-Platform Template reconfiguration not possible
Changes to registered L-Platform Templates are not permitted.
- L-Platform Template reconfiguration possible
Changes to registered L-Platform Templates are permitted.

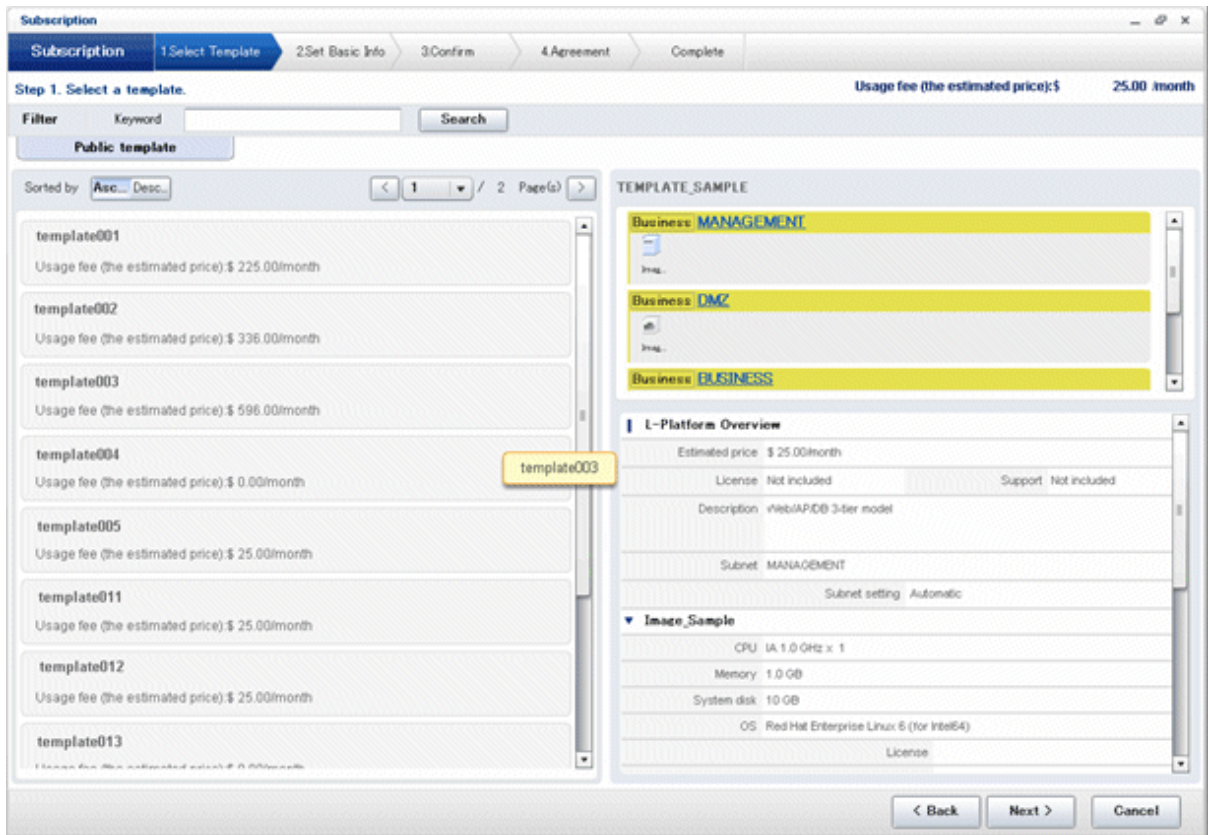
The procedure for each method is shown below.

L-Platform Template Reconfiguration not Possible

Follow the steps below to subscribe to a new L-Platform:

1. Select **Subscription** on the operation menu of **New L-Platform** page.
The **Subscription** page will be displayed.
2. Confirm the procedures on the **Subscription** page, and click the **Subscribe a new L-Platform** button.
3. Confirm the contents of the L-Platform template on the **Select Template** page, and select L-Platform template to be used.
All the L-Platform templates that are registered in the L-Platform and enabled are displayed on the **Select Template** page.
For each L-Platform template, the corresponding usage fees will also be displayed.

Estimated charges for the L-Platform template will only be displayed when the usage fees display is set to enabled.



L-Platform templates are displayed by the L-Platform template name in ascending order. The sequence in the specification display can be switched by clicking **Sorted by** followed by the **Ascending order** or **Descending order** button.

To search an L-Platform template using the keyword search function, enter **Keyword** and then click the **Search** button. Specify a character string in **Keyword** that is the keyword for the L-Platform template the user wants to use. When a keyword is specified, a search takes place based on the keywords that the Infrastructure administrator set in the specifications. The keyword search function cannot be used if the Infrastructure administrator did not set keywords.

For example, to search a specification where Red Hat Linux 5.1 is installed as the operating system, specify "Linux 5.1".

4. Select the L-Platform template to be used and click the **Next** button.

The **Set Basic Info** page will be displayed.

The **L-Platform Name** displays the L-Platform template name.

To change to an arbitrary name, the new name must be no more than 85 characters long, be unique within the organization and not include the following characters:

< > & ' " and control characters

However, the strings and the number of characters that can be specified may vary depending on the L-Platform settings.

It is recommended that the name be specified using no more than 23 of the following characters:

Alphanumeric characters, underscores ("_") and hyphens ("-")

5. Enter a name to **L-Platform Name**, and click the **Next** button.

The **Confirm** page will be displayed.



CSV output

When the **Save as CSV** button is clicked, the **Select the destination to save** window is displayed where the L-Platform Template configuration can be saved as a CSV file.

The default CSV file name format is shown below. This file name can be modified as necessary.

```
SystemConfiguration (+ <L-Platform name >+)_ <date> + .csv
```

Save configuration

By clicking the **Save Configuration** button, the L-Platform configuration is saved, and the display returns to the **Subscription** page. The saved L-Platform template can be subscribed by clicking the **Create from saved L-Platforms** button on the **Subscription** page.

6. Check the displayed contents of the L-Platform configuration, and click the **Next** button.
When the **Next** button is clicked, the **Agreement** page will be displayed.
7. Check the license agreement displayed. Select the **Agree the license** check box, then, click the **Subscribe** button.



When the application process is enabled, clicking of the **Subscribe** button on the **Agreement** page displays the **Forward screen** window. Refer to "8.5 Select Forward Destination of Application Process" for details.

The **Complete** page will be displayed when the subscription to the L-Platform is accepted.

- When the application process is disabled
The following message will be displayed:
"A request to subscribe the L-Platform has been completed. The deployment may take some time to complete."
- When the application process is enabled
The following message will be displayed:
"The request to subscribe the L-Platform has been completed. The L-Platform will be deployed after approval and/or judgement procedures."

8. Click the **Close** button. The display returns to the **Subscription** page.



When a subscribed L-Platform is deployed, a subscription completion notification email is sent to the subscriber. This email contains the information necessary to access the L-Platform.

If deployment of the subscribed L-Platform fails, a subscription failure notification email is sent to the subscriber and the Infrastructure Administrator. In this case, check with the Infrastructure Administrator, and then subscribe again.

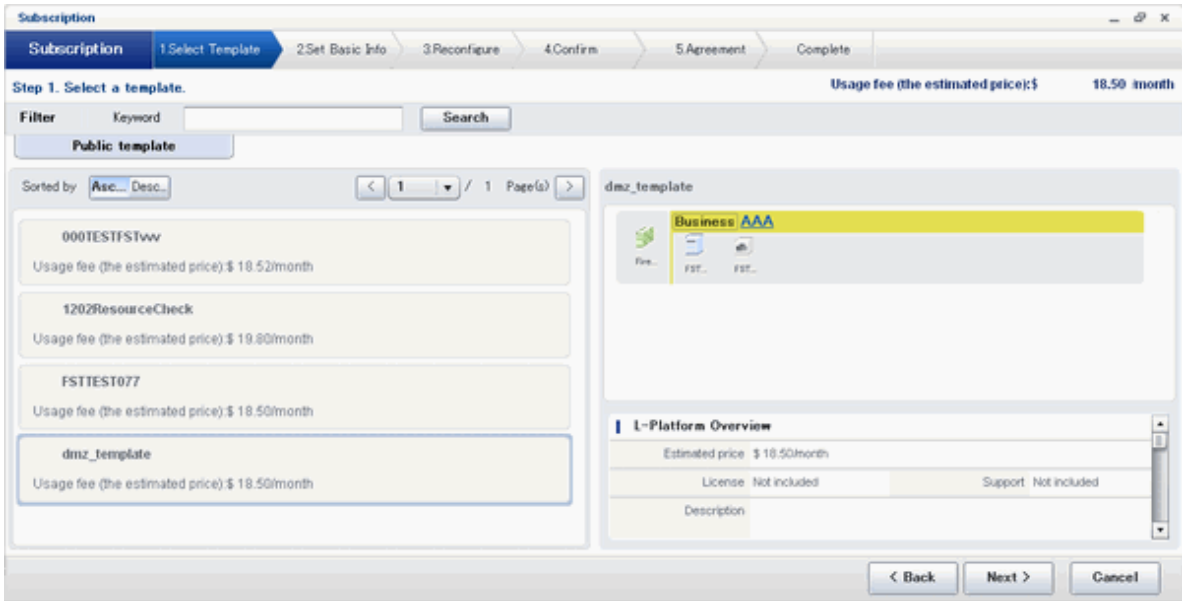
L-Platform Template Reconfiguration Possible

Follow the steps below to subscribe to a new L-Platform:

1. Select **Subscription** on the operation menu of the **Subscription** page.
The **Subscription** page will be displayed.
2. Confirm the procedures on the **Subscription** page, and click the **Subscribe a new L-Platform** button.
3. Confirm the contents of the L-Platform templates on the **Select Template** page, and select the L-Platform template to be used.
All the L-Platform templates that are registered in the L-Platform and enabled are displayed on the **Select Template** page.

For each L-Platform template, the corresponding usage fees will also be displayed.

Estimated charges for the L-Platform template will only be displayed when the usage fees display is set to enabled.



L-Platform templates are displayed by the L-Platform template name in ascending order. The sequence in the specification display can be switched by clicking **Sorted by** followed by the **Ascending order** or **Descending order** button.

To search a specification using the keyword search function, enter **Keyword** and then click the **Search** button.

Specify a character string in **Keyword** that is the keyword for the L-Platform template the user wants to use. When a keyword is specified, a search takes place based on the keywords that the infrastructure administrator set in the specifications. The keyword search function cannot be used if the infrastructure administrator did not set keywords.

For example, to search an L-Platform template where Red Hat Linux 5.1 is installed as the operating system, specify "Linux 5.1".

4. Select the L-Platform template to be used and click the **Next** button.

The **Set Basic Info** page will be displayed.

The **L-Platform Name** is displayed by the L-Platform template name.

To change to an arbitrary name, the new name must be no more than 85 characters long, be unique within the organization and not include the following characters:

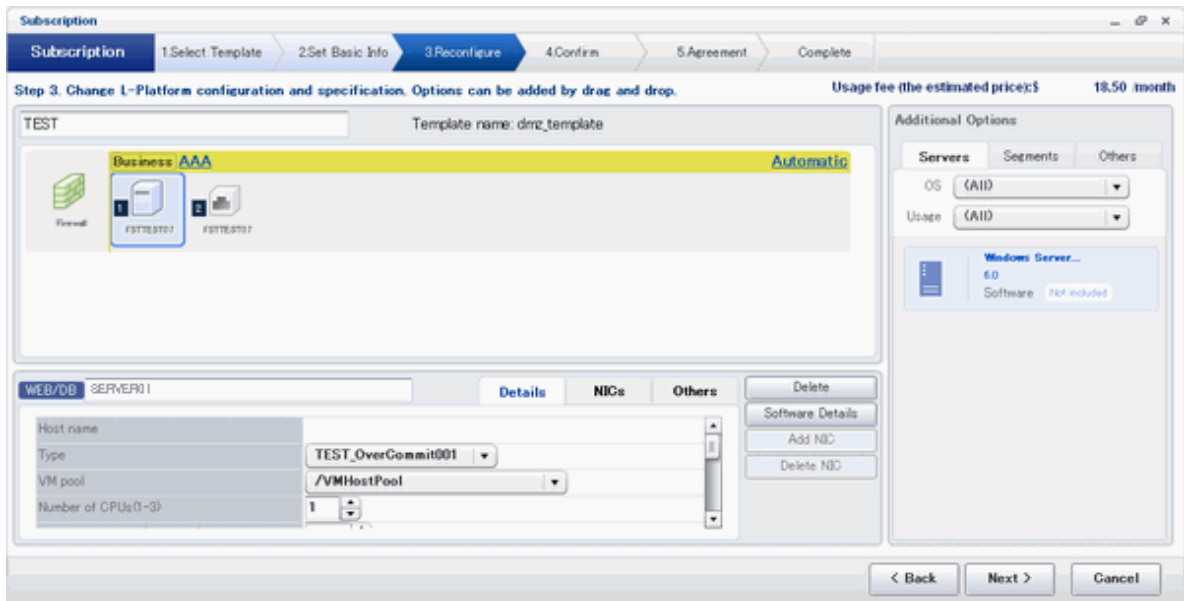
<, >, &, ', " and control characters

However, the strings and the number of characters that can be specified may vary depending on the L-Platform settings.

It is recommended that the name be specified using no more than 23 of the following characters.

Alphanumeric characters, underscores ("_") and hyphens ("-")

5. Enter a name to **L-Platform Name**, and click the **Next** button.
The **Reconfigure** page will be displayed.



6. This will display the configuration of the L-Platform template selected on the **Reconfigure** page. Change the configuration as required.
For the items that can be changed on the **Reconfigure** page, refer to "[8.3.13 Reconfiguration Page](#)".
7. When modification of the L-Platform template has completed, click the **Next** button.
The **Confirm** page will be displayed.

Item	Display format
Item changed	The values of changed items are displayed in red. The value before the change is displayed as "changed from <i>the old value</i> ".
Item added	"* added" is displayed after added elements. The values of added items are displayed in red. The background of added items is also displayed in red.
Item deleted	"* deleted" is displayed after deleted items. The background of deleted items is displayed in grey.

Point

CSV output

When the **Save as CSV** button is clicked, the **Select the destination to save** window is displayed where the L-Platform Template configuration can be saved as a CSV file.

The default CSV file name format is shown below. This file name can be modified as necessary.

```
SystemConfiguration (+ <L-Platform name> +)_ <date> + .csv
```

Save configuration

By clicking the **Save Configuration** button, the L-Platform configuration is saved, and the display returns to the **Subscription** page. The saved L-Platform template can be subscribed by clicking the **Create from saved L-Platforms** button on the **Subscription** page.

8. Check the displayed contents of the L-Platform, and click the **Next** button.
When the **Next** button is clicked, the **Agreement** page will be displayed.

- Review and agree with the license agreement displayed. Select the **Agree the license** check box, then, click the **Subscribe** button.

Point

When the application process is enabled, clicking of the **Subscribe** button on the **Agreement** page displays the **Forward** screen window. Refer to "8.5 Select Forward Destination of Application Process" for details.

The **Complete** page will be displayed when the subscription to the L-Platform is accepted.

- When the application process is disabled

The following message will be displayed:

"A request to subscribe the L-Platform has been completed. The deployment may take some time to complete."

- When the application process is enabled

The following message will be displayed:

"The request to subscribe the L-Platform has been completed. The L-Platform will be deployed after approval and/or judgement procedures."

- Click the **Close** button. The display returns to the **Subscription** page.

Point

When a subscribed L-Platform is deployed, a subscription completion notification email is sent to the subscriber. This email contains the information necessary to access the L-Platform.

If deployment of the subscribed L-Platform fails, a subscription failure notification email is sent to the subscriber and the Infrastructure Administrator.

8.2.2 L-Platform Subscription after Saving Configuration

An L-Platform subscription can be submitted on the basis of an L-Platform Template for which the configuration is currently being saved.

Perform the following steps to submit an L-Platform subscription from this type of L-Platform Template:

- Select **Subscription** on the operation menu of the **Subscription** page.
This will display the procedures required to subscribe to an L-Platform.
- After confirming the procedure, select **Subscribe from saved data**.
The **Select Template** page will be displayed.

The time limit for estimating is displayed in each L-Platform templates.

When an L-Platform Template is selected from the L-Platform Template list, detailed information about the usage fees and L-Platform Template at the time when the L-Platform Template was saved is displayed.

When the application process is enabled, the following status will be displayed before the L-Platform template names in the list of L-Platform templates:

- **SAVED**: Specification being saved
The **Next** button will become available after selecting this item.
- **UNAPPROVAL**: Not approved
The **Next** button will not become available even after selecting this item.
- **REJECTION**: Subscription rejected
The **Next** button will not become available even after selecting this item.

Note

In the application process, the L-Platform templates waiting to approve or to assess become the **UNAPPROVAL** state.

If you want to delete the L-Platform templates which state is UNAPPROVAL, cancel the corresponding application from application list of L-Platform. After canceling, it is deleted automatically.

When you delete the L-Platform templates which state is UNAPPROVAL on L-Platform template, errors occurs because there is no L-Platform template in processing the application process.

The L-Platform template which is rejected or dismissed at application process becomes REJECTION state.

Delete it from L-Platform after the confirmation if necessary.

Point

Usage fees and quotation expiry dates for the L-Platform template will only be displayed when the usage fees display is set to enabled. Note also that the usage fees will display the price at the time the L-Platform template was saved. In particular, please be aware that this display will not change even if the price of the L-Platform is modified.

Furthermore, the displayed quotation expiry date is based on the validity period of estimated charges for the L-Platform template, and indicates the 30th day after the L-Platform template was saved.

-
3. Select the L-Platform template to be used and click the **Next** button
The **Confirm** page will be displayed.

Point

CSV output

When the **Save as CSV** button is clicked, the **Select the destination to save** window is displayed where the L-Platform template can be saved as a CSV file.

The default CSV file name format is shown below. This file name can be modified as necessary.

```
SystemConfiguration (+ <L-Platform name> +)_ <date> + .csv
```

-
4. Check the displayed contents of the L-Platform configuration, and click the **Next** button.
When the **Next** button is clicked, the **Agreement** page will be displayed.
 5. Review and agree with the license agreement displayed. Select the **Agree the license** check box, then, click the **Subscribe** button.

Point

- When the application process is enabled, clicking of the **Subscribe** button on the **Agreement** page displays the **Forward screen** window. Refer to "8.5 Select Forward Destination of Application Process" for details.
- The saved specification will be removed if the **Subscribe** button on the **Agreement** page is clicked. To keep the specification, click the **Cancel** button.

The **Complete** page will be displayed when the subscription to the L-Platform is accepted.

- When the application process is disabled

The following message will be displayed.

"A request to subscribe the L-Platform has been completed. The deployment may take some time to complete."

- When the application process is enabled

The following message will be displayed.

"The request to subscribe the L-Platform has been completed. The L-Platform will be deployed after approval and/or judgement procedures."

6. Click the **Close** button. The display returns to the **Subscription** page.

When a subscribed L-Platform is deployed, a subscription completion notification email is sent to the subscriber. This email contains the information necessary to access the L-Platform.

If deployment of the subscribed L-Platform fails, a subscription failure notification email is sent to the subscriber and the Infrastructure Administrator. In this case, check with the Infrastructure Administrator, and then subscribe again.

8.3 L-Platform Management

This section explains how to use the **Management** page to manage L-Platforms that are in use.

The L-Platforms targeted by L-Platform management vary in accordance with the user, as follows:

- Infrastructure Administrator
All L-Platforms.
- Tenant Administrator
All L-Platforms being used by owned tenants.
- Tenant users
Only L-Platforms in use by the user.

The **Management** page can be used to display a list of the L-Platforms currently being used.

The following L-Platform operations can also be performed:

- L-Platform detailed information display
- Disk detailed information display
- Server start and stop
- L-Platform reconfiguration
- Taking snapshots of and restoring virtual servers
- Physical server backup and restore
- L-Platform cancellation

8.3.1 L-Platform Management Display Page

This section explains how to display the L-Platform management page and explains the display format.

L-Platform Management Page Display Method


From the operation menu on the **L-Platform** page, select **Management**.

L-Platform Management Page Display Format

The L-Platform management page has the following three types of display format.


Display format	Description
L-Platform Management	Displays the L-Platform configuration images in a list
L-Platform Management (list)	Displays the L-Platform list
Server List	The list displays virtual servers. It can display all servers or inactive servers.

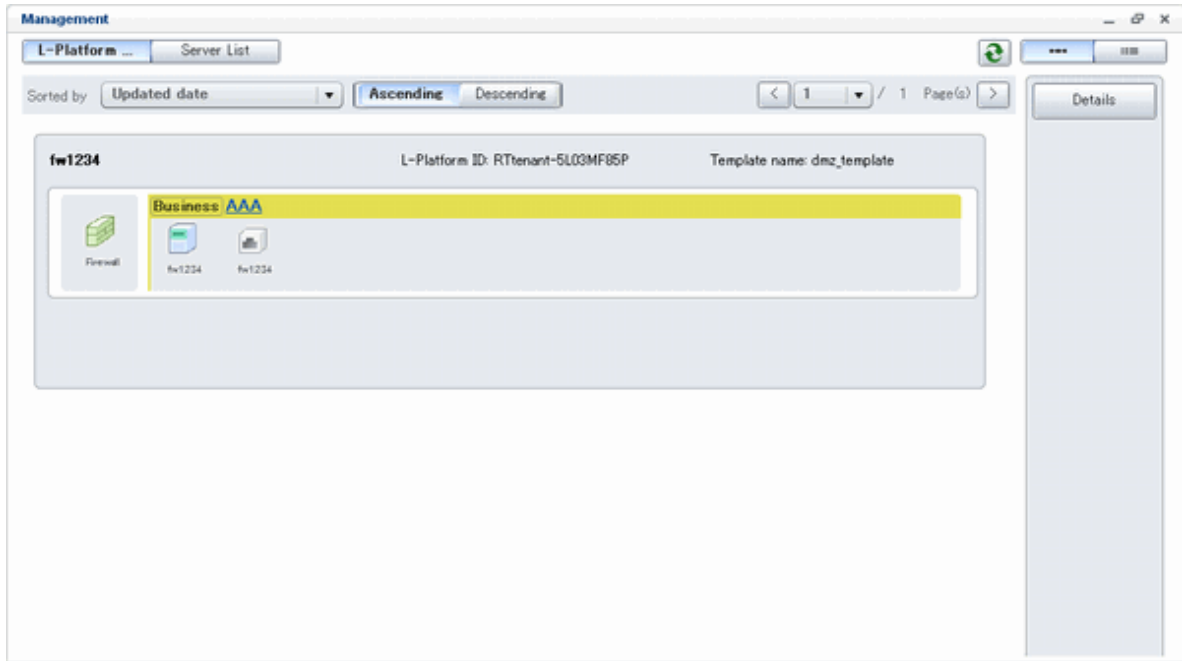
The buttons in the upper-left section of the page can be used to switch between the "L-Platform Management" and "Server List" display formats.

The display can be switched between the "configuration" format and the "list" format using the button located on the top right hand side of the page ().

Examples of each display format are shown below:

- L-Platform Management

Click the **Management** button on the top left hand side of the page and then click the button () on the top right hand side of the page to display an L-Platform list in a configuration image.



The following information can be checked on the **Management** page:

The following information can be checked using the **Management** page:

- L-Platform name: The L-Platform name set during L-Platform subscription
- L-Platform ID: The ID that identifies the L-Platform
- L-Platform Template name: The name of the L-Platform Template
- L-Platform configuration: The L-Platform configuration image


The sequence of the L-Platforms displayed can be switched by clicking **Sorted by** followed by the **Ascending order** or **Descending order** button for the following items:

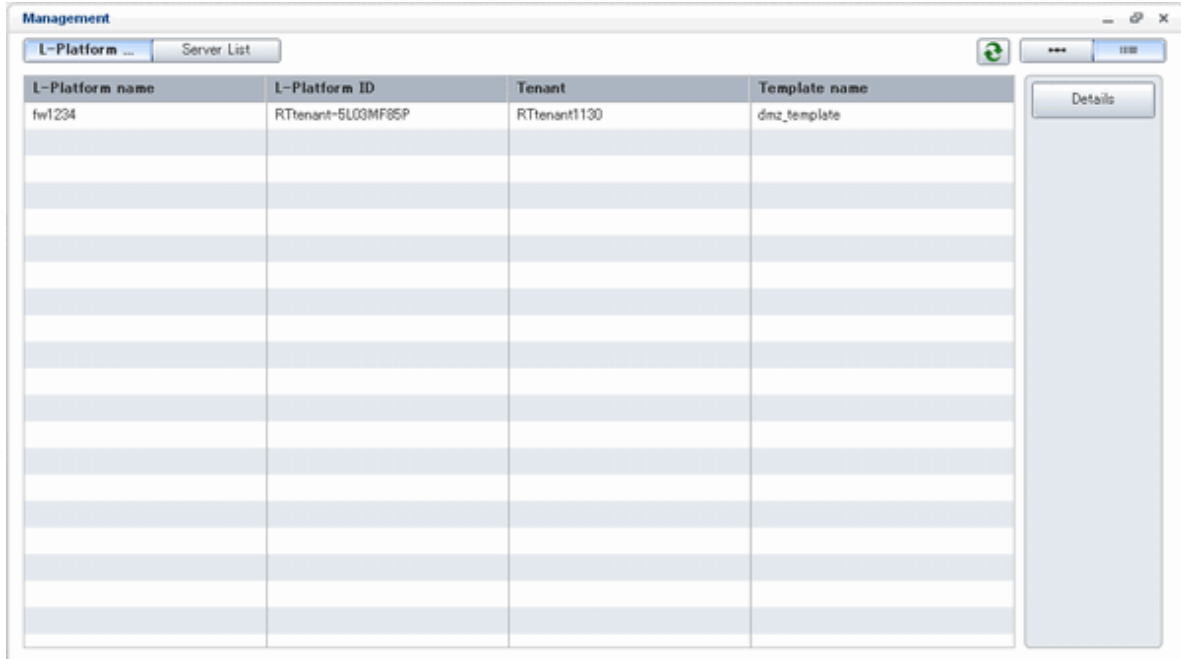
- Update date
- L-Platform name
- L-Platform ID

Point

Using the **Details** button, details of the L-Platform can be displayed on the **Management** page. Refer to "[8.3.2 L-Platform Detailed Information Display](#)" for information on displaying the L-Platform details.

- L-Platform Management (list)

Click the **Management** button on the top left hand side of the page and then click the button  on the top right hand side of the page to display a list of information on the L-Platforms.



L-Platform name	L-Platform ID	Tenant	Template name
fw1234	RTenant-5L03MF65P	RTenant1130	dmz_template

The following information can be checked on the **L-Platform Management (list)** page.

- L-Platform name: The L-Platform name set during L-Platform subscription
- L-Platform ID: An ID to identify the L-Platform
- Organization information: Identification number for the organization
- L-Platform template name: Name of the L-Platform template

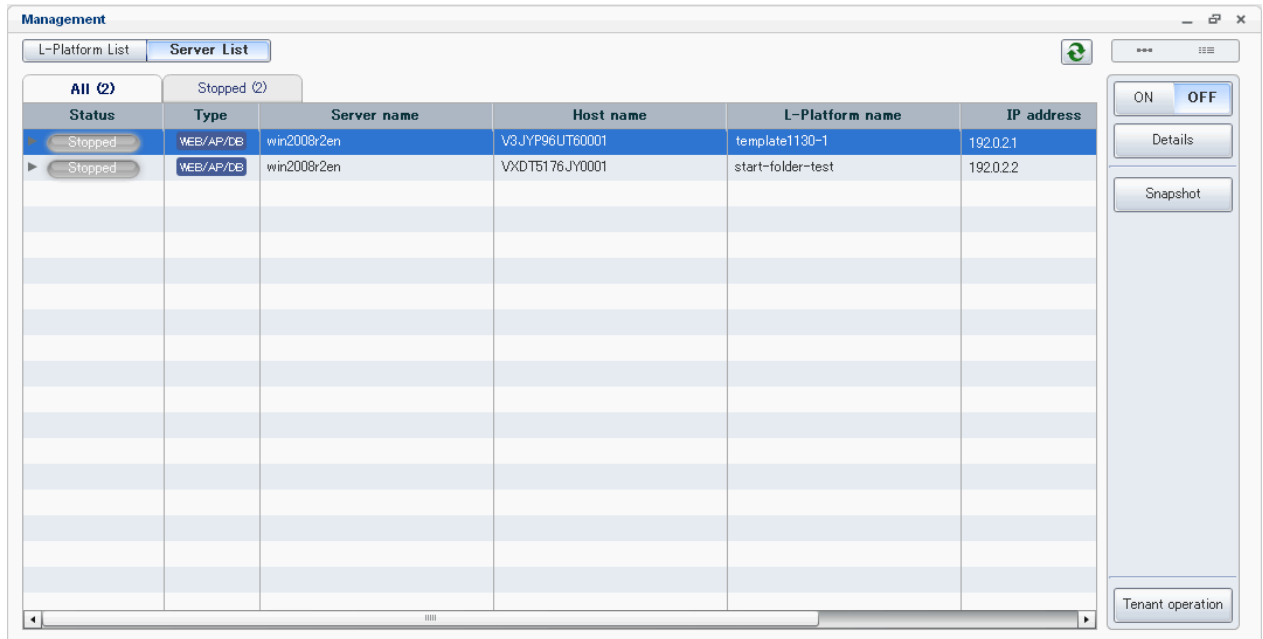
The sequence of the L-Platforms displayed can be switched between ascending order and descending order by clicking the column headers (L-Platform name, L-Platform ID, etc).

 Point

Using the **Details** button, details on the L-Platform can be displayed on the **L-Platform Management (list)** page. Refer to "8.3.2 L-Platform Detailed Information Display" for information on displaying the L-Platform details.

- Server List

Click the **Server List** button on the top left hand side of the page to display a list of information on servers included in an L-Platform. The following shows an example of all servers being displayed. To display inactive servers, click the **Stopped** tab.



The following information can be checked on the **Server List** page.

- Status: Server status (Running, Stopped)
- Type: Server type
- Server name: Server name
- Host name: The server host name. However, this is not displayed for a physical server
- L-Platform name: The L-Platform name set during L-Platform subscription
- IP address: IP address of the server
- Backup/Snapshot: Status of taking and restoring the backup and snapshots
- Generation: Number of snapshots or backup stored
- Number of snapshots: Number of snapshots or number of executed backups

The sequence of the servers displayed can be switched between ascending order and descending order by clicking the column headers (status, type, etc).

Point

The following buttons can be used to operate on the **Server List** page.

- **ON** button: Start the server
Refer to "[8.3.4 Start and Stop the Server](#)" for information on starting the server.
- **OFF** button: Stop the server
Refer to "[8.3.4 Start and Stop the Server](#)" for information on stopping the server.
- **Details** button: Display details on an L-Platform or a disk.
Refer to "[8.3.2 L-Platform Detailed Information Display](#)" for information on displaying L-Platform details. Refer to "[8.3.3 Display Details on a Disk](#)" for information on displaying details on a disk.
- **Snapshot** button: Take and restore snapshots Refer to "[8.3.6 Take and Restore Snapshot](#)" for information on taking and restoring snapshots. However, this is not displayed for Solaris container management servers.

- **Backup** button: Backup and restore.
This button is displayed for physical servers.
Refer to "8.3.7 Physical Server Backup and Restore" for information on backup and restore.
- **Tenant operation** button: operations for Tenant.
Refer to "8.3.10 Tenant Operation" for information on tenant operation.

Note

The **Running** icon for a server indicates that the power has been turned on.
Even if the **Running** icon is displayed, login to the L-Platform may fail if logged in immediately after deployment or starting the virtual server. In this case, allow a few minutes before trying to log in again.

8.3.2 L-Platform Detailed Information Display

Follow the steps below to display the details of L-Platform:

1. Display the **L-Platform Management, L-Platform Management (list), or Server List** page.
Refer to "8.3.1 L-Platform Management Display Page" for information on how to display the page.
2. Click the **Details** button after selecting the L-Platform or the server required.
The **L-Platform Details** page will be displayed.

There are two types of display format for the **L-Platform Details** page below. The display format can be switched using the button () located on the top right hand side of the page.

- L-Platform configuration image


By clicking the button () located on the top right hand side of the page, the L-Platform configuration is displayed as an image.

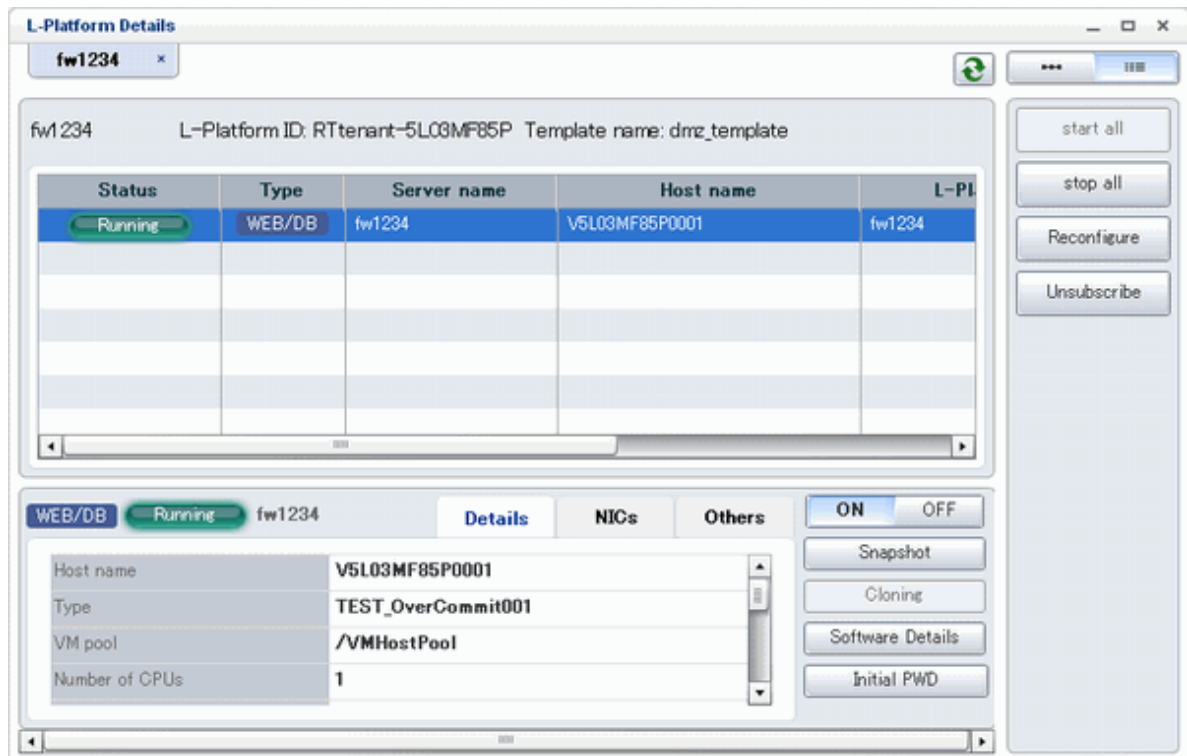
The screenshot shows the 'L-Platform Details' window for instance 'fw1234'. The window title is 'L-Platform Details' and the instance name is 'fw1234'. The L-Platform ID is 'RTtenant-5L03MF85P' and the template name is 'dmrz_template'. The instance is in a 'Business' state with 'AAA' availability. It shows a 'Firewall' icon and two server icons labeled 'fw1234'. The status is 'Running' and the power is 'ON'. The 'Details' tab is active, showing the following configuration:

Host name	V5L03MF85P0001
Type	TEST_OverCommit001
VM pool	/VMHostPool
Number of CPUs	1

On the right side, there are control buttons: 'start all', 'stop all', 'Reconfigure', and 'Unsubscribe'. At the bottom right, there are buttons for 'Snapshot', 'Cloning', 'Software Details', and 'Initial PWD'. The window also has a refresh button and a format switcher (radio buttons) at the top right.

- Server List

By clicking the button () located on the top right hand side of the page, a list of all virtual servers included in the L-Platform is displayed. The server List also displays the extended disks included in the virtual servers.



 Point

The following buttons can be used on the **L-Platform Details** page:

- **start all** button: Turns the power on for all servers in the L-Platform as a group.
- **stop all** button: Turns the power off for all servers in the L-Platform as a group.
- **Reconfigure** button: Changes the L-Platform
Refer to "[8.3.11 L-Platform Reconfiguration](#)" for information on changing L-Platforms. However, this is not displayed include for Solaris container management servers.
- **Unsubscribe** button: Cancels the L-Platform
Refer to "[8.3.12 Cancel an L-Platform](#)" for information on cancelling L-Platforms. However, this is not displayed include for Solaris container management servers
- **ON** button: Start the server
Refer to "[8.3.4 Start and Stop the Server](#)" for information on starting the server.
- **OFF** button: Stop the server
Refer to "[8.3.4 Start and Stop the Server](#)" for information on stopping the virtual server.
- **Snapshot** button: Take and restore snapshots
This button is displayed for virtual servers. However, this is not displayed for Solaris container management servers.
Refer to "[8.3.6 Take and Restore Snapshot](#)" for information on taking and restoring snapshots.
- **Backup** button: Backup and restore
This button is displayed for physical servers.
Refer to "[8.3.7 Physical Server Backup and Restore](#)" for information on backup and restore.
- **Setting** button: Setup firewall
This button is displayed for firewall.
Refer to "[8.3.9 Setup Firewall](#)" for information on setup firewall.

- **Cloning** button: Collects a cloning image from an already deployed server. However, this is not displayed for Solaris container management servers.
Refer to "[8.3.8 Image Collection](#)" for information on image collection.
- **Software Details** button: Display software information
- **Initial PWD** button: Confirm the initial password
Depending on the L-Platform settings, the "Initial password" is " ". Sometimes it is displayed as ".
The initial password is set after L-Platform deployment.
- **Add Patch Information** button: Register the patch information
Refer to "[8.3.5 Manage Patch Information](#)" for information on registering patch information.
- **Delete Patch Information** button: Delete the patch information
Refer to "[8.3.5 Manage Patch Information](#)" for information on deleting the patch information.

 **Note**

If 'start all' or 'stop all' button is clicked while another user is reconfiguring the L-Platform, the start or stop operation fails with the error code VSYS10051.

If this error occurs when no user is reconfiguring the L-Platform, perform the following operation before starting or stopping all servers.

1. Click the Reconfigure button on the L-Platform Details page.
2. After the following message is displayed, click the 'Obtain the lock on a mandatory basis' button, and then cancel the reconfiguration.

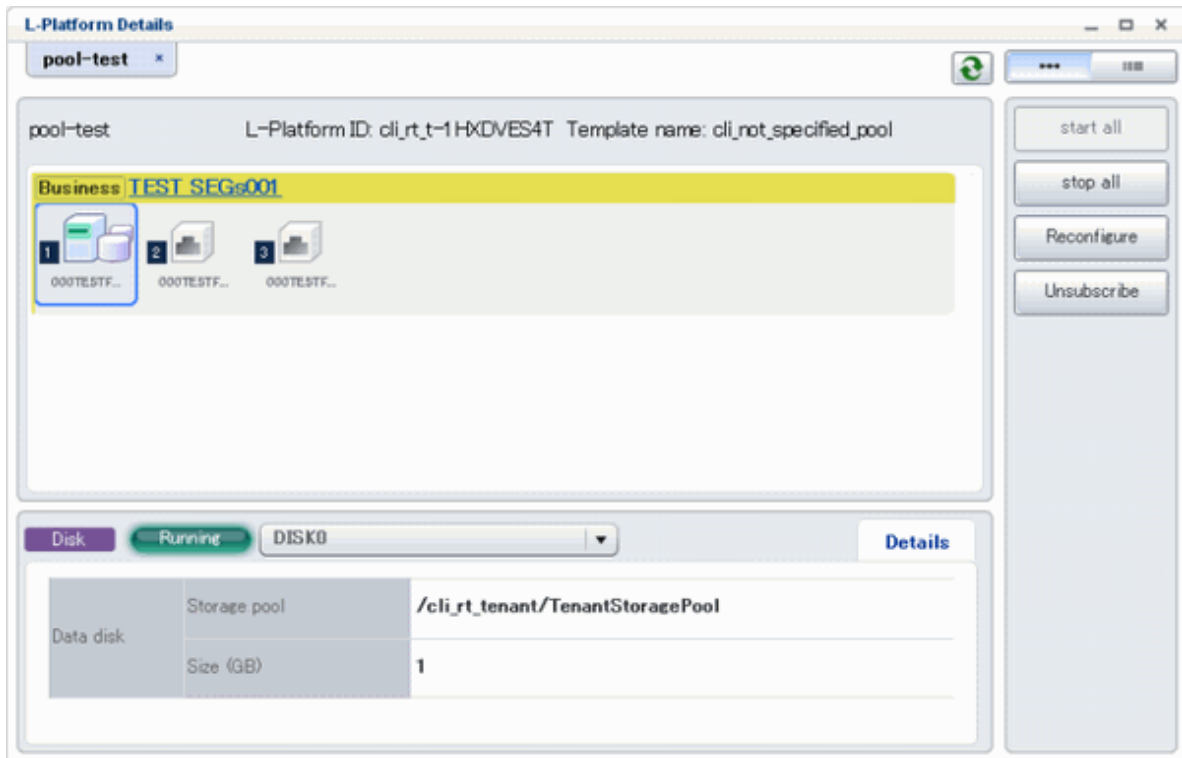
The L-Platform is locked by another user.
After obtaining the lock on a mandatory basis, the operation can be continued.

8.3.3 Display Details on a Disk

Follow the steps below to display the details of a disk located on the virtual server:

1. Display the **L-Platform Details** page.
Refer to "[8.3.2 L-Platform Detailed Information Display](#)" for information on how to display the page.

- After selecting the virtual server to which the disk is added, select the target disk from the menu. The details of the disk will be displayed on the **L-Platform Details** page.



Point

The following buttons can be used on the **L-Platform Details** page displaying the details of the disk.

- **Reconfigure** button: Modify an L-Platform template
Refer to "[8.3.11 L-Platform Reconfiguration](#)" for information on modifying an L-Platform template.
- **Unsubscribe** button: Cancel an L-Platform
Refer to "[8.3.12 Cancel an L-Platform](#)" for information on canceling an L-Platform.

8.3.4 Start and Stop the Server

Follow the steps below to start or stop a server:

- Display the **Server List** page.
Refer to "[8.3.1 L-Platform Management Display Page](#)" for information on how to display the page.
Alternatively, display the **L-Platform Details** page.
Refer to "[8.3.2 L-Platform Detailed Information Display](#)" for information on how to display the page.
- After selecting a required server, click the **ON** button to start it or the **OFF** button to stop it.

Note

Even if the server is stopped using the **OFF** button, sometimes the server may not stop, due to a problem with the server. In this case, the **ON** button and **OFF** button act as Forced stop buttons. When a **Forced stop** button is clicked, the server will stop forcibly.

The **Forced stop** button is designed to shut down the power to the server.

Therefore, the recommendations for virtual servers is to use remote desktop connection to connect to the virtual server, and then to shut down the operating system.

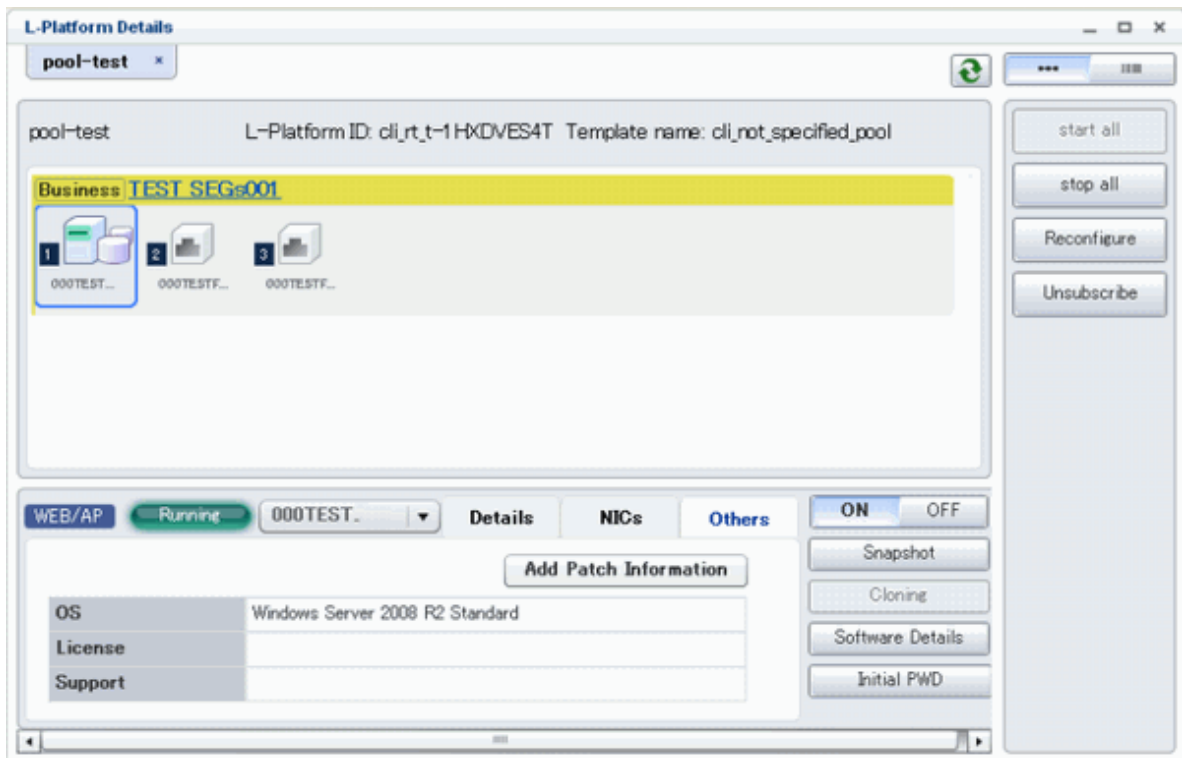
8.3.5 Manage Patch Information

Patch information can be managed after it is applied to or deleted from a server that has been deployed.

Register Patch Information

Follow the steps below to register patch information:

1. Display the **L-Platform Details** page.
Refer to "8.3.2 L-Platform Detailed Information Display" for information on how to display the page.
2. After selecting the required server, select the **Others** tab.
The following page will be displayed if the patch information has not been registered.



3. Click the **Add Patch Information** button.
The **Add Patch Information** page will be displayed.

Item	Description
Patch ID	Specify the patch ID that has been applied. The patch ID must be no more than 32 bytes of alpha-numeric one-byte characters.
Component name	Specify the name of the component where the patch is to be applied. The name must be no more than 85 characters long and not include the following characters: <, >, &, ', " and control characters
Description	Specify the description related to the patch information that has been applied. The description must be no more than 85 characters long and not include the following characters: <, >, &, ', " and control characters

4. Enter the required fields and click the **OK** button.

Delete Patch Information

Follow the steps below to delete patch information that has been registered:

1. After selecting the required server on the **L-Platform Details** page, select the **Others** tab.
2. Click the **Delete patch information** button of the patch information to be deleted.
A message confirming the deletion will be displayed. Click the **OK** button.

8.3.6 Take and Restore Snapshot

Using the **Snapshot** page, snapshots can be taken and restored for the virtual server.

To take the restore them, the target virtual server must be inactive.

Snapshot is managed by the generation. Snapshots of older generations will be deleted if snapshots that are older than three generations are to be taken.

Contact the system administrator if it is necessary to take snapshots over 4 or more generations.



- The function for taking and restoring snapshots is supported if the virtualization software is either VMware or Hyper-V. If the virtualization software is RHEL-KVM, there is no function for taking and restoring snapshots.
Also, there is no function for taking and restoring snapshots for Solaris container management servers.
- The server will enter an error state if an error occurs while taking or restoring snapshots.
When this occurs, a character string "Error" and **x** button will be displayed on the **Snapshot** column of the relevant row on the **Server List** page. To clear the error state, click the **X** button.
- The backup products that support the virtual server backup operations located on the virtualization software must be used to back up the virtual server to a disk or tape device that is not the disk device the virtual server is running on.
- When the configuration is modified after taking the snapshots and those snapshots are restored, the server may be restored to the state before the configuration was modified. It is recommended that new snapshots be taken after the configuration is modified.
- Even if a created snapshot is not deleted, contact the System Administrator if it is not displayed in the Snapshot window.

Take Snapshots

Follow the steps below to take snapshots:

1. Display the **Server List** page.
Refer to "[8.3.1 L-Platform Management Display Page](#)" for information on how to display the page.
Alternatively, display the **L-Platform Details** page.
Refer to "[8.3.2 L-Platform Detailed Information Display](#)" for information on how to display the page.
2. After selecting a required server, click the **Snapshot** button.
The **Snapshot** page will be displayed.
3. Click the Start to **Take Snapshot** button.
4. A pop-up window will be displayed. Enter a comment of less than 128 characters.
This will display the comment entered on the snapshot list.
5. Click the **Take Snapshot** button to start taking the snapshot.

Restore Snapshots

Follow the steps below to restore the taken snapshots:

1. Select the required snapshot from the snapshot list on the **Snapshot** page.
2. When the **Restore** button is clicked, the restore processing of the snapshot will start.

Point

To delete the snapshots taken, select the snapshot to be deleted from the snapshot list, and click the **Delete** button.

Note

Only the operation of taking of the snapshot and restoring is displayed in the history on the **Snapshot** page.

8.3.7 Physical Server Backup and Restore

The Backup page can be used to back up and restore a physical server.

The target physical server must be running before performing backup and restore.

Backup is managed by the generation. Backups of older generations will be deleted if snapshots that are older than three generations are to be taken.

Contact the system administrator if it is necessary to take backups over 4 or more generations.

Note

- If an error occurs during backup or restore processing, an error state occurs for the server. At this time, the character string "Error" and an **X** button are displayed in the Backup column of the relevant row of the **Server List** page. The error status can be cancelled by clicking this **X** button.
- If a server is reconfigured after backup, when the server is restored it may revert to the configuration prior to the reconfiguration. It is recommended to make a new backup after reconfiguration.

Backup

Follow the steps below to backup:

1. Display the **Server List** page.
Refer to "[8.3.1 L-Platform Management Display Page](#)" for information on how to display the page.
Alternatively, display the **L-Platform Details** page.
Refer to "[8.3.2 L-Platform Detailed Information Display](#)" for information on how to display the page.
2. After selecting a required server, click the **Backup** button,
The **Backup** page will be displayed.
3. Click the **Take Backup** button.
4. A pop-up window will be displayed. Enter a comment of less than 128 characters.
This will display the comment entered on the backup list.
5. Click the **Take Backup** button to start backup.

Restore

Perform the following operations to restore a backed up server:

1. In the backup list in the Backup page, select the target backup.
2. Click the **Restore** button to start the restore.

8.3.8 Image Collection

Collect a cloning image from an already deployed server.

The target server must be stopped if it is a virtual server and must be started if it is a physical server before collecting a cloning image.

Note

- When the target is a physical server, if the Cloning page is closed after starting to collect an image, the Cloning page will not be able to be opened until the image collection finishes.
- The **Cloning button** is not displayed for Solaris container management servers.
- With VMware servers, if images are collected without data disks included, the actual collected image will be an image including data disks. However, the image information registered after image collection will not include data disks, so if this image information is used to deploy a server, it is deployed only a system disk.

Perform the following steps to collect an image:

1. Display the **L-Platform Details** page
Refer to "[8.3.2 L-Platform Detailed Information Display](#)" for the display method.
2. Select the target server, and then click the **Cloning** button.
The Cloning page is displayed.
3. Click the **Cloning** button.
4. A pop-up window is displayed.
 - Name: Enter up to 32 single-byte characters.
 - Comment: The comment can be omitted. Enter up to 256 characters.
 - Destination image pool: From the drop-down menu, specify the output destination image pool.
 - Data disk: Specify whether to include the disk in the image if the server includes a data disk.
5. When the **Cloning** button is clicked, image collection starts.

8.3.9 Setup Firewall

Change the firewall settings.

The firewall rule set parameter values can be changed in the firewall settings.

Perform the following steps to change the firewall settings:

1. Display the **L-Platform Details** page
Refer to "[8.3.2 L-Platform Detailed Information Display](#)" for the display method.
2. Select the firewall, and then click the **Setting** button.
3. A pop-up window is displayed.
 - Label: Displays the parameter label
 - Description: Displays an explanation of the parameter
 - Value: Enter the value to be set for the parameter
4. When the **Update** button is clicked, a confirmation message is displayed.
Click the **OK** button to save and apply the firewall settings.

Point

Firewall settings cannot be set by L-Platform subscription or L-Platform reconfiguration.

After an L-Platform is deployed, check the IP addresses of the servers included in the L-Platform and the port numbers used by the installed middleware. Then, set the allowed IP addresses and port numbers in the relevant rule set parameters in the firewall settings.

8.3.10 Tenant Operation

Follow the steps below to do tenant operation.

1. Display the Server List page.
Refer to "8.3.1 L-Platform Management Display Page" for information on how to display the page.
2. Click the **Tenant operation** button.
Tenant operation page will be displayed.
3. Click **Start servers** button to start all servers in the tenant. Click **Stop servers** button to stop all servers in the tenant.



Start or Stop servers failed in following conditions.

- There are deploying or reconfiguring L-Platforms in the tenant.
- There are servers in following conditions.
 - starting
 - stopping
 - taking backup
 - taking snapshot
 - restoring
 - cloning

8.3.11 L-Platform Reconfiguration

The system configuration that configures the L-Platform in use can be modified on the **Reconfigure** page.



- **Reconfigure** page allows the configuration of the L-Platform to be modified. However, this may only be used when modifications to the configuration of the L-Platform template have been allowed by the infrastructure administrator.
- In a reconfiguration of a deployed server, which items can be changed depends on the type and the power status of the server.

[Virtual server]

- The server is not running

Items other than the following can be changed:

- Host name
- Storage pool
- VM pool
- Storage pool and disk capacity of the system disk
- Storage pool and disk capacity of the deployed data disk
- IP address
- Number of NIC

- The server is running

The following items can be changed:

- Change the system name
- Change the server name
- Change the disk name

- Add a server
- Add a disk
- Setting the startup priority level

Along with these, there are items that can be modified depending on the type of virtualization software. Details are shown below.

Item name	Change type	Virtualization software		
		VMware	Hyper-V	RHEL-KVM
Number of CPUs	Add	Y	N	N
	Reduce	N	N	N
CPU Performance	Add	Y	Y	Y
	Reduce	Y	Y	Y
CPU Reserved	Add	Y	Y	-
	Reduce	Y	Y	-
[VMware] CPU Shares [Hyper-V] CPU Weight	Add	Y	Y	-
	Reduce	Y	Y	-
Memory Size	Add	Y	N	Y
	Reduce	N	N	Y
[VMware] Memory Reserved [Hyper-V] Memory RAM	Add	Y	N	-
	Reduce	Y	N	-
[VMware] Memory Shares [Hyper-V] Memory Weight	Add	Y	Y	-
	Reduce	Y	Y	-
Server Type	Modify	Y	Y	Y

- Y : Can be changed when the server is running
- N : Cannot be changed when the server is running
- : No item or cannot be specified

If Server Type is changed, the following items are changed at the same time.

- Heartbeat
- Redundancy
- Automatic server release

[Physical server]

Regardless of the power status, only the following items can be changed.

- Server name
- Server type
- Boot priority

- Regardless of whether or not an L-Platform reconfiguration completion notification email is received, check with the Infrastructure Administrator if an L-Platform is not changed. In this case, the change processing may have failed at the virtual server.
- If a Solaris container management server is included, configuration modification is not possible.
- If Server Type is changed, the following items are changed at the same time.
 - Number of CPUs
 - CPU Performance
 - CPU Reserved
 - CPU Shares/ CPU Weight
 - Memory Size
 - Memory Reserved/Memory RAM
 - Memory Shares/ Memory Weight
 - Heartbeat
 - Redundancy
 - Automatic server release

If it is needed to change only Redundancy, Heartbeat, or Automatic server release, set the CPU and memory items again to the previous values after changing Server Type.

Follow the steps below to modify the system configuration that configures the L-Platform in use:

1. Display the **L-Platform Details** page.
Refer to "8.3.2 L-Platform Detailed Information Display" for information on how to display the page.
2. Click the **Reconfigure** button and display the **Reconfigure** page.
3. Modify the system configuration as required on the **Reconfigure** page.

Usage fees corresponding to the system reconfiguration will be displayed in the top-right of the window.

Point

Estimated charges for the L-Platform will only be displayed when the usage fees display is set to enabled. The displayed usage fees will be calculated according to current prices, and not according to prices at the time of deployment.

Note

The size and pool cannot be changed for system disks and extended disks that have already been deployed. If a cloning image associated with the image information includes a data disk, changes to the number of disks cannot be made until deployment is complete.

4. When the L-Platform is modified, click the **Next** button.
The **Confirm** page will be displayed.

The difference between the old L-Platform and the new L-Platform is displayed as follows:

Item	Display format
Item changed	The values of the changed items are displayed in red. The old value is displayed as "Changed from <i>the old value</i> ".
Item added	"*Added" is displayed after items that have been added. The values of the added items are displayed in red. The background of the added item is displayed in red.

Item	Display format
Item deleted	"*Deleted" is displayed after items that have been deleted. The background of the deleted item is displayed in gray.

Point

CSV output

When the **Save as CSV** button is clicked, the **Select the destination to save** window is displayed where the L-Platform template can be saved as a CSV file.

The default CSV file name format is shown below. This file name can be modified as necessary.

```
SystemConfiguration (+ <L-Platform name> +)_ <date> + .csv
```

Save specification

Click the **Save Configuration** button to save the L-Platform configuration, and the display returns to the **Management** page.

When the L-Platform template is saved, an icon () will be displayed after the L-Platform template name.

- Check the displayed contents of the L-Platform configuration, and click the **Next** button.
The **Agreement** page will be displayed.
- Check the license agreement displayed. Select the **Agree the license** check box, and then, click the **Reconfigure** button.

Point

When the application process is enabled, clicking of the **Reconfigure** button on the **Agreement** page displays the **Forward screen** window. Refer to "[8.5 Select Forward Destination of Application Process](#)" for details.

The **Complete** page will be displayed when an application for modification of an L-Platform is accepted.

- When the application process is disabled

The following message will be displayed:

"The request to reconfigure the L-Platform has been completed. The reconfiguration take some time to complete."

- When the application process is enabled

The following message will be displayed:

"The request to reconfigure the L-Platform has been completed. The L-Platform will be reconfigured after approval and/or judgement procedures."

Point

When an L-Platform is changed, an L-Platform reconfiguration completion notification email is sent to the subscriber.

If an L-Platform change fails, an L-Platform reconfiguration failure notification email is sent to the subscriber and the Infrastructure Administrator. In this case, check with the Infrastructure Administrator about the action required.

8.3.12 Cancel an L-Platform

Follow the steps below to cancel an L-Platform:

- Display the **L-Platform Details** page.
Refer to "[8.3.2 L-Platform Detailed Information Display](#)" for information on how to display the page.
- Stop all the servers of the system that configures the L-Platform to be canceled.
Refer to "[8.3.4 Start and Stop the Server](#)" on information on how to stop a server.

3. Click the **Unsubscribe** button.
The **Confirm** page will be displayed.
4. Confirm that the correct L-Platform is being canceled, and click the **Next** button.
The **Agreement** page will be displayed.
5. Select the **Agree the license** check box to cancel the subscription, and click the **Unsubscribe** button.

 **Point**

When the application process is enabled, clicking of the **Unsubscribe** button on the **Unsubscribe** page displays the **Forward screen** window. Refer to "[8.5 Select Forward Destination of Application Process](#)" for details.

The **Complete** page will be displayed when the L-Platform is canceled.

- When the application process is disabled
The following message will be displayed.
"The L-Platform has been unsubscribed."
- When the application process is enabled
The following message will be displayed.
"The L-Platform to unsubscribe the L-Platform has been completed. The L-Platform will undeployed after approval and/or judgement procedures."

 **Note**

When the following events occur, cancellation application may become impossible.

Notify the Infrastructure Administrator of the content displayed on the window.

- The pop-up blocker has been enabled and the 'Forward screen' window is not displayed.
- An error message is displayed on the 'Forward screen' window.

 **Point**

When an L-Platform is cancelled, a cancellation completion notification email is sent to the subscriber.

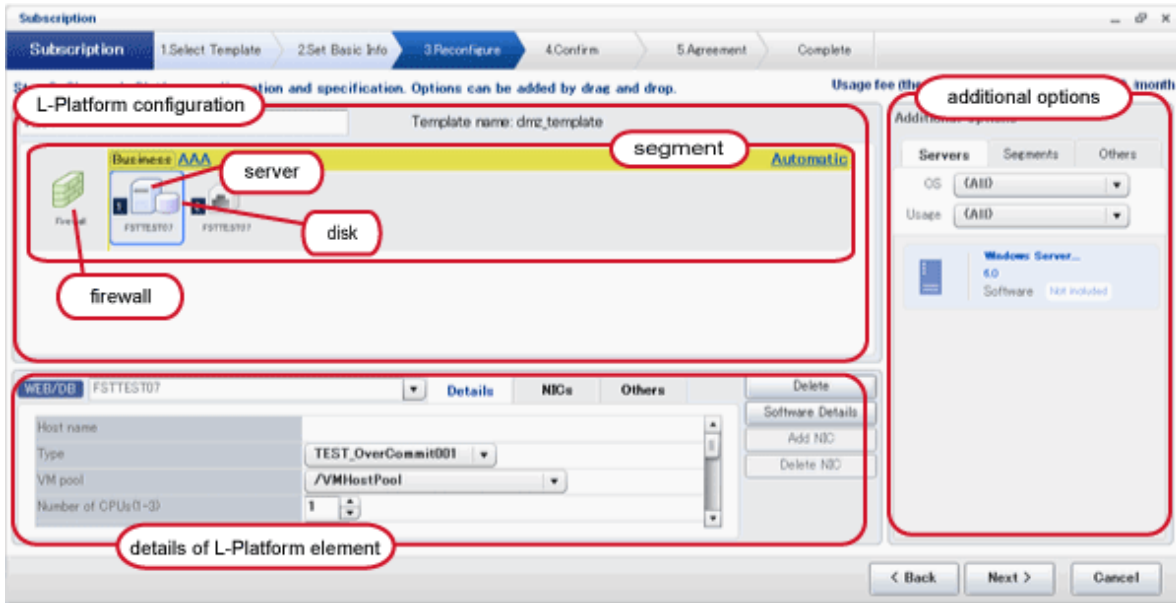
If an L-Platform cancellation fails, a cancellation failure notification email is sent to the subscriber and the Infrastructure Administrator. In this case, check with the Infrastructure Administrator about the action required.

8.3.13 Reconfiguration Page

The following configuration can be defined on the **Reconfigure** page.

- Segment: Represents a network segment located on the L-Platform
- Virtual server: Represents a server on the L-Platform
- Physical server: Represents a physical server.
- Disk: Represents an extended disk that is not a system disk but can be added to the virtual server or physical server.

An example of the **Reconfigure** page display is shown below.









The configuration of the **Reconfigure** page is shown below:

Part	Description
L-Platform configuration	Located on the top of the page, this area expresses the L-Platform in terms of the elements of firewall, segment, virtual server, physical server and disk. When an element is selected, the element is displayed in the Details of configuration element.
Add options	Located on the right hand side of the page, this area lists the elements of, the virtual server, physical server, segment and disk that can be added to the L-Platform The listed elements can be dragged and dropped into the L-Platform using a mouse and added to the virtual system configuration as elements.
Details of L-Platform element	Located at the bottom of the page, this area allows the details of a selected L-Platform element to be edited By clicking the Delete button, the elements such as a virtual server or physical server or a disk can be deleted from the L-Platform. Software information can be checked in a new window by clicking the Software details button. Click the Add NIC button to add NICs. The Add NIC button is enabled only if NICs can be added. Click the Delete NIC button to delete selected NICs.





Icons displayed in the L-Platform configuration area are as follows.

Icon	Explanation
	Virtual server without data disks
	Virtual server with one data disk
	Virtual server with multiple data disks
	Physical server without data disks







Icon	Explanation
	Physical server with one data disk
	Physical server with multiple data disks
	NIC of a Virtual server
	NIC of a Physical server
	Grouped NICs
	Firewall

Icons displayed in the L-Platform configuration area to indicate server statuses are as follows.

These are example icons for a virtual server without disks. There are corresponding icons also for a physical server and for a server with no data disk, one data disk, and multiple data disks.

Icon	Explanation
	Stopped
	Running
	Starting, stopping, being deployed, or in a failover
	Failed to start or stop

Icons displayed in the Add options area are as follows.

Icon	Explanation
	Virtual image information without data disks
	Physical image information without data disks
	Virtual image information with data disks
	Management segment
	Business segment
	Data disk

Edit the L-Platform

The L-Platform can be edited on the **Reconfigure** page.

The L-Platform name entered on the **Basic info** page can be modified.

Segments cannot be added or deleted using configuration modification on an L-Platform that has already been deployed.

To add a virtual server or physical server, a virtual server or physical server listed in **Servers** tab of **Additional options** can be dragged and dropped into the segments.

To add a disk, a disk listed in **Others** tab of **Additional options** can be dragged and dropped into the virtual server or physical server.

The types of disks that can be added are new disks and existing disks. New disks can be added to virtual servers and physical servers. Existing disks are displayed if an Infrastructure Administrator has registered them to a storage pool that can reference already created disk resources, and can be added to physical servers.

Firewall

When the firewall is selected, its rule set can be checked. The firewall cannot be deleted.

Firewall tab

Part	Description
rule set	Displays the name of the 'rule set' set for the firewall. The rule set name cannot be changed.

Click **Setting** button to check the parameter values in the rule set. The values set as the default are the values specified in the L-Platform template.



Note

- The firewall for a server added by a new L-Platform subscription or L-Platform reconfiguration is set after the L-Platform is deployed. Refer to "8.3.9 Setup Firewall" for details.

Edit a Segment

A segment can be edited by selecting the segment to be edited.

It is possible to select whether a subnet allocated to the segment can be set automatically or manually in the segment editing. Note, however, that subnets cannot be modified in the L-Platform configuration after the system has been deployed.

If the network to be connected to is specified in the L-Platform template, the specified network remains selected.

The following window displays an example of the **Reconfigure** page when a segment name is clicked. The following window shows the **Reconfigure** page used to subscribe to an L-Platform.

Details of configuration element Segment tab

Part	Description
Category	Specify the category when an automatically selected segment is added. The default is "Business segment". <ul style="list-style-type: none"> - Business segment: A segment where business servers are deployed - Management segment: A segment where servers that monitor business or similar are deployed
Segment type	Specify the segment identification information used if segments are selected automatically when additions are made by segment extension.
Maximum number of NICs	Specify the maximum number of servers that can be deployed in a segment.
Subnet setting	Specify the IP address of the deployed virtual server used if segments are selected automatically when additions are made by segment extension. The default value is "Automatic setting". <ul style="list-style-type: none"> - Automatic setting: Set automatically from the subnet - Manual setting: The user specifies a subnet address or selects it from a network resource list

Note

- If the maximum number of segments in the L-Platform template is one, the IP addresses of virtual servers being deployed can be specified in the subnet settings.

Additional options Segment tab

Part	Description
Segment	- Extend a segment.

Note

Segment extension and reduction

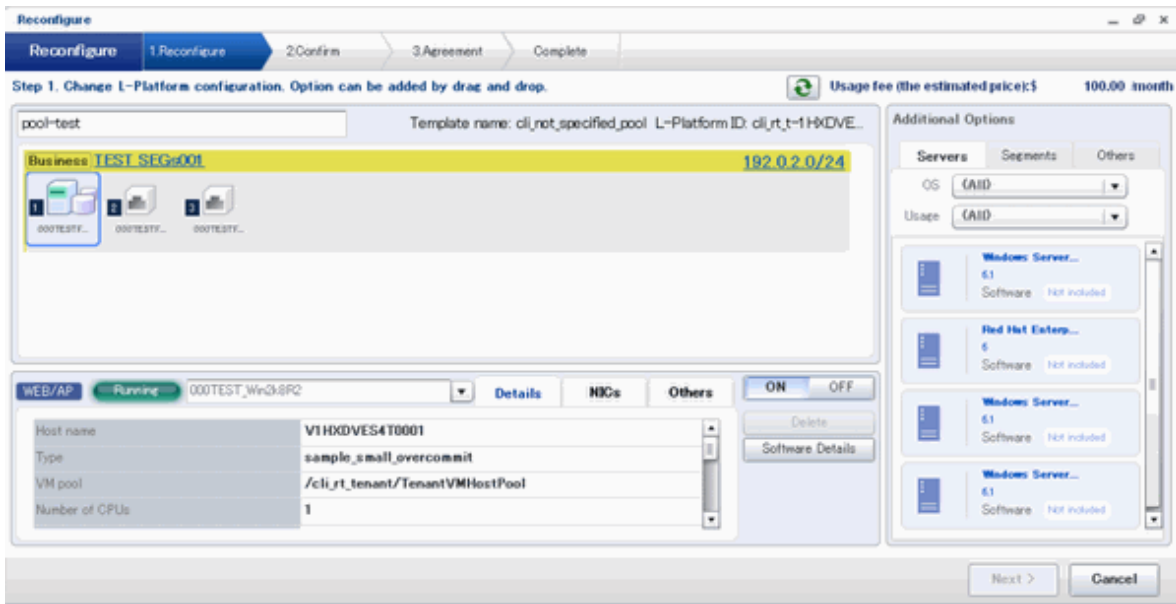
- A network can be extended to the maximum number of segments for an L-Platform Template.
- Since at least one segment is required, it is not possible to delete all segments.
- When a segment is deleted, the connected NIC is also deleted. Since at least one NIC is also required, it is not possible to delete all NICs.
- Extension and reduction are not possible for L-Platforms that have already been deployed.

Edit a Virtual Server

By clicking a virtual server, the virtual server can be edited by selecting the tabs displayed.

Details tab

An example of the **Details** tab display is shown below.



Part	Description
Host name	<p>Sets the virtual server name specified in the L-Platform template.</p> <p>"usage + (no. of servers + 1)" is set automatically for the virtual server that has been added as an option.</p> <p>To rename, the name must be no more than 85 characters long and not include the following characters:</p> <p style="text-align: center;"><, >, &, ', " and control characters</p> <p>However, the strings and the number of characters that can be specified may vary depending on the system settings. It is recommended that the name be specified using no more than 15 of the following characters. The value specified for this item cannot consist of only numbers. Hyphens cannot be used for the first character.</p> <p style="text-align: center;">Alphanumeric characters, underscores ("_") and hyphens ("-")</p> <p>A pre-existing name cannot be specified.</p>
Type	<p>From the drop-down menu, select the type (specifications) of the registered server. The CPU, memory size, and System Disk will be set according to the type of the server selected.</p> <p>The settings for the following L-Server features are also made:</p> <ul style="list-style-type: none"> - Heartbeat - Redundancy - Automatic server release <p>However, a message may appear indicating that the server type cannot be changed with some types of virtualization software.</p>
VM pool	<p>From the drop-down menu, select the resource name of the VM pool that is the server deployment destination.</p> <p>Contact the infrastructure administrator in the event that an error message is displayed indicating that no existing pool can be selected as the server deployment destination.</p>
CPU	<p>Number of CPUs</p> <p>Set the number of CPUs of the virtual server.</p>

Part	Description
	<p>Specify the lesser of the two values: Enter either the maximum value entered for image information or enter the maximum value of the VM pool, number of cores of VM hosts with the most numbers of cores.</p> <p>A value outside the range cannot be set.</p> <p>Performance</p> <p>Specify CPU performance of the virtual server in GHz.</p> <p>Specify the lesser of the two values: Enter either the maximum value entered for image information or enter the maximum value of the VM pool, value of operational frequency of VM hosts with the most value of operational frequency.</p> <p>A value outside the range cannot be set.</p> <p>Reserved</p> <p>Specify the reserved CPU performance for the virtual server, in GHz.</p> <p>The minimum value for the reserved clock speed that is guaranteed to be allocated to the virtual server can be specified. It is not possible to specify a value that is greater than the operating clock speed.</p> <p>Any value outside the allowable range cannot be specified.</p> <p>This is not displayed and cannot be specified if the virtualization software is RHEL-KVM.</p> <p>[VMware] Shares [Hyper-V] Weight</p> <p>Specify the relative allotment ratio for determining the allotment of memory size when multiple virtual machines are competing for memory resources. Specify an integer up to 1,000,000.</p> <p>If the reconfiguration simplification function is disabled and the easy selection method is set, set values are as follows:</p> <ul style="list-style-type: none"> - Low (500) - Standard (1,000) - High (2,000) <p>This is not displayed and cannot be specified if the virtualization software is RHEL-KVM.</p>
Memory	<p>Size</p> <p>Specify the memory size of the virtual server in GB.</p> <p>Specify the lesser of the two values: Enter either the maximum value entered for image information or enter the maximum value of the VM pool, free memory size of VM hosts with the most free memory size.</p> <p>A value outside the range cannot be set.</p> <p>[VMware] Reserved [Hyper-V] RAM</p> <p>Specify the reserved memory size for the virtual server, in GB.</p> <p>The minimum value for the reserved memory size that is guaranteed to be allocated to the virtual server can be specified. It is not possible to specify a value that is greater than the memory size.</p> <p>Any value outside the allowable range cannot be specified.</p> <p>This is not displayed and cannot be specified if the virtualization software is RHEL-KVM.</p> <p>[VMware] Shares [Hyper-V] Weight</p> <p>Specify the relative allotment ratio for determining the allotment of memory size when multiple virtual machines are competing for memory resources. Specify an integer up to 1,000,000.</p> <p>If the reconfiguration simplification function is disabled and the easy selection method is set, set values are as follows:</p> <ul style="list-style-type: none"> - Low (500) - Standard (1,000) - High (2,000) <p>This is not displayed and cannot be specified if the virtualization software is RHEL-KVM.</p>
System Disk	Storage pool From the drop-down menu, select the storage pool to be used.

Part		Description
	Size	The disk capacity of the virtual server is displayed in GB. The capacity of the system disk cannot be modified.
Boot priority		Sets the priority order when performing batched power supply operations in either the L-Platform or the tenant. The smaller the value, the higher the priority order. Set to 0 when power supply operations are not carried out in a single batch. Note however that this value cannot be set to 0 at the time of new deployment.

Point

The icons displayed in front of the virtual server names correspond to the usage of the virtual servers described in the specification.

- WEB: Web server
- AP: Application server
- DB: Database server

When a virtual server has multiple usages, an icon showing each usage separated by "/" will be displayed.

Example: WEB/AP, AP/WEB/DB etc.

Note

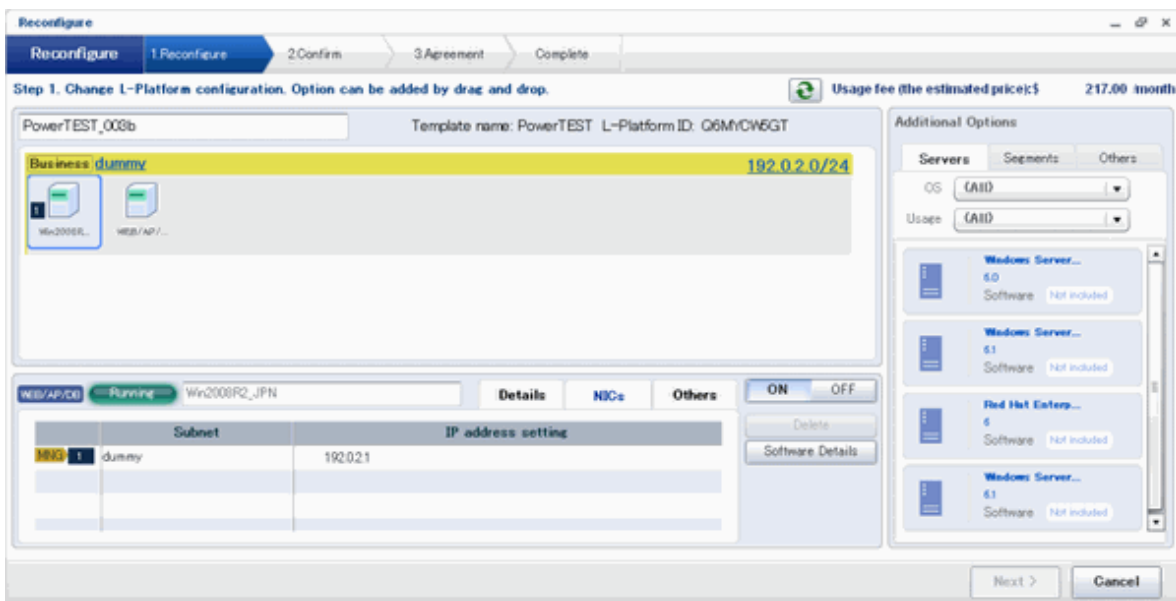
- The server type cannot be changed with some types of virtualization software.
- When the value 0 or no valid value is specified for CPU frequency, CPU reserve clock rate, memory size, or memory reserve size, it is treated as if the value 0.1 were specified. This modification is included in the changed items.

NICs tab

An IP address to be allocated to NIC can be set using the **NICs** tab.

An IP address can be set only when "manual setting" was specified when the segment was edited for a subnet. Note, however, that a subnet cannot be modified when modifying the configuration of a system that has been deployed, and so the IP address cannot be modified either.

The following example displays the **NICs** tab. The following window shows the **Reconfigure** page used to subscribe to an L-Platform.

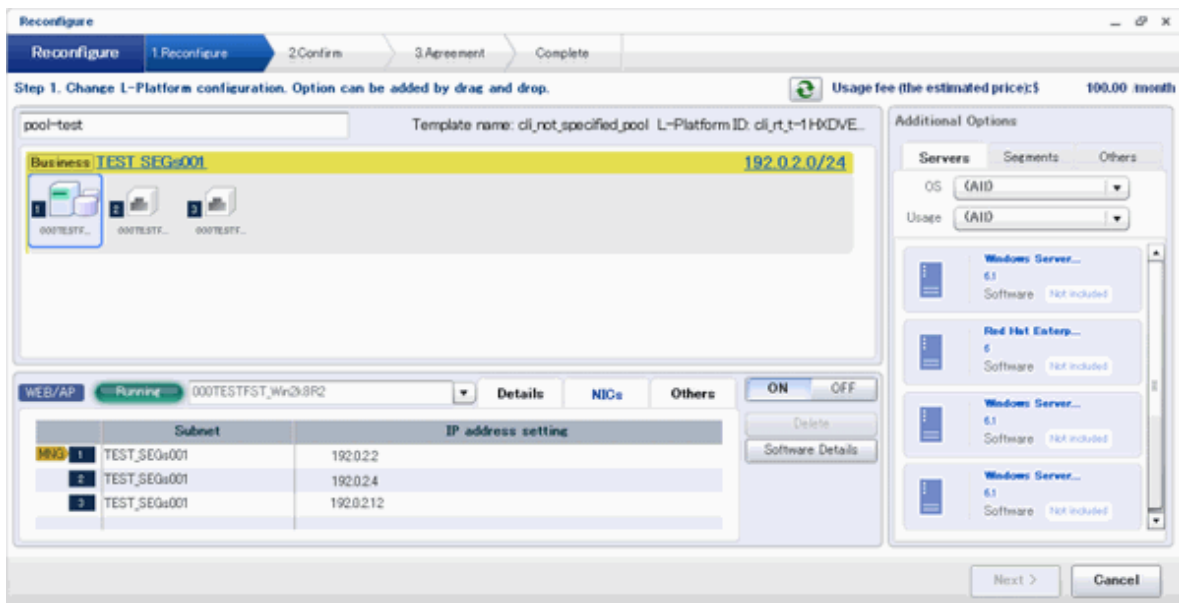


There are two ways of specifying an IP address as follows:

- Automatic
Sets an IP address automatically from a subnet.
- Manual
Enters an IP address directly.
When there is a conflict between the specified IP address and network resources, an error message will be displayed.

An **MNG** icon is displayed for the control NIC.

The following window displays an example of an L-Platform where multiple NICs exist. The following window shows the **Reconfigure** page used to subscribe to an L-Platform.



Each NIC is represented by one server. When a server is selected, the same server in each segment is selected. When a server is selected an icon is displayed showing a number at its lower left hand corner. The number represents an NIC number. Dark-colored servers are the NICs for administration, and light-colored servers are NICs for business. When a server is dragged from the Add options and dropped on a segment, as many servers as the number of NICs specified for the segment in the image information are displayed.

NIC Extension and Reduction

This section explains NIC extension and reduction.

Click the **Add NIC** button to add a business NIC to the same segment as the control NIC.

Click the **Delete NIC** button deletes an NIC.



Note

- This is possible only during L-Platform subscription. NIC extension and reduction are not possible after deployment.
- NICs cannot be added if they would exceed the maximum number of connections for the segment.
- Control NICs cannot be deleted.
- Since at least one NIC is required, it is not possible to delete all NICs.
- When extending or reducing NICs for a physical server, configure the number of NICs after settings are made to match the number of NICs of the physical server being used.

Others tab

The **Others** tab can be used to check the operating system installed at a virtual server, the middleware and other software, and information on the patches applied to the software.

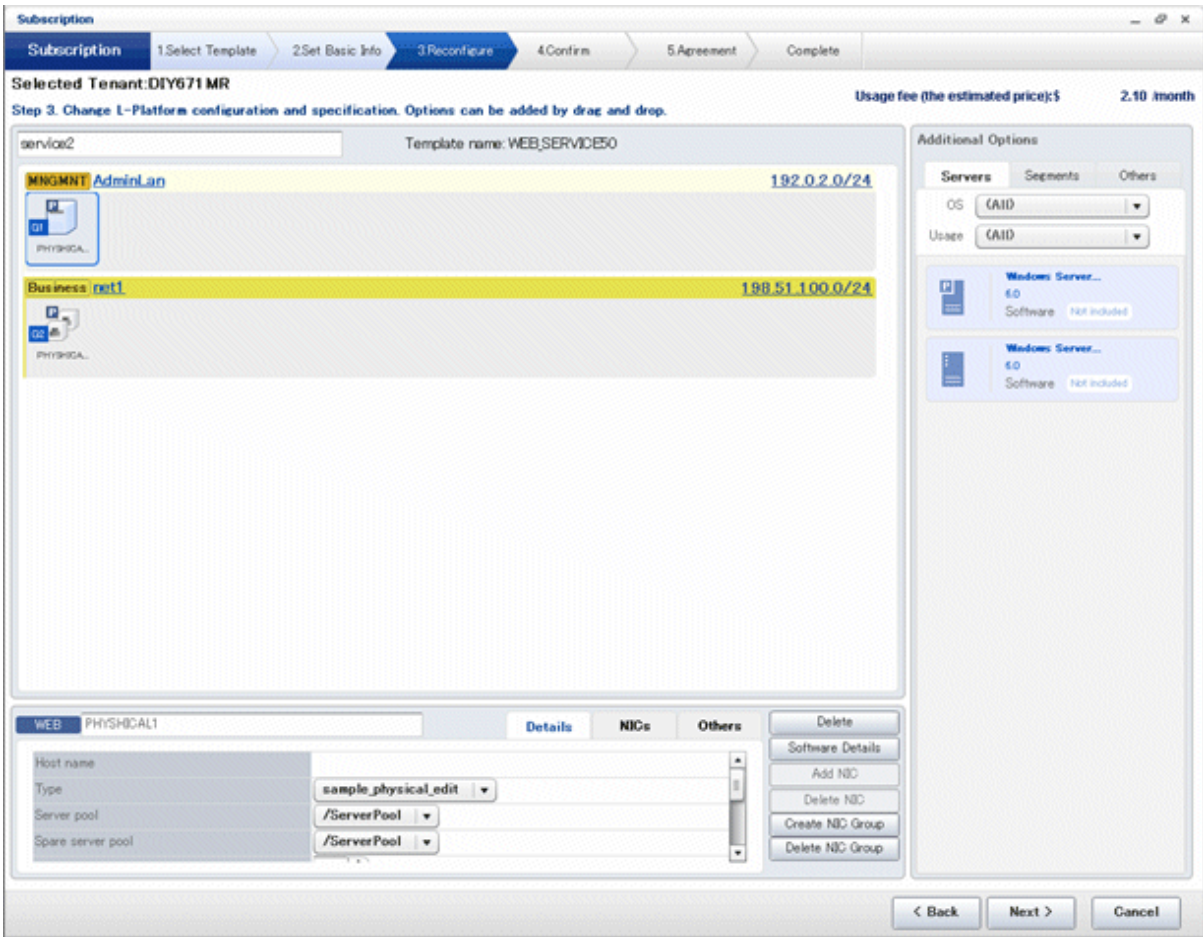
Editing a Physical Server

When a physical server is selected, the allowed physical server depends on the displayed tab.

For a deployed physical server, only the server name, the server type, and the boot priority can be changed.

Details tab

A display example of the **Details** tab is shown below.



Part	Description
Host name	<p>Sets the name of a physical server that is in the L-Platform Template. "usage + (no. of servers + 1)" is set automatically for the physical server that has been added as an option.</p> <p>To rename, the name must be no more than 85 characters long and not include the following characters:</p> <p style="text-align: center;"><, >, &, ', " and control characters</p> <p>However, the strings and the number of characters that can be specified may vary depending on the system settings. It is recommended that the name be specified using no more than 15 of the following characters. The value specified for this item cannot consist of only numbers. Hyphens cannot be used for the first character.</p> <p style="text-align: center;">Alphanumeric characters, underscores ("_") and hyphens ("-")</p> <p>A pre-existing name cannot be specified.</p>

Part		Description
Type		From the drop-down menu, select the type (specifications) of the registered server. The CPU, memory size, and System Disk are set according to the selected server type. The settings for the following L-Server features are also made: <ul style="list-style-type: none"> - Heartbeat - Redundancy - Automatic server release
Server pool		From the drop-down menu, select the resource name of the server pool that is the server deployment destination. Contact the infrastructure administrator in the event that an error message is displayed indicating that no existing pool can be selected as the server deployment destination.
Reserve server pool		From the drop-down menu, select the resource name of the reserve server pool. Contact the infrastructure administrator in the event that an error message is displayed indicating that no existing pool can be selected as the server deployment destination.
CPU	Number of CPUs	Set the number of CPUs in the physical server. If the upper limit value recorded in the image information differs from the VM pool upper limit value (the number of cores in the VM host with the most cores), a value up to the smaller value can be set. Values outside that range cannot be set.
	performance	Specify the CPU performance of the physical server in GHz units. If the upper limit value recorded in the image information differs from the VM pool upper limit value (the frequency of the VM host with the highest frequency), a value up to the smaller value can be set. Values outside that range cannot be set.
Memory	Size	Specify the memory size of the physical server in GB units. If the upper limit value recorded in the image information differs from the VM pool upper limit value (the free size of the VM host with the largest free memory size), a value up to the smaller value can be set. Values outside that range cannot be set.
System Disk	Storage pool	From the drop-down menu, select the storage pool to be used.
	Size	The disk capacity of the physical server is displayed in GB. The capacity of the system disk cannot be modified.
Boot priority		Sets the priority order when performing batched power supply operations in either the L-Platform or the tenant. Range:1-256.The smaller the value, the higher the priority order. Set to 0 when power supply operations are not carried out in a single batch. Note however that this value cannot be set to 0 at the time of new deployment.

Note

The server pool physical server with details closest to the specified CPU and memory information is allocated.

Usage fees are calculated according to the values entered for the CPU performance and memory capacity when newly deploying a physical server. The performance of the actual server deployed will be the closest possible to the entered values. For this reason, the usage fees displayed may differ to actual charges.

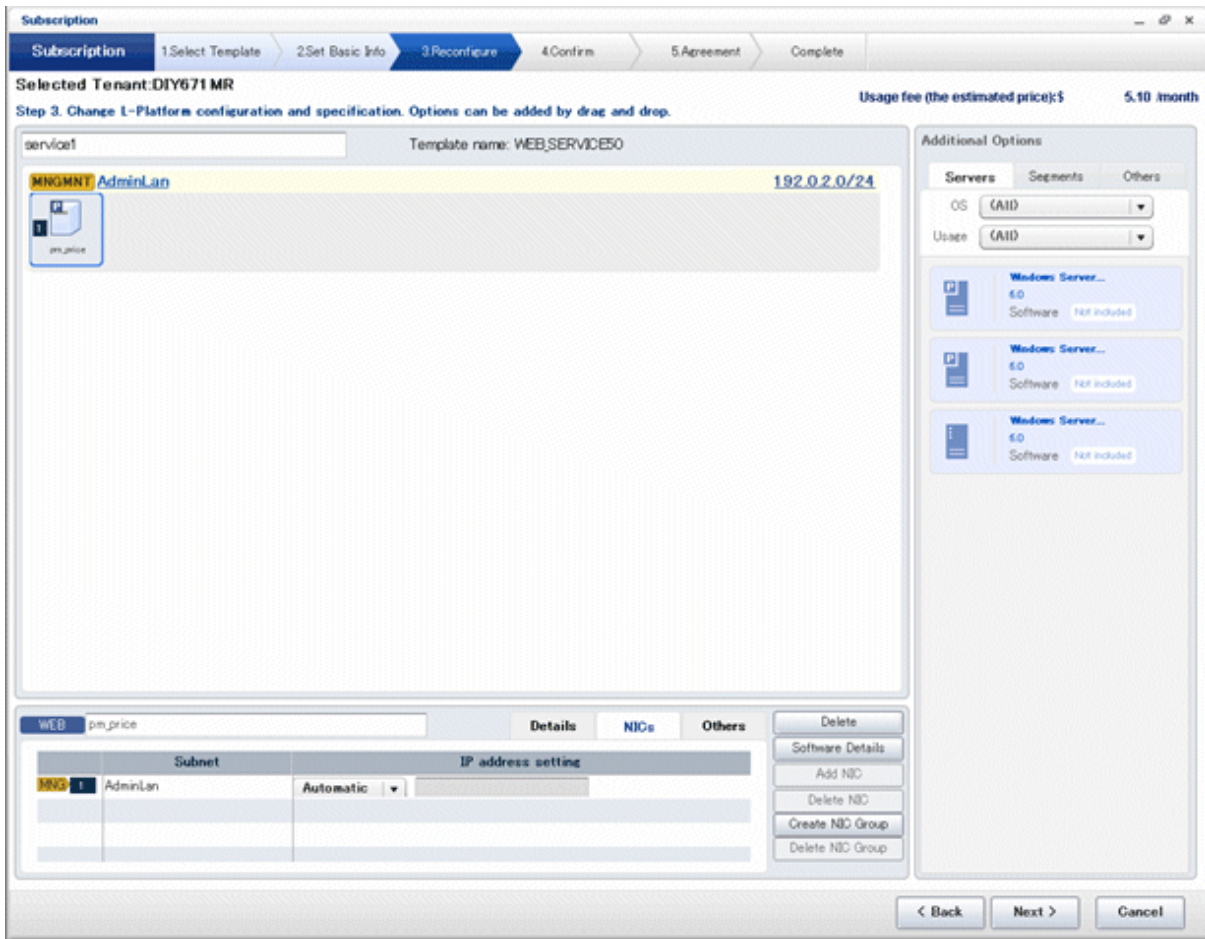
Usage fees for physical servers that have already been deployed will be calculated according to the actual CPU performance and memory capacity.

NICs tab

Use the **NICs** tab to set the IP address allocated to a NIC.

Note that the IP address can be set only if "manual setting" is specified for the subnet during segment editing. However, since the subnet cannot be changed by reconfiguration after a system is deployed, IP address changes are also not possible.

A display example of the **NICs** tab is shown below. Note that the window shown below is the L-Platform subscription **Reconfigure** page.

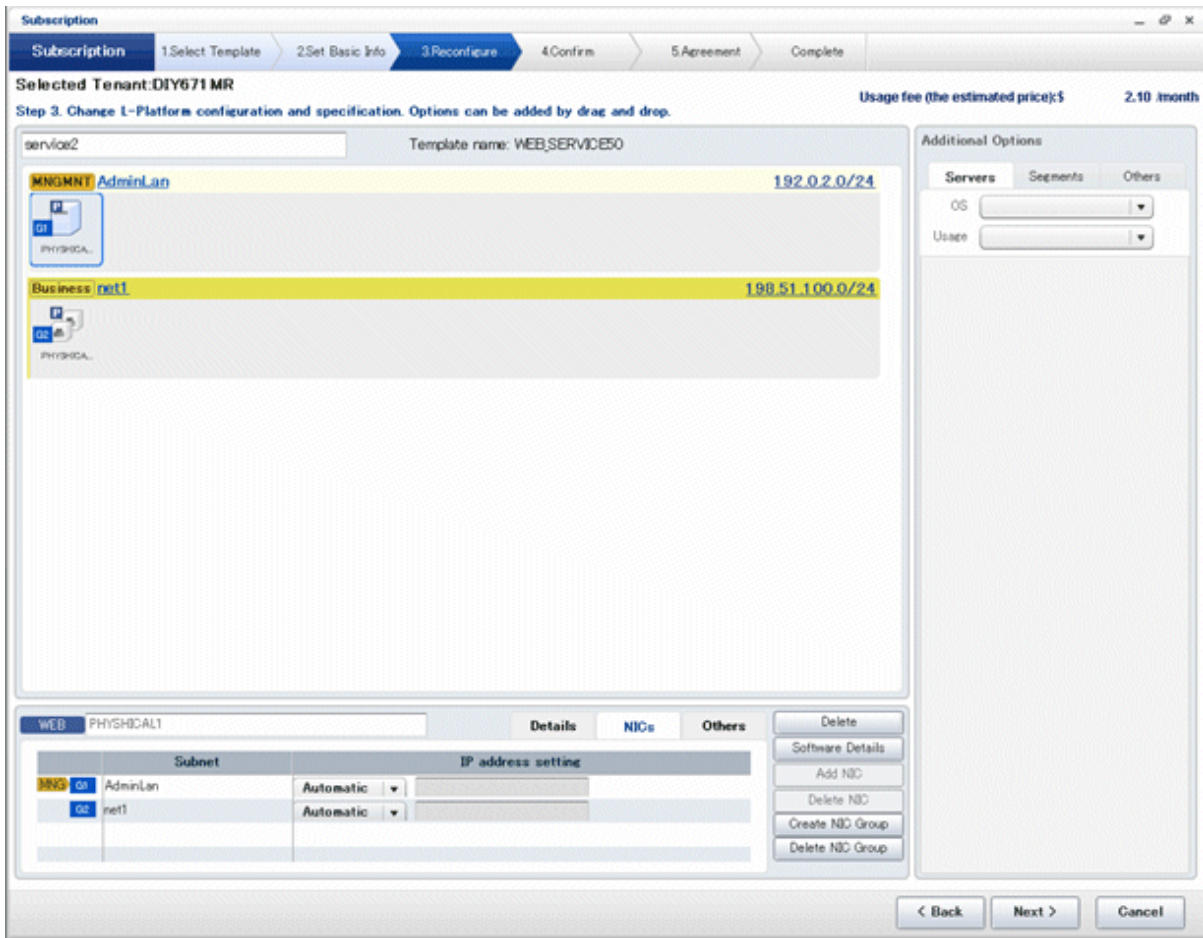


The following two methods are available for specifying an IP address:

- Automatic
The IP address is set automatically from the subnet.
- Manual
Enter the IP address directly.
An error message is displayed if the specified IP address is inconsistent with the network resources.

The **MNG** icon is displayed for the control NIC.

The window below is an example of the display when there are multiple NICs. Note that the window shown below is the L-Platform subscription **Reconfigure** page.



NIC1 is represented by one physical server. When a server is selected, the selected state occurs for all the same servers. A numeric icon is displayed to the bottom left of selected servers. It indicates the NIC number.

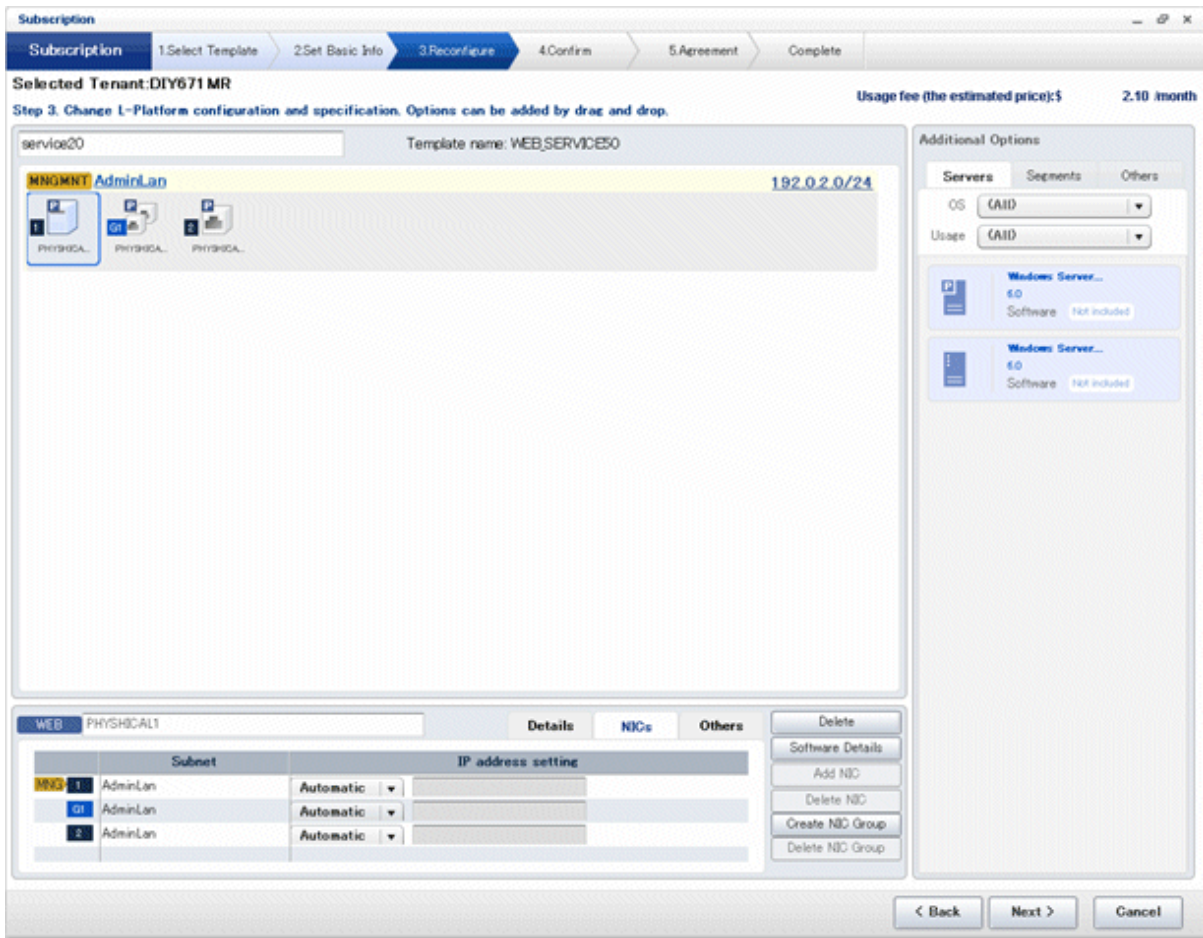
Dark-colored servers indicate management NICs, and light-colored servers indicate business NICs.

If a segment is dragged and dropped from the addition option, the number of servers displayed matches the number of NICs specified in the image information of the segment.

NIC Grouping

This function is available with physical servers only.

This section explains NIC grouping.



- Making a group

Select multiple checkboxes, and then click the **Form NIC Group** button. However, Multidata input NIC cannot be grouped. Groups can include control NIC.

- Cancelling a grouping

Select multiple checkboxes, and then click the **Delete NIC Group** button.




Note

- This is possible only during L-Platform subscription. NIC groups cannot be made or cancelled after deployment.
- Two NICs can be grouped. Three or more NICs cannot be grouped.

Others tab

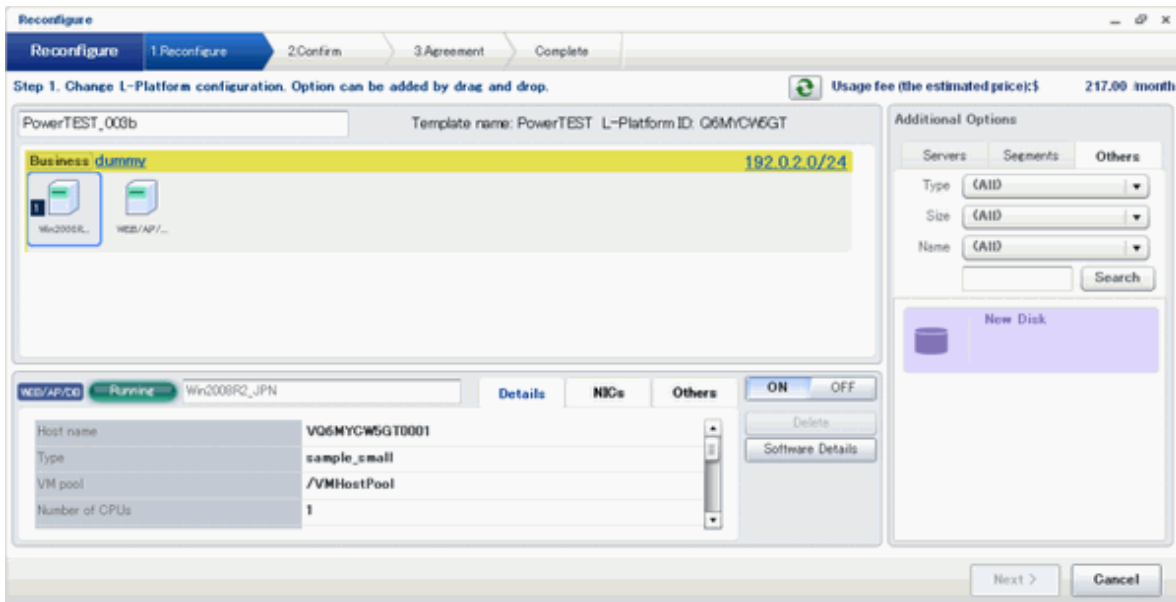
The **Others** tab can be used to check the operating system installed at a physical server, the middleware and other software, and information on the patches applied to the software.

Edit a Disk (for a Virtual Server)

A virtual server to which a disk has been added can be selected. By clicking the button () located to the right of the virtual server name, a selection list of virtual servers and disks is displayed. Select a disk on the list.

Only extended disks can be modified when editing a disk. System disks cannot be edited.

The following example displays the **Reconfigure** page when a disk is selected. The following window shows the **Reconfigure** page used to subscribe to an L-Platform.



Part	Description
Disk name	<p>"disk + serial number" is set automatically as the disk name. The serial number is allocated according to the following rules.</p> <ul style="list-style-type: none"> - Allocation of serial number starts from 0 for the disks registered in the L-Platform template. - "Number of disks + 1" is allocated to a disk added using Add options. <p>To rename a disk, the new name must be no more than 85 characters long and not include the following characters:</p> <p style="text-align: center;"><, >, &, ', " and control characters</p> <p>A pre-existing name cannot be specified.</p>
Storage pool	From the drop-down menu, select the deployment destination resource pool.
Size	<p>Specify the disk capacity of the virtual server in GB.</p> <p>Specify the lesser of the two values: Enter either the maximum value entered for image information or enter the maximum value of the storage pool, free space size of storages with the most free space size. A value outside the range cannot be set.</p>


Note

- If the virtualization software is Hyper-V, the maximum number of disks after addition is four, including the system disk.
- Only existing disks can be added or deleted if the virtualization software is RHEL-KVM. New disks cannot be added.
- Disks cannot be added to or deleted from images that include data disks.

Edit a disk (for a physical server)

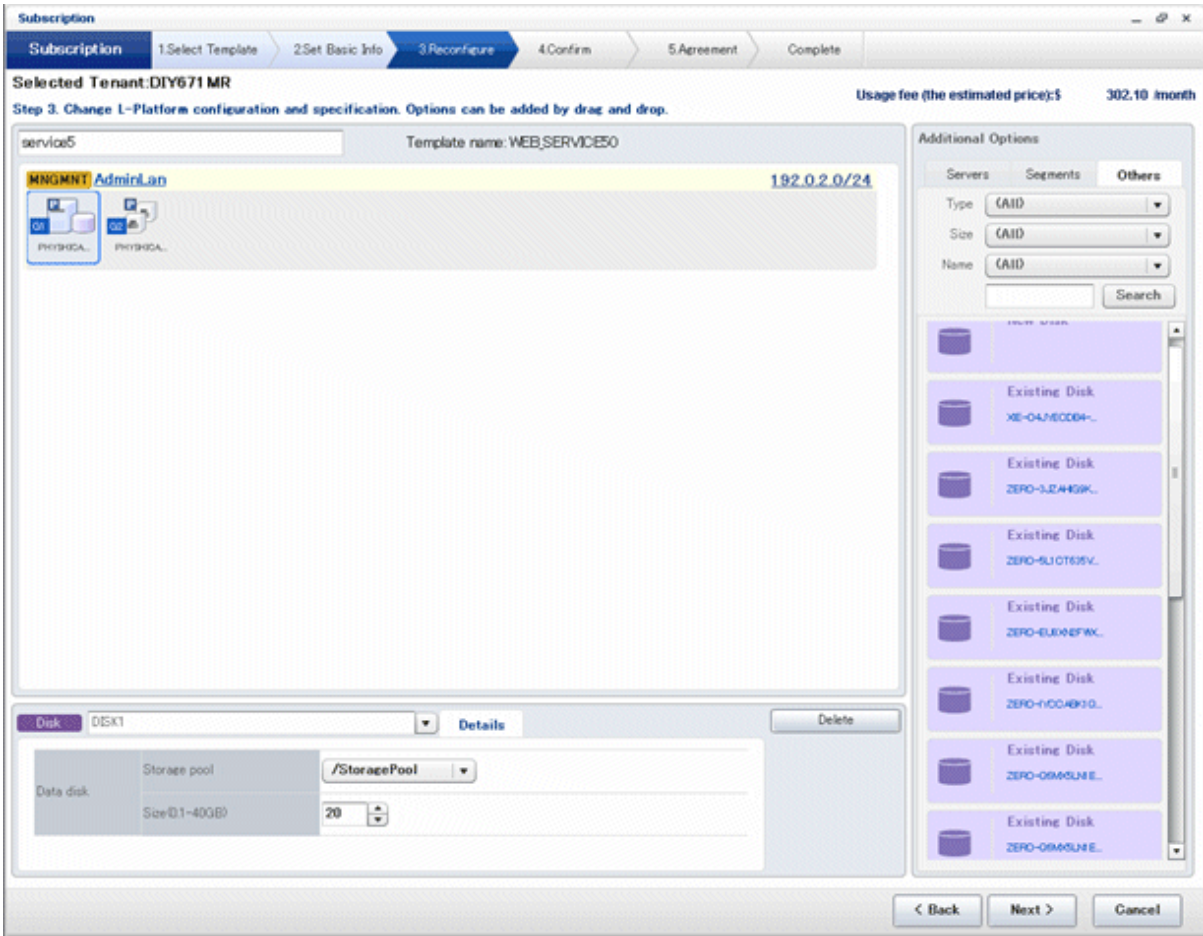
Note

Disks can be added to servers that have already been deployed only by stopping the server first.

A physical server to which a disk has been added can be selected. By clicking the button () located to the right of the physical server name, a selection list of physical server and disks is displayed. Select a disk on the list.

Only extended disks can be modified when editing a disk. System disks cannot be edited.

The following example displays the **Reconfigure** page when a disk is selected. The following window shows the **Reconfigure** page used to subscribe to a service.



Part	Description
Disk name	<p>"disk + serial number" is set automatically as the disk name. The serial number is allocated according to the following rules.</p> <ul style="list-style-type: none"> - Allocation of serial number starts from 0 for the disks registered in the L-Platform template. - "Number of disks + 1" is allocated to a disk added using Add options. <p>To rename a disk, the new name must be no more than 85 characters long and not include the following characters:</p> <p style="text-align: center;"><, >, &, ', " and control characters</p> <p>A pre-existing name cannot be specified.</p>
Storage pool	From the drop-down menu, select the deployment destination resource pool. If an existing disk is selected, modification is not possible.
Size	<p>Specify the disk capacity of the virtual server in GB.</p> <p>Specify the lesser of the two values: Enter either the maximum value entered for image information or enter the maximum value of the storage pool, free space size of storages with the most free space size. A value outside the range cannot be set.</p>

Server tab

"Physical server" and "Virtual server" can be selected from **Type**, enabling only servers of the selected type to be displayed.

8.4 Display Event Logs

Event logs of the errors that occurred while using the L-Platform functions can be displayed on the **Event Log** page.

Follow the steps below to display event logs:

1. Select **Event Log** from the operation menu of the **L-Platform** page.
A list of event logs will be displayed.

Up to 100 logs are displayed on the **Event log** page for duration of up to 14 days starting from the most recent log.

Refer to "Chapter 20 Message Stating with VSYS" in "Messages" for information on the messages displayed in the event log.

8.5 Select Forward Destination of Application Process

When the application process is enabled, the forward destination of the application process must be selected to use the following functions:

- L-Platform subscription
- L-Platform reconfiguration
- Cancel L-Platform



Point

The application process is set by the infrastructure administrator.



Note

If the pop-up blocker is enabled and the URL of the ROR Console is not registered with the 'Address of web site to allow' list, the 'Forward screen' window will not be displayed.

Follow the steps below to select the forward destination of the application process:

1. The **forward screen** window is displayed when an L-Platform usage application is made, an L-Platform configuration is modified, or an L-Platform is released.

Item	Description
Forward destination	Select an approver who is the forward destination of the application process. If the process has been set to require no approval, the field will be displayed in grey and cannot be selected.
Reason for application	Specify the reason for application using 100 or less characters.

2. Specify the item and click the **Forward** button.
A message notifying the forward result will be displayed.
When forwarding is successful, the subscriber will receive an application acceptance email.
3. Confirm the message, click the **Close** button, and close the **Forward screen** window.



Note

If an error message is displayed on the **Forward screen**, notify the infrastructure administrator of the contents displayed on the window. After closing the **Forward screen**, close the L-Platform window also.

If an error message is displayed on the forward screen when a service is subscribed to or modified, that subscription will be saved.

Point

Approving the application process

When an application process is forwarded, an email requesting an approval will be sent to the approver at the forward destination. An approval for the application must be obtained from the approver.

Refer to "[Chapter 9 Request](#)" for information on how to approve an application process.

If the process has not been approved, an email requesting an assessment will be sent to the infrastructure administrator.

Action when the mail is not sent

When the email is not sent to the subscriber or the approver, confirm whether the email address registered in the ROR Console is correct. If it is correct, contact the system administrator to report the user ID and the process instance name for subscription.

When the assessment request email is not sent to the infrastructure administrator, contact the system administrator to report the user ID and the process instance name.

Check the application process status

The subscriber and the approver can check the status of application process.

Refer to "[Chapter 9 Request](#)" for information on how to check the status of application process.

8.6 How to Use the L-Platform

This section explains how to use the L-Platform after it is deployed.

Based on the information below, a deployed L-Platform can be accessed using the remote desktop function.

Item	Value
IP address	<ol style="list-style-type: none">1. The IP address can be confirmed using the following procedures.2. Select Server List on the Management page of L-Platform Management.3. Check IP address of the target server from the list displayed.
User ID	[Windows] Administrator [Linux] Root
Password	The initial password can be confirmed using the following procedures: <ol style="list-style-type: none">1. Select Service List on the Management page of L-Platform Management.2. Select the target L-Platform and click the Details button.3. Select the target virtual server from the list displayed and click the Initial PWD button.

Note

The initial password is already set up after the L-Platform is deployed. Be sure to change the password when the L-Platform starts to operate.

Chapter 9 Request

This chapter explains how to operate the application list.



Note

- Application processes are determined by the Infrastructure Administrator and set by the System Administrator. The application list can be used only if an application process is set.
- If Internet Explorer enhanced security (IE ESC) is enabled, the **X** button on popup windows does not operate correctly. Refer to the following website for information on how to disable Internet Explorer enhanced security:
<http://www.microsoft.com>

9.1 Checking an Application Status

The application status and past application results can be checked for the following applications:

- Subscribe L-Platform
- L-Platform reconfiguration
- Cancel L-Platform

Perform the following steps to check the status of an application process:

1. Select **Request** from the ROR console
2. Select either **My Tasks** or **My Completed Tasks** from the **Task Filters** drop-down list on the My Task window.
 - To check the status of applications in progress
Select **My Tasks** from the **Task Filters** drop-down list on the My Task window. A list of tasks with the status **Active** will be displayed.
 - To check past application results
Select **My Completed Tasks** from the **Task Filters** drop-down list on the My Task window. A list of tasks with the status **Completed** will be displayed.

The priority level of a task can be specified on the **Summary** tab under **My Tasks** using numerals from 0 to 2147483647. The default value is 8.

The higher the number of a task, the higher its priority level. Setting the priority level of tasks also enables them to be sorted in order of priority in task lists.

3. Select the process instance task to be checked and click on the **Details** tab.

Select the tasks with the following activity names:

- When checking the status of applications in progress
 - Cancel (subscriber)
 - Approve (approver)
 - When checking past application results
 - Apply or Cancel (subscriber)
 - Approve (approver)
4. Select the **Status** tab on the **Form** panel.

A list of either application statuses or past application results will be displayed in chronological order.

Application results are displayed as shown in the image below. It indicates that approval was given to an application which was then dismissed upon assessment.

The screenshot shows a task interface with a 'Form' tab. Below the tab, there are three sub-tabs: 'Application', 'Approve', and 'Status'. The 'Status' sub-tab is active, displaying a table with the following data:

Activity Name	Status	Date	Responsible	Comment
Application	Accepted	2011-12-18 21:18:02	taro fujitsu	Please approve the L-Platform01
Approve	Approved	2011-12-18 22:08:01	hanako fujitsu	Please assess the L-Platform01
Assess	Dismissed	2011-12-18 22:25:59	manage01	refused the L-Platform01
Pending	--			
Cancel	--			

Item	Description	
Activity Name	The task activities will be displayed. Application, Approve, Assess, Pending or Cancel will be displayed. Approve will only be displayed when the application process is set to 'ApproverOnly', while Assess will only be displayed when the application process is set to 'JudgeOnly'.	
Status	Application	Accepted
	Approve	One of the following responses will be displayed: <ul style="list-style-type: none"> - Approval waiting - Approved - Approved (Error) - Rejected - _ (*1)
	Assess	One of the following responses will be displayed: <ul style="list-style-type: none"> - Approval waiting - Accepted - Accepted (Error) - Dismissed - _ (*1) - Blank (*2)
	Pending	One of the following responses will be displayed: <ul style="list-style-type: none"> - Pending - Cancel - _ (*1) - Blank (*2)
	Cancel	One of the following responses will be displayed: <ul style="list-style-type: none"> - Cancel

Item	Description
	- _ (*1) - Blank (*2)
Date	The date and time of execution will be output in the following format: YYYY-MM-DD HH:MM:SS
Responsible	Displays the executor.
Comment	Displays any comments that were input at the time of Application, Approve, Assess or Pending.

*1: Displayed when the process was not executed.

*2: Displayed when the process has not been executed.

The following illustrates an example of the application status confirmation window:

- When the application process is set to 'Default'

Indicates that the application has been accepted and the task is complete.

Activity Name	Status	Date	Responsible	Comment
Application	Accepted	2011-12-19 02:41:59	taro fujitsu	Please approve the L-Platform05
Approve	Approved	2011-12-19 02:44:17	hanako fujitsu	Approved the L-Platform05. Please assess this.
Assess	Accepted	2011-12-19 02:45:47	manage01	Assessed the L-Platform05.
Pending	-			
Cancel	-			

- When the application process is set to 'ApproverOnly'

Indicates that the application is awaiting approval.

Activity Name	Status	Date	Responsible	Comment
Application	Accepted	2011-12-19 02:13:46	taro fujitsu	Please approve the L-Platform04
Approve	Approval waiting			
Pending				
Cancel				

- When the application process is set to 'JudgeOnly'

Indicates that an error has occurred with the application during acceptance of the assessment and the task has been reserved.

Activity Name	Status	Date	Responsible	Comment
Application	Accepted	2011-12-19 02:29:31	taro fujitsu	Please assess the L-Platform05
Assess	Accepted (Error)	2011-12-19 02:34:28	manage01	
Pending	Pending			
Cancel				

9.2 Cancelling an Application

Subscribers can cancel an application that they have issued.

A subscriber is a user who issued any of the following applications:

- Subscribe use L-Platform
- L-Platform reconfiguration
- Cancel L-Platform

Perform the following steps to cancel an application process:

1. From the ROR Console, select **Request** tab.

- In the Task Filters drop-down list on the My Tasks window, select **My Tasks**.
A list of tasks with the status Active is displayed.
In the **Priority** field in **My Tasks** under the **Summary** tab, give the tasks a priority using a number between 0 and 2147483647.
The default value is 8.
The higher the number of a task, the higher its priority level. Setting the priority level of tasks also enables them to be sorted in order of priority in task lists.
- Select the task with the activity name "Cancel" on the process instance that you want to cancel, and then click the **Details** tab.
- Select the **Application** tab on the **Form** panel.
Check the content of the application.

Task: Cancel [L-PlatformSubscription_73...]

Summary Details Jump To -Select One-

Form

Application Status

Application type: L-PlatformSubscription
L-Platform name: L-Platform02

Details: **Tenant name: tenant01**

L-Platform Overview

Estimated price	\$ 105.50/month	* changed from \$ 108.50/month
License	Not included	
Support	Not included	
Description	TEMPLATE_2008	
Template name	TEMPLATE_2008	

▼ **Firewall**

Rule set	bonding	
Description	Ruleset Description Data	
Source	AAA	
Segment type	DMZ	
Maximum number of NICs	1	

Subscriber name: taro fujitsu
Reason for application: Please approve the L-Platform02
Forward destination: hanako fujitsu

Attachments

Add Attachment

There are no attachments in this task.

Comments

Comment

Add Comment

Make Choice

0:Cancel

- Click the **0: Cancel** button on the Make Choice panel.
The selected application process is cancelled.



Dealing with error notifications from tenant users

The tenant administrator will be notified in the event that an error occurs when a tenant user cancels an application. Upon receiving this notification, the tenant administrator should then advise the infrastructure administrator of the process instance name in which the error occurred, together with the details of the error, and request the infrastructure administrator to investigate the error and deal with it accordingly.

Note

- If the **0: Cancel** button on the Make Choice panel is clicked without the **Details** tab being selected or without the **Status** tab on the **Details** tab being selected, the following message is displayed:

All the forms are not accessed in Details Tab. Do you want to continue?

To continue processing without checking the form, click the **OK** button. To check the form, click the **Cancel** button, and then select the **Details** tab or select the **Status** tab on the **Details** tab.

- When canceling applications and **Failed** is displayed as the result in the **Result Summary** window, contact the tenant administrator with the process instance name that failed and the error details and have them investigate the error and take action as necessary.

Details about the errors are displayed by clicking **Details** in the comments in the **Result Summary** window.

9.3 Approving an Application

An approver approves application processes.

The approver is the Tenant Administrator specified as the forwarding destination at the time of application.

Point

If the requirement to be approved is set for an application process, an approver approves the application process. When the application process is forwarded, an approval request email is sent to the approver.

Perform the following steps to approve an application process:

1. Click the URL given in the approval request email. Alternatively, login to the ROR console and select the **Request** tab.
2. In the Task Filters drop-down list on the My Tasks window, select **My Tasks**.

A list of tasks that are not yet approved is displayed.

In the **Priority** field in **My Tasks** under the **Summary** tab, give the tasks a priority using a number between 0 and 2147483647. The default value is 8.

The higher the number of a task, the higher its priority level. Setting the priority level of tasks also enables them to be sorted in order of priority in task lists.

3. Select the process instance task, and then click the **Details** tab.
4. Select the **Application** tab on the **Form** panel.

Check the content of the application.

For L-Platform usage applications (when the L-Platform template has been reconfigured) and for L-Platform reconfiguration applications, information from prior to any modifications can also be displayed under **Details**.

Furthermore, estimated price for corresponding L-Platform can be displayed as accounting information by selecting **Details** on the **Application** tab on the **Form** panel.

5. Select the **Approve** tab.
If required, enter a comment in **Approval comment**.
6. Click either the **0: Approve** button or the **1: Reject** button on the MakeChoice panel.
If an error occurs during approval processing after the **0: Approve** button is clicked, an error notification email is sent to the Infrastructure Administrator.
If the **1: Reject** button is clicked, a rejection notification email is sent to the subscriber.



Application process assessment

Application process assessment is performed by the Infrastructure Administrator.

If the requirement to be assessed is set for an application process, an assessment request email is sent to the Infrastructure Administrator when the approver clicks the **0: Approve** button. When the Infrastructure Administrator accepts the application, the requested processing is performed.

If the requirement to be assessed is not set for an application process, the requested processing is performed when the approver clicks the **0: Approve** button.

Usage fees checks

Estimated price for the L-Platform will only be displayed when accounting display settings have been enabled by a system administrator.

Note that usage fees shows the prices at the following points and will not be recalculated even if there are changes in prices of configuration elements after this. Please be aware of this issue:

- Prices at the time of a new L-Platform usage application
- For L-Platform usage applications from a 'save configuration', prices are as per the time of the L-Platform save configuration
- Prices at the time of L-Platform reconfiguration



Note



- If the **0: Approve** button or the **1: Reject** button on the Make Choice panel is clicked without the **Details** tab being selected or without the **Status** tab on the **Details** tab being selected, the following message is displayed:

All the forms are not accessed in Details Tab. Do you want to continue?

To continue processing without checking the form, click the **OK** button. To check the form, click the **Cancel** button, and then select the **Details** tab or select the **Status** tab on the **Details** tab.

- If the requirement to be assessed is not set for an application process and an L-Platform management function occurs during application approval, an error notification email is sent to the Infrastructure Administrator.
- When approving applications and **Failed** is displayed as the result in the **Result Summary** window, contact the tenant administrator with the process instance name that failed and the error details and have them investigate the error and take action as necessary.
Details about the errors are displayed by clicking **Details** in the comments in the **Result Summary** window.



Chapter 10 Tenant

This chapter explains how to manage tenants.

10.1 Overview of Tenant Management

The information of users belonging to the same tenant as the logged in user can be managed using the tenant management windows of the ROR Console.

This section provides an overview of tenant management.

Tenant management windows

The table below shows a list of tenant management windows.

Classification	Window	Explanation
User management	User List	Displays a list of the users of the tenant to which the user belongs
	Register User (direct registration)	Registers a tenant user directly
	Register User (pre-registration)	Registers a provisional account for use when a tenant user registers
	Modify User	Modifies the selected user information
	Delete User	Deletes the selected user (multiple selections possible)
	Change User Password	Changes the password for the selected user



Point

The following two methods are available for registering tenant users:

- Tenant users perform their own user registration using a provisional account registered by the Tenant Administrator from the Register User window.
- The Tenant Administrator registers tenant users from the Register User window.

The System Administrator sets the tenant user registration method.



Note

- The Tenant Administrator cannot do the following operations for own account on the User List window.
 - User modification
 - User deletion
 - User password change

The Tenant Administrator can change user information and the password for own account on the "Modify account" window under the "Account".

- Depending on the directory services operation settings, it may not be possible to change the user password. The System Administrator sets the directory services operation settings.

Tenant management window display method

Use the following method to display the tenant management windows:

- On the ROR Console, select the **Tenant** tab.

10.2 Displaying a User List

A list of users belonging to the same tenant as the logged in user can be displayed in the **User List** window.

Perform the following steps to display a list of users:

1. Click the **Tenant** tab on the ROR Console.
The **User List** window is displayed.



Select	User ID	User name	Role	E-mail address	Description	Date registered
<input type="checkbox"/>	user001	John A Smith	tenant_admin	tenant_user1@example.com		2011-10-05
<input type="checkbox"/>	user002	John N Smith	tenant_monitor	tenant_user2@example.com		2011-10-05
<input type="checkbox"/>	user003	John E Smith	tenant_operator	tenant_user3@example.com		2011-10-05
<input type="checkbox"/>	user004	John M Smith	tenant_user	tenant_user4@example.com		2011-10-05


Item	Explanation
Tenant Information	The following information is displayed for the tenant to which the user belongs: <ul style="list-style-type: none"> - Tenant name - Tenant display name - E-mail address
User List	The following information on users belonging to the tenant shown at "Tenant information" is displayed in a list: <ul style="list-style-type: none"> - User ID - User name - Role <ul style="list-style-type: none"> - Tenant Administrator (tenant_admin) - Tenant operator (tenant_operator) - Tenant monitor (tenant_monitor) - Tenant user (tenant_user) - E-mail address - Description - Date registered
Clear all button	Removes the selected state from all items in the list.

Item	Explanation
Register user button	Displays either the Register User window that is used to register a new user directly, or the Register User window that is used for pre-registration of a new user. (*1)
Modify button	Displays the Modify User window that is used to modify the information of the selected user. This operation is possible when only one user is selected.
Change password button	Displays the Change User Password window that is used to change the password for a selected user. This operation is possible when only one user is selected. Depending on the system settings, this button may not be displayed.
Delete button	Displays the Delete User window that is used to delete selected users. This operation is possible only when one or more users are selected. Up to 100 users can be selected at one time.

*1: Either the window for direct registration of a new user or the window for pre-registration of a new user is displayed, depending on which tenant user registration method is set. The System Administrator sets the tenant user registration method.

Point

The list displays 10 users at one time. Click the  icon to display the next 10 users, or click the  icon to display the previous 10 users.

- To display the most recent information, click the  icon.

10.3 Registering a User

The **Register User** window can be used to register a new user.

Perform the following steps to register a new user:

- In the **User List** window, click the **Register user** button.
The **Register User** window is displayed.

2. In the **Register User** window, specify the information for the user being registered. The window below is the sample of using OpenDS for the directory service.

Register User

Tenant Information

Tenant name	tenant001
Tenant display name	tenant001
E-mail address	user001@example.com

Register User

Input new user information and click [Confirm] button. * Required field

User ID *	<input type="text" value="user001"/>	Enter the user ID in 1 - 32 characters with lower-case alphabet, numeric characters, underscore ('_'), hyphen ('-'), and period ('.'). The first character must be a lower-case alphabet or a numeric character.
Description	<input type="text"/>	You can set string within 256 characters that describes User ID. This string is displayed on User list in tenant tab with User ID.
Role *	<input type="text" value="tenant_user"/>	User's role.
Password *	<input type="password" value="●●●●●●●●"/>	Enter a password in 8 - 64 alphanumeric characters and symbols. The password is case-sensitive.
Password (confirm) *	<input type="password" value="●●●●●●●●"/>	Enter the password again for confirmation.

Personal Information

E-mail address *	<input type="text" value="user001@example.com"/>	Enter the E-mail address for the user.
E-mail address (confirm) *	<input type="text" value="user001@example.com"/>	Enter the E-mail address again for confirmation.
Name *	First name: <input type="text" value="John"/>	Enter the name of the user. Middle name can be omitted.
	Middle name: <input type="text" value="M"/>	
	Last name: <input type="text" value="Smith"/>	
	Company name or organization name: <input type="text"/>	

Emergency Contact Information

E-mail address	<input type="text"/>	Enter the E-mail address for receiving emergency information such as maintenance information.
E-mail address (confirm)	<input type="text"/>	Enter the E-mail address again for confirmation.
Telephone number	<input type="text"/>	Ex. 1234-5678

Item	Explanation
Tenant Information	<p>The following information is displayed for the tenant that is registering the user:</p> <ul style="list-style-type: none"> - Tenant name - Tenant display name - E-mail address
User ID	<p>[When using OpenDS for the directory service] Specify the user ID. Specify a character string of 1 to 32 characters consisting of single-byte lower-case alphabets and numerics, hyphens (-), underscores (_), and periods (.), and starting with lower case alphabet or numbers. This specification is mandatory.</p> <p>[When using Active Directory for the directory service] Specify the user ID. Specify a character string of 1 to 20 characters consisting of single-byte lower-case alphabets and numerics, hyphens (-), underscores (_), and periods (.), and starting with lower case alphabet or numbers. Period cannot be used as the last character. This specification is mandatory.</p>

Item	Explanation
	Note that, if the specified user ID is already in use, the message below is displayed when the Confirm button is clicked. In this case, change the user ID. <div style="border: 1px solid black; padding: 2px; margin-top: 5px;">User ID has already registered.</div>
Description	Specify an explanation of the user's user ID.
Role	The following user role is displayed: - Tenant user (tenant_user)
Password	Specify the user password. Specify between 8 and 64 characters, using single-byte alphanumerics and symbols. Depending on the system settings, this button may not be displayed.
Password (confirm)	Re-enter the user password for confirmation purposes. Depending on the system settings, this button may not be displayed.
Personal Information	
E-mail address	Use up to 64 characters to specify the user's e-mail address. This specification is mandatory.
E-mail address (confirm)	Re-enter the user's e-mail address for confirmation purposes. This entry is mandatory.
Name	Specify the user's first name, middle name and last name using up to 15 characters for each. The specification of first name and last name is mandatory.
Company name or Organization name	Specify the company name or organization name using up to 30 characters.
Emergency Contact Information	
E-mail address	Use up to 64 characters to specify the e-mail address for receiving emergency notifications.
E-mail address (confirm)	Re-enter the emergency contact e-mail address for confirmation purposes.
Telephone number	Specify the emergency contact phone number.

3. Click the **Confirm** button.
The confirmation window is displayed.
4. Check the user information, and then click the **Register** button.
The completion window is displayed.
5. Click the **Back to User List** button to return to the **User List** window.

Point

When user registration is completed, the registration contents are sent to the e-mail address of the registered user, the Tenant Administrator, and the tenant.

Note

If the following message is output, contact the infrastructure administrator: The user name is output to xxxxx.

System error: Contact the system administrator. (Error code=ctsec20401:65809:User (xxxxxx) has not been registered.)

10.4 Registering a Provisional Account

The **Register User** window can be used for pre-registration of a new user.

Perform the following steps to register a provisional user account:

1. In the **User List** window, click the **Register user** button.
The **Register User** window is displayed.
2. In the **Register User** specify the information for the user to register.

Item	Explanation
E-mail address	Use up to 64 characters to specify the user's e-mail address. This specification is mandatory.
E-mail address (confirm)	Re-enter the user's e-mail address for confirmation purposes. This entry is mandatory.

3. Check the user information, and then click the **Apply** button.
The registration application acceptance completion window is displayed.
4. Click the **Back to User List** button to return to the **User List** window.



New user registration tasks

When the user registration application is accepted, a registration instruction e-mail is sent to the operator's e-mail address and the specified e-mail address. Have the operator ask the added user to perform the registration procedures provided in the instruction e-mail.

Note that the registration application becomes invalid if the registration procedure is not performed within 24 hours of registration application acceptance completion.

When user registration is completed, the registration contents are sent to the e-mail address of the registered user, the Tenant Administrator, and the tenant.

10.5 Modifying a User

The **Modify User** window can be used to modify user information.

Perform the following steps to modify user information:

1. On the **User List** window, select the targeted user, and then click the **Modify** button.
The **Modify User** window is displayed.
2. In the **Modify User** window, edit the value of the item being changed.

Item	Explanation
User ID	Displays the user ID of the user targeted for modification. The user ID cannot be changed.
Description	Specify an explanation of the user's user ID.
Role	Select one of the following as the user's role: <ul style="list-style-type: none">- Tenant Administrator (tenant_admin)- Tenant Operator (tenant_operator)- Tenant Monitor (tenant_monitor)

Item	Explanation
	- Tenant user (tenant_user)
Personal Information	
E-mail address	Use up to 64 characters to specify the user's e-mail address. This specification is mandatory.
Name	Specify the user's first name, middle name and last name using up to 15 characters for each. The specification of first name and last name is mandatory.
Company name or organization name	Specify the company name or organization name using up to 30 characters.
Emergency Contact Information	
E-mail address	Use up to 64 characters to specify the e-mail address for receiving emergency notifications.
Telephone number	Specify the emergency contact phone number.

3. Click the **Confirm** button.
The confirmation window is displayed.
4. Check the contents being changed, and then click the **Modify** button.
The completion window is displayed.
5. Click the **Back to User List** button to return to the **User List** window.

Point

When user modification is completed, the modified contents are sent to the e-mail address of the user targeted for modification, the Tenant Administrator, and the tenant.

10.6 Deleting a User

The **Delete User** window can be used to delete users. Up to 100 users can be deleted at one time.

Perform the following steps to delete a user:

1. In the **User List** window, select one or more users to be deleted, and then click the **Delete** button.
The **Delete User** window is displayed.
2. Check the users targeted for deletion, and then click the **Delete** button.
The confirmation window is displayed.
3. To proceed with deletion, click the **OK** button.
The deletion results are displayed in the completion window.

Note

If deletion failed for some users, check the cause and then repeat the operation.

4. Click the **Back to User List** button to return to the **User List** window.

Point

When user deletion is completed, deleted user unit deletion notification is sent to the e-mail address of the deletion target users, the Tenant Administrator, and the tenant.

10.7 Changing a User Password

The **Change User Password** window can be used to change user passwords.

Perform the following steps to change a user password:

1. In the **User List** window, select the target user, and then click the **Change password** button.
The **Change User Password** window is displayed.

Item	Explanation
User ID	Displays the user ID of the target user. The user ID cannot be changed.
Password	Specify the password. Specify between 8 and 64 characters, using single-byte alphanumerics and symbols. The password is case-sensitive. This specification is mandatory.
Password (confirm)	Re-enter the new password for confirmation purposes. This entry is mandatory.

2. Enter the password to be changed, and then click the **Change** button.
The user password is changed and the completion window is displayed.
3. Click the **Back to User List** button to return to the **User List** window.



.....
When user password change is completed, the password change notification is sent to the e-mail address of the user targeted for the new password, the Tenant Administrator, and the tenant.
.....

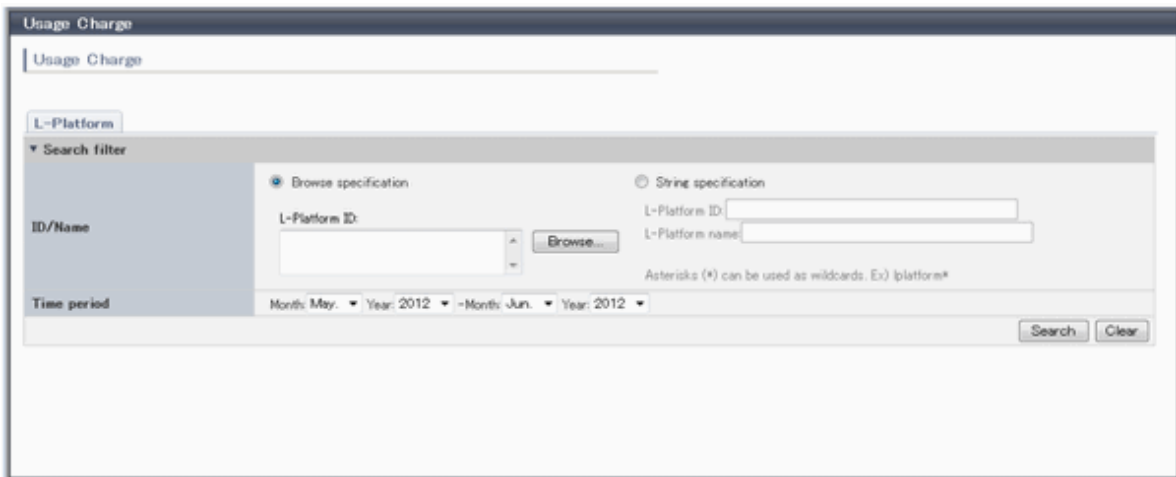
Chapter 11 Accounting

This section explains how to manipulate usage charge.
Past information about usage charge can be displayed.

11.1 Usage Charge Window

To display the usage charge list by L-Platforms belonging to a tenant, perform the following:

1. Specify the search conditions.



Item		Description
Search filter	Browse specification	Use the following procedure to select the relevant L-Platform ID : <ol style="list-style-type: none"> 1. Click the Browse button to display the Select L-Platform ID window. 2. A list of L-Platforms belonging to the tenant is displayed when the relevant tenant is selected from the Tenant menu. Tenants that have been deleted are displayed in parentheses and grayed out when the Include deleted tenants checkbox is selected. 3. Select the relevant L-Platform.
	String specification	Specify part of the L-Platform ID or L-Platform name. Use the asterisk as a wild card for searches. Example: lplatform*
Time period		Specify the period for which data is to be searched. The period between the previous month and the current month is selected by default.

2. Click **Search** and a list of usage charge will be displayed in the lower part of the window.
Click **Clear** to clear the specified search conditions and restore the default display.

Point

If the time period for the search includes more than one month, a separate list is displayed for each month.
L-Platforms inside parentheses and grayed out in the list of usage charge are ones that have already been returned.

File download

To download the displayed content as a file, perform the following:

1. Click the **Download** button and a window is displayed to select the file format to download.
2. Select either **CSV** or **XML** and click **OK**.
3. The **Usage Charge** window is displayed again after the file output destination is specified.

11.2 Usage Charge Detail

Displays the details of the monthly usage charge for the selected L-Platform.

Operations in the Usage Charge window

To display detailed information for usage charge from the **Usage Charge** window, perform the following:

1. Select the **L-Platform** tab in the **Usage Charge** window and search for the relevant L-Platform.
2. Click the relevant **L-Platform ID** to display the **Usage Charge Detail** window.

Usage Charge Detail information

The screenshot shows the 'Usage Charge Detail' window. It contains the following sections:

- Tenant Information:**

Tenant name	ktenant
Tenant display name	ktenant
Deleted date	
- L-Platform Information:**

L-Platform ID	manual-sample-001
L-Platform name	manual_test001
Unsubscribed date	
- Usage Charge Detail:**

Time period	2012-07
Total charge	\$295.69
- Usage Charge Table:**

Product	Resource	Configuration	Unit price	Usage point	Subtotal charge
L-Platform template	template-1378861c569	-	\$100.0000/month	1month	\$100.00
Virtual Server(A_sime01-3K5RJLHUS-S-0001)	rhel55	-	\$10.0000/month	1month	\$10.00
Disk size	/StoragePool	20.0GB	\$0.0010/0.1GB-h	478h28m	\$95.69

At the bottom, there is a formula for CPU subtotal charge: $\text{CPU subtotal charge} = (\text{"Number of CPUs"} * (\text{"Unit price for CPU"} + \text{"CPU clock"} * \text{"Unit price for CPU clock"})) * \text{"Usage point"}$. A 'Download' button is located next to the total charge, and a 'Back' button is at the bottom right.

The following items are displayed in the detailed information in the **Usage Charge Detail** window:

Item		Description
Tenant Information	Tenant name	Displays the tenant name.
	Tenant display name	Displays the tenant display name at the date and time of closing.
	Deleted date	If the tenant has been deleted, the date deleted is displayed.
L-Platform Information	L-Platform ID	Displays the selected L-Platform ID.
	L-Platform name	Displays the selected L-Platform name.
	Unsubscribed date	If the selected L-Platform has already been canceled, the cancellation date is displayed.

Item		Description
Usage Charge Detail	Time period	Displays the year and month of the usage charge search target for the selected L-Platform.
	Total charge	Displays the monthly usage charge totals for the selected L-Platform.
	Product	Displays the product type. Whether using a virtual server or a physical server, the server ID is also shown in parentheses to identify the server. If there is a change in configuration or in unit price for the product, the usage charge information for the same product is displayed over multiple lines.
	Resource	Displays the names of the resources used.
	Configuration	Displays configuration information. The configuration information displayed for each product is as follows: <ul style="list-style-type: none"> - Template: None - Virtual server: None - Physical server: None - CPU: Number of CPUs, CPU performance (GHz) - Memory capacity: Capacity (GB) - Disk capacity: Capacity (GB)
	Unit price	Displays the unit price for the product.
	Usage point	Displays the total amount of monthly usage time for the product.
	Subtotal charge	Displays the monthly usage charge for each product.

File download

To download the displayed content as a file, perform the following:

1. Click the **Download** button and a window is displayed to select the file format to download.
2. Select either **CSV** or **XML** and click **OK**.
3. The **Usage Charge Detail** window is displayed again after the file output destination is specified.

Chapter 12 Account

This chapter explains account operations.

12.1 Referencing User Information

The **Account** window can be used to display the user information of logged in users. Perform the following operations to view user information.

1. Select the **Account** link on the ROR Console.
The **Account** window is displayed in a new window.

To modify your account, click [Modify account] button.
To change your password, click [Change password] button.

User ID	tenant_admin01
Description	
Role	tenant_admin

Personal Information

E-mail address	tenant_user01@example.com
Name	John N Smith
Company name or organization name	

Emergency Contact Information

E-mail address	
Telephone number	

Item	Explanation
User ID	Displays the user ID of the user
Description	Displays an explanation of the user
Role	Displays the user's role
Personal Information	
E-mail address	Displays the user's email address
Name	Displays the user's name
Company name or organization name	Displays the company name or organization name
Emergency Contact Information	
E-mail address	Displays the email address that receives emergency notifications
Telephone number	Displays the phone number for emergency contact
Modify account button	When clicked, displays the Modify account window used to change user information
Change password button	When clicked, displays the Change password window used to change a password



Note

With some directory services operation settings, the **Modify account** and **Change password** buttons may not be displayed. Directory services operation settings are set by the System Administrator.

2. Click the **Close** button to close the **Account** window.

12.2 Changing User Information

The **Modify account** window can be used to change the user information of a logged in user. Perform the following operations to change the user information:

1. Click the **Modify account** button on the **Account** window.
The **Modify account** window is displayed.
2. On the **Modify account** window, edit the values of the items to be changed.

Item	Explanation
User ID	Displays the user ID of the user. This cannot be changed.
Description	Enter an explanation of the user in up to 256 characters.
Role	Displays the user's role. This cannot be changed.
Personal Information	
E-mail address	Specify the user's email address in up to 64 characters. This specification is mandatory.
Name	Specify the user's name (first name, middle name and last name) using a maximum of 15 characters for each name. This specification is mandatory, but the middle name can be omitted.
Company name or organization name	Specify the company name or organization name in up to 30 characters.
Emergency Contact Information	
E-mail address	Specify the email address that receives emergency notifications, using up to 64 characters.
Telephone number	Specify the phone number to be used for emergency contact.

3. Click the **Confirm** button.
4. The window for confirming changed content is displayed. Check the values, and then click the **Modify** button.
To change the values again, click the **Back** button to return to the **Modify account** window.
5. Once the **Modify** button is clicked, the user information is updated and the modification completion window is displayed.
6. Click the **Back to Account** button to return to the **Account** window.

12.3 Changing Passwords

The **Change password** window can be used to change the password of a logged in user. Perform the following operations to change a password:

1. Click the **Change password** button on the **Account** window.
The **Change password** window is displayed.

Item	Explanation
Current password	Enter the current password. This specification is mandatory.

Item	Explanation
New password	Enter the new password. Specify between 8 and 64 characters using single-byte alphanumerics and symbols. The password is case-sensitive. This specification is mandatory.
New password (confirm)	Re-enter the new password for confirmation purposes. This input is mandatory.

2. Enter the current password and the new password, and then click the **Change** button. The password is changed and the modification completion window is displayed.
3. Click the **Back to Account** button to return to the **Account** window.

Glossary

access path

A logical path configured to enable access to storage volumes from servers.

active mode

The state where a managed server is performing operations.

Managed servers must be in active mode in order to use Auto-Recovery.

Move managed servers to maintenance mode in order to perform backup or restoration of system images, or collection or deployment of cloning images.

active server

A physical server that is currently operating.

admin client

A terminal (PC) connected to an admin server, which is used to operate the GUI.

admin LAN

A LAN used to manage resources from admin servers.

It connects managed servers, storage, and network devices.

admin server

A server used to operate the manager software of Resource Orchestrator.

affinity group

A grouping of the storage volumes allocated to servers. A function of ETERNUS.

Equivalent to the LUN mapping of EMC.

agent

The section (program) of Resource Orchestrator that operates on managed servers.

aggregate

A unit for managing storage created through the aggregation of a RAID group.

Aggregates can contain multiple FlexVols.

alias name

A name set for each ETERNUS LUN to distinguish the different ETERNUS LUNs.

Auto Deploy

A function for deploying VMware ESXi 5.0 to servers using the PXE boot mechanism.

Automatic Storage Layering

A function that optimizes performance and cost by automatically rearranging data in storage units based on the frequency of access.

Auto-Recovery

A function which continues operations by automatically switching over the system image of a failed server to a spare server and restarting it in the event of server failure.

This function can be used when managed servers are in a local boot configuration, SAN boot configuration, or a configuration such as iSCSI boot where booting is performed from a disk on a network.

- When using a local boot configuration

The system is recovered by restoring a backup of the system image of the failed server onto a spare server.

- When booting from a SAN or a disk on a LAN

The system is restored by having the spare server inherit the system image on the storage.

Also, when a VLAN is set for the public LAN of a managed server, the VLAN settings of adjacent LAN switches are automatically switched to those of the spare server.

backup site

An environment prepared in a different location, which is used for data recovery.

BACS (Broadcom Advanced Control Suite)

An integrated GUI application (comprised from applications such as BASP) that creates teams from multiple NICs, and provides functions such as load balancing.

Basic Mode

A function that can be used by configuring a Cloud Edition license after installing ROR VE.

BASP (Broadcom Advanced Server Program)

LAN redundancy software that creates teams of multiple NICs, and provides functions such as load balancing and failover.

blade server

A compact server device with a thin chassis that can contain multiple server blades, and has low power consumption.

As well as server blades, LAN switch blades, management blades, and other components used by multiple server blades can be mounted inside the chassis.

blade type

A server blade type.

Used to distinguish the number of server slots used and servers located in different positions.

BladeViewer

A GUI that displays the status of blade servers in a style similar to a physical view and enables intuitive operation.

BladeViewer can also be used for state monitoring and operation of resources.

BMC (Baseboard Management Controller)

A Remote Management Controller used for remote operation of servers.

boot agent

An OS for disk access that is distributed from the manager to managed servers in order to boot them when the network is started during image operations.

CA (Channel Adapter)

An adapter card that is used as the interface for server HBAs and fibre channel switches, and is mounted on storage devices.

CCM (ETERNUS SF AdvancedCopy Manager Copy Control Module)

This is a module that does not require installation of the ETERNUS SF AdvancedCopy Manager agent on the server that is the source of the backup, but rather uses the advanced copy feature of the ETERNUS disk array to make backups.

chassis

A chassis used to house server blades and partitions.

Sometimes referred to as an enclosure.

cloning

Creation of a copy of a system disk.

cloning image

A backup of a system disk, which does not contain server-specific information (system node name, IP address, etc.), made during cloning.

When deploying a cloning image to the system disk of another server, Resource Orchestrator automatically changes server-specific information to that of the target server.

Cloud Edition

The edition which can be used to provide private cloud environments.

data center

A facility that manages client resources (servers, storage, networks, etc.), and provides internet connections and maintenance/operational services.

directory service

A service for updating and viewing the names (and associated attributes) of physical/logical resource names scattered across networks, based on organizational structures and geographical groups using a systematic (tree-shaped structure) management methodology.

disk resource

The unit for resources to connect to an L-Server. An example being a virtual disk provided by LUN or VM management software.

DN (Distinguished Name)

A name defined as a line of an RDN, which contains an entry representing its corresponding object and higher entry.

Domain

A system that is divided into individual systems using partitioning. Also used to indicate a partition.

DR Option

The option that provides the function for remote switchover of servers or storage in order to perform disaster recovery.

Dual-Role Administrators

The administrators with both infrastructure administrator's and tenant administrator's role.

dynamic LUN mirroring

This is a feature whereby a mirror volume is generated at the remote site when a volume is generated at the local site, and copies are maintained by performing REC.

dynamic memory

A function that optimizes physical memory allocation for virtual machines, depending on their execution status on Hyper-V.

end host mode

This is a mode where the uplink port that can communicate with a downlink port is fixed at one, and communication between uplink ports is blocked.

environmental data

Measured data regarding the external environments of servers managed using Resource Orchestrator.

Measured data includes power data collected from power monitoring targets.

ESC (ETERNUS SF Storage Cruiser)

Software that supports stable operation of multi-vendor storage system environments involving SAN, DAS, or NAS. Provides configuration management, relation management, trouble management, and performance management functions to integrate storage related resources such as ETERNUS.

ETERNUS SF AdvancedCopy Manager

This is storage management software that makes highly reliable and rapid backups, restorations and replications using the advanced copy feature of the ETERNUS disk array.

Express

The edition which provides server registration, monitoring, and visualization.

FC switch (Fibre Channel Switch)

A switch that connects Fibre Channel interfaces and storage devices.

Fibre Channel

A method for connecting computers and peripheral devices and transferring data.

Generally used with servers requiring high-availability, to connect computers and storage systems.

Fibre Channel port

The connector for Fibre Channel interfaces.

When using ETERNUS storage, referred to as an FC-CA port, when using NetApp storage, referred to as an FC port, when using EMC CLARiON, referred to as an SP port, when using EMC Symmetrix DMX or EMC Symmetrix VMAX, referred to as a DIRECTOR port.

fibre channel switch blade

A fibre channel switch mounted in the chassis of a blade server.

FlexVol

A function that uses aggregates to provide virtual volumes.

Volumes can be created in an instant.

FTRP

The pool for physical disks created by Automatic Storage Layering for ETERNUS.

In Resource Orchestrator, FTRPs are used as virtual storage resources on which Thin Provisioning attributes are configured.

FTV

The virtual volumes created by Automatic Storage Layering for ETERNUS.

In Resource Orchestrator, FTVs are used as disk resources on which Thin Provisioning attributes are configured.

global pool

A resource pool that contains resources that can be used by multiple tenants.

It is located in a different location from the tenants.

By configuring a global pool with the attributes of a tenant, it becomes possible for tenant administrators to use the pool.

global zone

The actual OS that is used for a Solaris container.

A Solaris environment that has been installed on a physical server.

GLS (Global Link Services)

Fujitsu network control software that enables high availability networks through the redundancy of network transmission channels.

GSPB (Giga-LAN SAS and PCI_Box Interface Board)

A board which mounts onboard I/O for two partitions and a PCIe (PCI Express) interface for a PCI box.

GUI (Graphical User Interface)

A user interface that displays pictures and icons (pictographic characters), enabling intuitive and easily understandable operation.

HA (High Availability)

The concept of using redundant resources to prevent suspension of system operations due to single problems.

hardware initiator

A controller which issues SCSI commands to request processes.
In iSCSI configurations, NICs fit into this category.

hardware maintenance mode

In the maintenance mode of PRIMEQUEST servers, a state other than Hot System Maintenance.

HBA (Host Bus Adapter)

An adapter for connecting servers and peripheral devices.
Mainly used to refer to the FC HBAs used for connecting storage devices using Fibre Channel technology.

HBA address rename setup service

The service that starts managed servers that use HBA address rename in the event of failure of the admin server.

HBAAR (HBA address rename)

I/O virtualization technology that enables changing of the actual WWN possessed by an HBA.

host affinity

A definition of the server HBA that is set for the CA port of the storage device and the accessible area of storage.
It is a function for association of the Logical Volume inside the storage which is shown to the host (HBA) that also functions as security internal to the storage device.

Hyper-V

Virtualization software from Microsoft Corporation.
Provides a virtualized infrastructure on PC servers, enabling flexible management of operations.

I/O virtualization option

An optional product that is necessary to provide I/O virtualization.
The WWNN address and MAC address provided is guaranteed by Fujitsu Limited to be unique.
Necessary when using HBA address rename.

IBP (Intelligent Blade Panel)

One of operation modes used for PRIMERGY switch blades.
This operation mode can be used for coordination with ServerView Virtual I/O Manager (VIOM), and relations between server blades and switch blades can be easily and safely configured.

ICT governance

A collection of principles and practices that encourage desirable behavior in the use of ICT (Information and Communication Technology) based on an evaluation of the impacts and risks posed in the adoption and application of ICT within an organization or community.

ILOM (Integrated Lights Out Manager)

The name of the Remote Management Controller for SPARC Enterprise T series servers.

image file

A system image or a cloning image. Also a collective term for them both.

infrastructure administrator

A user who manages the resources comprising a data center.

infra_admin is the role that corresponds to the users who manage resources.

Infrastructure administrators manage all of the resources comprising a resource pool (the global pool and local pools), provide tenant administrators with resources, and review applications by tenant users to use resources.

IPMI (Intelligent Platform Management Interface)

IPMI is a set of common interfaces for the hardware that is used to monitor the physical conditions of servers, such as temperature, power voltage, cooling fans, power supply, and chassis.

These functions provide information that enables system management, recovery, and asset management, which in turn leads to reduction of overall TCO.

IQN (iSCSI Qualified Name)

Unique names used for identifying iSCSI initiators and iSCSI targets.

iRMC (integrated Remote Management Controller)

The name of the Remote Management Controller for Fujitsu's PRIMERGY servers.

iSCSI

A standard for using the SCSI protocol over TCP/IP networks.

iSCSI boot

A configuration function that enables the starting and operation of servers via a network.

The OS and applications used to operate servers are stored on iSCSI storage, not the internal disks of servers.

iSCSI storage

Storage that uses an iSCSI connection.

LAG (Link Aggregation Group)

A single logical port created from multiple physical ports using link aggregation.

LAN switch blades

A LAN switch that is mounted in the chassis of a blade server.

LDAP (Lightweight Directory Access Protocol)

A protocol used for accessing Internet standard directories operated using TCP/IP.

LDAP provides functions such as direct searching and viewing of directory services using a web browser.

license

The rights to use specific functions.

Users can use specific functions by purchasing a license for the function and registering it on the manager.

link aggregation

Function used to multiplex multiple ports and use them as a single virtual port.

By using this function, it becomes possible to use a band equal to the total of the bands of all the ports.

Also, if one of the multiplexed ports fails its load can be divided among the other ports, and the overall redundancy of ports improved.

local pool

A resource pool that contains resources that can only be used by a specific tenant.

They are located in tenants.

logical volume

A logical disk that has been divided into multiple partitions.

L-Platform

A resource used for the consolidated operation and management of systems such as multiple-layer systems (Web/AP/DB) comprised of multiple L-Servers, storage, and network devices.

L-Platform template

A template that contains the specifications for servers, storage, network devices, and images that are configured for an L-Platform.

LSB (Logical System Board)

A system board that is allocated a logical number (LSB number) so that it can be recognized from the domain, during domain configuration.

L-Server

A resource defined using the logical specifications (number of CPUs, amount of memory, disk capacity, number of NICs, etc.) of the servers, and storage and network devices connected to those servers.

An abbreviation of Logical Server.

L-Server template

A template that defines the number of CPUs, memory capacity, disk capacity, and other specifications for resources to deploy to an L-Server.

LUN (Logical Unit Number)

A logical unit defined in the channel adapter of a storage unit.

MAC address (Media Access Control address)

A unique identifier that is assigned to Ethernet cards (hardware).

Also referred to as a physical address.

Transmission of data is performed based on this identifier. Described using a combination of the unique identifying numbers managed by/assigned to each maker by the IEEE, and the numbers that each maker assigns to their hardware.

maintenance mode

The state where operations on managed servers are stopped in order to perform maintenance work.

In this state, the backup and restoration of system images and the collection and deployment of cloning images can be performed.

However, when using Auto-Recovery it is necessary to change from this mode to active mode. When in maintenance mode it is not possible to switch over to a spare server if a server fails.

managed server

A collective term referring to a server that is managed as a component of a system.

management blade

A server management unit that has a dedicated CPU and LAN interface, and manages blade servers. Used for gathering server blade data, failure notification, power control, etc.

Management Board

The PRIMEQUEST system management unit. Used for gathering information such as failure notification, power control, etc. from chassis.

manager

The section (program) of Resource Orchestrator that operates on admin servers. It manages and controls resources registered with Resource Orchestrator.

master slot

A slot that is recognized as a server when a server that occupies multiple slots is mounted.

member server

A collective term that refers to a server in a Windows network domain that is not a domain controller.

migration

The migration of a VM guest to a different VM host. The following two types of migration are available:

- Cold migration
Migration of an inactive (powered-off) VM guest.
- Live migration
Migration of an active (powered-on) VM guest.

multi-slot server

A server that occupies multiple slots.

NAS (Network Attached Storage)

A collective term for storage that is directly connected to a LAN.

network device

The unit used for registration of network devices. L2 switches and firewalls fit into this category.

network map

A GUI function for graphically displaying the connection relationships of the servers and LAN switches that compose a network.

network view

A window that displays the connection relationships and status of the wiring of a network map.

NFS (Network File System)

A system that enables the sharing of files over a network in Linux environments.

NIC (Network Interface Card)

An interface used to connect a server to a network.

non-global zone

A virtual machine environment that has been prepared in a global zone. Its OS kernel is shared with the global zone. Non-global zones are completely separate from each other.

OS

The OS used by an operating server (a physical OS or VM guest).

overcommit

A function to virtually allocate more resources than the actual amount of resources (CPUs and memory) of a server. This function is used to enable allocation of more disk resources than are mounted in the target server.

PDU (Power Distribution Unit)

A device for distributing power (such as a power strip). Resource Orchestrator uses PDUs with current value display functions as Power monitoring devices.

physical LAN segment

A physical LAN that servers are connected to. Servers are connected to multiple physical LAN segments that are divided based on their purpose (public LANs, backup LANs, etc.). Physical LAN segments can be divided into multiple network segments using VLAN technology.

physical network adapter

An adapter, such as a LAN, to connect physical servers or VM hosts to a network.

physical OS

An OS that operates directly on a physical server without the use of server virtualization software.

physical server

The same as a "server". Used when it is necessary to distinguish actual servers from virtual servers.

pin-group

This is a group, set with the end host mode, that has at least one uplink port and at least one downlink port.

Pool Master

On Citrix XenServer, it indicates one VM host belonging to a Resource Pool. It handles setting changes and information collection for the Resource Pool, and also performs operation of the Resource Pool. For details, refer to the Citrix XenServer manual.

port backup

A function for LAN switches which is also referred to as backup port.

port VLAN

A VLAN in which the ports of a LAN switch are grouped, and each LAN group is treated as a separate LAN.

port zoning

The division of ports of fibre channel switches into zones, and setting of access restrictions between different zones.

power monitoring devices

Devices used by Resource Orchestrator to monitor the amount of power consumed. PDUs and UPSs with current value display functions fit into this category.

power monitoring targets

Devices from which Resource Orchestrator can collect power consumption data.

pre-configuration

Performing environment configuration for Resource Orchestrator on another separate system.

primary server

The physical server that is switched from when performing server switchover.

primary site

The environment that is usually used by Resource Orchestrator.

private cloud

A private form of cloud computing that provides ICT services exclusively within a corporation or organization.

public LAN

A LAN used for operations by managed servers.
Public LANs are established separately from admin LANs.

rack

A case designed to accommodate equipment such as servers.

rack mount server

A server designed to be mounted in a rack.

RAID (Redundant Arrays of Inexpensive Disks)

Technology that realizes high-speed and highly-reliable storage systems using multiple hard disks.

RAID management tool

Software that monitors disk arrays mounted on PRIMERGY servers.
The RAID management tool differs depending on the model or the OS of PRIMERGY servers.

RDM (Raw Device Mapping)

A function of VMware. This function provides direct access from a VMware virtual machine to a LUN.

RDN (Relative Distinguished Name)

A name used to identify the lower entities of a higher entry.
Each RDN must be unique within the same entry.

Remote Management Controller

A unit used for managing servers.
Used for gathering server data, failure notification, power control, etc.

- For Fujitsu PRIMERGY servers
 - iRMC2
- For SPARC Enterprise
 - ILOM (T series servers)
 - XSCF (M series servers)

- For HP servers
iLO2 (integrated Lights-Out)
- For Dell/IBM servers
BMC (Baseboard Management Controller)

Remote Server Management

A PRIMEQUEST feature for managing partitions.

Reserved SB

Indicates the new system board that will be embedded to replace a failed system board if the hardware of a system board embedded in a partition fails and it is necessary to disconnect the failed system board.

resource

General term referring to the logical definition of the hardware (such as servers, storage, and network devices) and software that comprise a system.

resource folder

An arbitrary group of resources.

resource pool

A unit for management of groups of similar resources, such as servers, storage, and network devices.

resource tree

A tree that displays the relationships between the hardware of a server and the OS operating on it using hierarchies.

role

A collection of operations that can be performed.

ROR console

The GUI that enables operation of all functions of Resource Orchestrator.

ruleset

A collection of script lists for performing configuration of network devices, configured as combinations of rules based on the network device, the purpose, and the application.

SAN (Storage Area Network)

A specialized network for connecting servers and storage.

SAN boot

A configuration function that enables the starting and operation of servers via a SAN.

The OS and applications used to operate servers are stored on SAN storage, not the internal disks of servers.

SAN storage

Storage that uses a Fibre Channel connection.

script list

Lists of scripts for the automation of operations such as status and log display, and definition configuration of network devices.

Used to execute multiple scripts in one operation. The scripts listed in a script list are executed in the order that they are listed.

As with individual scripts, they can be created by the infrastructure administrator, and can be customized to meet the needs of tenant administrators.

They are used to configure virtual networks for VLANs on physical networks, in cases where it is necessary to perform auto-configuration of multiple switches at the same time, or to configure the same rules for network devices in redundant configurations. The script lists contain the scripts used to perform automatic configuration.

There are the following eight types of script lists:

- script lists for setup
- script lists for setup error recovery
- script lists for modification
- script lists for modification error recovery
- script lists for setup (physical server added)
- script lists for setup error recovery (physical server added)
- script lists for deletion (physical server deleted)
- script lists for deletion

server

A computer (operated with one operating system).

server blade

A server blade has the functions of a server integrated into one board. They are mounted in blade servers.

server management unit

A unit used for managing servers.

A management blade is used for blade servers, and a Remote Management Controller is used for other servers.

server name

The name allocated to a server.

server NIC definition

A definition that describes the method of use for each server's NIC.

For the NICs on a server, it defines which physical LAN segment to connect to.

server virtualization software

Basic software which is operated on a server to enable use of virtual machines. Used to indicate the basic software that operates on a PC server.

ServerView Deployment Manager

Software used to collect and deploy server resources over a network.

ServerView Operations Manager

Software that monitors a server's (PRIMERGY) hardware state, and notifies of errors by way of the network.

ServerView Operations Manager was previously known as ServerView Console.

ServerView RAID

One of the RAID management tools for PRIMERGY.

ServerView Update Manager

This is software that performs jobs such as remote updates of BIOS, firmware, drivers, and hardware monitoring software on servers being managed by ServerView Operations Manager.

ServerView Update Manager Express

Insert the ServerView Suite DVD1 or ServerView Suite Update DVD into the server requiring updating and start it.
This is software that performs batch updates of BIOS, firmware, drivers, and hardware monitoring software.

Single Sign-On

A system among external software which can be used without login operations, after authentication is executed once.

slave slot

A slot that is not recognized as a server when a server that occupies multiple slots is mounted.

SMB (Server Message Block)

A protocol that enables the sharing of files and printers over a network.

SNMP (Simple Network Management Protocol)

A communications protocol to manage (monitor and control) the equipment that is attached to a network.

software initiator

An initiator processed by software using OS functions.

Solaris container resource pool

The Solaris Containers resource pool used in the global zone and the non-global zone.

Solaris Containers

Solaris server virtualization software.
On Solaris servers, it is possible to configure multiple virtual Solaris servers that are referred to as a Solaris Zone.

Solaris Zone

A software partition that virtually divides a Solaris OS space.

SPARC Enterprise Partition Model

A SPARC Enterprise model which has a partitioning function to enable multiple system configurations, separating a server into multiple areas with operating OS's and applications in each area.

spare server

A server which is used to replace a failed server when server switchover is performed.

storage blade

A blade-style storage device that can be mounted in the chassis of a blade server.

storage management software

Software for managing storage units.

storage resource

Collective term that refers to virtual storage resources and disk resources.

storage unit

Used to indicate the entire secondary storage as one product.

surrogate pair

A method for expressing one character as 32 bits.

In the UTF-16 character code, 0xD800 - 0xDBFF are referred to as "high surrogates", and 0xDC00 - 0xDFFF are referred to as "low surrogates". Surrogate pairs use "high surrogate" + "low surrogate".

switchover state

The state in which switchover has been performed on a managed server, but neither failback nor continuation have been performed.

system administrator

The administrator who manages the entire system. They perform pre-configuration and installation of Resource Orchestrator.

Administrator privileges for the operating system are required. Normally the roles of the infrastructure administrator and system administrator are performed concurrently.

System Board

A board which can mount up to 2 Xeon CPUs and 32 DIMMs.

system disk

The disk on which the programs (such as the OS) and files necessary for the basic functions of servers (including booting) are installed.

system image

A copy of the contents of a system disk made as a backup.

Different from a cloning image as changes are not made to the server-specific information contained on system disks.

tenant

A unit for the division and segregation of management and operation of resources based on organizations or operations.

tenant administrator

A user who manages the resources allocated to a tenant.

tenant_admin is the role for performing management of resources allocated to a tenant.

Tenant administrators manage the available space on resources in the local pools of tenants, and approve or reject applications by tenant users to use resources.

tenant folder

A resource folder that is created for each tenant, and is used to manage the resources allocated to a tenant.

L-Servers and local pools are located in tenant folders. Also, it is possible to configure a global pool that tenant administrators can use.

tenant user

A user who uses the resources of a tenant, or creates and manages L-Platforms, or a role with the same purpose.

Thick Provisioning

Allocation of the actual requested capacity when allocating storage resources.

Thin Provisioning

Allocating of only the capacity actually used when allocating storage resources.

tower server

A standalone server with a vertical chassis.

TPP (Thin Provisioning Pool)

One of resources defined using ETERNUS. Thin Provisioning Pools are the resource pools of physical disks created using Thin Provisioning.

TPV (Thin Provisioning Volume)

One of resources defined using ETERNUS. Thin Provisioning Volumes are physical disks created using the Thin Provisioning function.

UNC (Universal Naming Convention)

Notational system for Windows networks (Microsoft networks) that enables specification of shared resources (folders, files, shared printers, shared directories, etc.).



Example

.....
\\hostname\dir_name
.....

UPS (Uninterruptible Power Supply)

A device containing rechargeable batteries that temporarily provides power to computers and peripheral devices in the event of power failures.

Resource Orchestrator uses UPSs with current value display functions as power monitoring devices.

URL (Uniform Resource Locator)

The notational method used for indicating the location of information on the Internet.

VIOM (ServerView Virtual-IO Manager)

The name of both the I/O virtualization technology used to change the MAC addresses of NICs and the software that performs the virtualization.

Changes to values of WWNs and MAC addresses can be performed by creating a logical definition of a server, called a server profile, and assigning it to a server.

Virtual Edition

The edition that can use the server switchover function.

Virtual I/O

Technology that virtualizes the relationship of servers and I/O devices (mainly storage and network) thereby simplifying the allocation of and modifications to I/O resources to servers, and server maintenance.

For Resource Orchestrator it is used to indicate HBA address rename and ServerView Virtual-IO Manager (VIOM).

virtual server

A virtual server that is operated on a VM host using a virtual machine.

virtual storage resource

This refers to a resource that can dynamically create a disk resource.

An example being RAID groups or logical storage that is managed by server virtualization software (such as VMware datastores).

In Resource Orchestrator, disk resources can be dynamically created from ETERNUS RAID groups, NetApp aggregates, and logical storage managed by server virtualization software.

virtual switch

A function provided by server virtualization software to manage networks of VM guests as virtual LAN switches.

The relationships between the virtual NICs of VM guests and the NICs of the physical servers used to operate VM hosts can be managed using operations similar to those of the wiring of normal LAN switches.

A function provided by server virtualization software in order to manage L-Server (VM) networks as virtual LAN switches. Management of relationships between virtual L-Server NICs, and physical server NICs operating on VM hosts, can be performed using an operation similar to the connection of a normal LAN switch.

VLAN (Virtual LAN)

A splitting function, which enables the creation of virtual LANs (seen as differing logically by software) by grouping ports on a LAN switch.

Using a Virtual LAN, network configuration can be performed freely without the need for modification of the physical network configuration.

VLAN ID

A number (between 1 and 4,095) used to identify VLANs.

Null values are reserved for priority tagged frames, and 4,096 (FFF in hexadecimal) is reserved for mounting.

VM (Virtual Machine)

A virtual computer that operates on a VM host.

VM guest

A virtual server that operates on a VM host, or an OS that is operated on a virtual machine.

VM Home Position

The VM host that is home to VM guests.

VM host

A server on which server virtualization software is operated, or the server virtualization software itself.

VM maintenance mode

One of the settings of server virtualization software, that enables maintenance of VM hosts.

For example, when using high availability functions (such as VMware HA) of server virtualization software, by setting VM maintenance mode it is possible to prevent the moving of VM guests on VM hosts undergoing maintenance.

For details, refer to the manuals of the server virtualization software being used.

VM management software

Software for managing multiple VM hosts and the VM guests that operate on them.

Provides value adding functions such as movement between the servers of VM guests (migration).

VMware

Virtualization software from VMware Inc.

Provides a virtualized infrastructure on PC servers, enabling flexible management of operations.

VMware DPM (VMware Distributed Power Management)

A function of VMware. This function is used to reduce power consumption by automating power management of servers in VMware DRS clusters.

VMware DRS (VMware Distributed Resource Scheduler)

A function of VMware. This function is used to monitor the load conditions on an entire virtual environment and optimize the load dynamically.

VMware Teaming

A function of VMware. By using VMware Teaming it is possible to perform redundancy by connecting a single virtual switch to multiple physical network adapters.

Web browser

A software application that is used to view Web pages.

WWN (World Wide Name)

A 64-bit address allocated to an HBA.
Refers to a WWNN or a WWPN.

WWNN (World Wide Node Name)

A name that is set as a common value for the Fibre Channel ports of a node. However, the definitions of nodes vary between manufacturers, and may also indicate devices or adapters. Also referred to as a node WWN.

WWPN (World Wide Port Name)

A name that is a unique value and is set for each Fibre Channel port (HBA, CA, fibre channel switch ports, etc.), and is the IEEE global MAC address.

As the Fibre Channel ports of the same WWPN are unique, they are used as identifiers during Fibre Channel port login. Also referred to as a port WWN.

WWPN zoning

The division of ports into zones based on their WWPN, and setting of access restrictions between different zones.

Xen

A type of server virtualization software.

XSB (eXtended System Board)

Unit for domain creation and display, composed of physical components.

XSCF (eXtended System Control Facility)

The name of the Remote Management Controller for SPARC Enterprise M series servers.

zoning

A function that provides security for Fibre Channels by grouping the Fibre Channel ports of a Fibre Channel switch into zones, and only allowing access to ports inside the same zone.