FUJITSU Software
ServerView Resource Orchestrator
Cloud Edition V3.4.0

User's Guide
for Infrastructure Administrators

Windows/Linux

Preface

Purpose of This Document

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

Intended Readers

This document is intended for Infrastructure Administrator who display L-Platforms, manage tenant information, or use the dashboard or 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.

Structure of This Document

This manual is composed as follows:

Explains L-Platform usage applications by dual-role administrators.

Explains tenant operation by dual-role administrators.

Describes the flow and content of emails sent during L-Platform operations.

Web Site URLs

URLs provided as reference sources within the main text are correct as of October 2020.

Document Conventions

The notation in this manual conforms to the following conventions.

- When there is different information for the different versions of Resource Orchestrator, it is indicated as follows.

[All Editions]	Sections relevant for all editions
[Cloud Edition]	Sections related to Cloud Edition
[Virtual Edition]	Sections related to Virtual Edition

- 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

[Linux]

Sections related to Linux

[Red Hat Enterprise Linux]

Sections related to Red Hat Enterprise Linux

[Solaris]

Sections related to Solaris

[VMware]

Sections related to VMware

[Horizon View]

Sections related to VMware Horizon View

[Hyper-V]

Sections related to Hyper-V

[Xen]

Sections related to RHEL5-Xen

[KVM]

Sections related to RHEL-KVM

[Solaris Zones]

    Sections related to Solaris Zones (Solaris 10) and Solaris Zones (Solaris 11)

[Solaris Zones (Solaris 10)]

    Sections related to Solaris Zones with Solaris 10 VM hosts

[Solaris Zones (Solaris 11)]

    Sections related to Solaris Zones with Solaris 11 VM hosts

[OVM for x86]

    Sections related to Oracle VM Server for x86 2.2 and Oracle VM Server for x86 3.x

[OVM for x86 2.2]

    Sections related to Oracle VM Server for x86 2.2

[OVM for x86 3.x]

    Sections related to Oracle VM Server for x86 3.2 and Oracle VM Server for x86 3.3

[OVM for SPARC]

    Sections related to Oracle VM Server for SPARC

[Citrix Xen]

    Sections related to Citrix XenServer

[Physical Servers]

    Sections related to physical servers

[Trend Micro OfficeScan]

    Sections related to Trend Micro OfficeScan

[Symantec]

    Sections related to Symantec Endpoint Protection

[McAfee]

    Sections related to McAfee ePolicy Orchestrator

- Unless specified otherwise, the blade servers mentioned in this manual refer to PRIMERGY BX servers.

- Oracle Solaris may also be indicated as Solaris, Solaris Operating System, or Solaris OS.

- Oracle Solaris Zones may also be indicated as Solaris Containers or Solaris Container.

- Oracle VM Server for x86 may also be indicated as Oracle VM.

- In Resource Orchestrator, the following servers are referred to as SPARC Enterprise.

    - SPARC Enterprise M3000/M4000/M5000/M8000/M9000

    - SPARC Enterprise T5120/T5140/T5220/T5240/T5440

- In Resource Orchestrator, the following servers are referred to as SPARC M12.

    - SPARC M12-1/M12-2/M12-2S

- In Resource Orchestrator, the following servers are referred to as SPARC M10.

    - SPARC M10-1/M10-4/M10-4S

- Fujitsu SPARC M12 is the product name used for SPARC M12 when they are sold outside Japan.

- Fujitsu M10 is the product name used for SPARC M10 when they are sold outside Japan.

- In this manual, Fujitsu SPARC M12 is referred to as SPARC M12.

- In this manual, Fujitsu M10 is referred to as SPARC M10.

- In this manual, Fujitsu SPARC M12 and Fujitsu M10 are collectively referred to as SPARC M10/M12.

- In Resource Orchestrator, the following software is referred to as GLS.

    - PRIMECLUSTER GLS 4.4 or earlier

- In Resource Orchestrator, the following software is referred to as GDS.

    - PRIMECLUSTER GDS 4.4 or earlier

- References and character strings or values requiring emphasis are indicated using double quotes (").

- GUI items are shown enclosed by 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 "#".

- When using Resource Orchestrator on Windows 8 and Windows Server 2012, please note the following.
  When OS operations are explained in this manual, the examples assume OSs up to Windows 7 and Windows Server 2008. When using Resource Orchestrator on Windows 8 or Windows Server 2012, take explanations regarding the [Start] menu as indicating the [Apps] screen.
  The [Apps] screen can be displayed by right-clicking on the [Start] screen and then right-clicking [All apps].

- When using Resource Orchestrator on Windows 8.1 and Windows Server 2012 R2, please note the following.
  When OS operations are explained in this manual, the examples assume OSs up to Windows 7 and Windows Server 2008. When using Resource Orchestrator on Windows 8.1 or Windows Server 2012 R2, take explanations regarding the [Start] menu as indicating the [Apps] screen.
  The [Apps] screen can be displayed by swiping the [Start] screen from bottom to top, or clicking the downward facing arrow on the lower-left of the [Start] screen.

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.

Regarding Installation Folder Paths

The installation folder path may be given as C:\Fujitsu\ROR in this manual.

Replace it as shown below.

[Virtual Edition]

- When using Windows 64-bit (x64)

    C:\Program Files (x86)\Resource Orchestrator

- When using Windows 32-bit (x86)

    C:\Program Files\Resource Orchestrator

[Cloud Edition]

C:\Program Files (x86)\Resource Orchestrator

Command Examples

The paths used in command examples may be abbreviated. When using commands, execute them using the paths in the "Name" column in the "Reference Guide (Command) VE" and the "Reference Guide (Command/XML) CE".

Abbreviations

The following abbreviations are use in this manual.

Category

Abbreviation

- Products

Windows

Windows

- Microsoft(R) Windows Server(R) 2012 Standard

- Microsoft(R) Windows Server(R) 2012 Datacenter

- Microsoft(R) Windows Server(R) 2012 R2 Essentials

- Microsoft(R) Windows Server(R) 2012 R2 Standard

- Microsoft(R) Windows Server(R) 2012 R2 Datacenter

- Microsoft(R) Windows Server(R) 2016 Standard

- Microsoft(R) Windows Server(R) 2016 Datacenter

- Microsoft(R) Windows Server(R) 2019 Standard

- Microsoft(R) Windows Server(R) 2019 Datacenter

- Windows(R) 7 Professional

- Windows(R) 7 Ultimate

- Windows(R) 8.1 Pro

- Windows(R) 8.1 Enterprise

- Windows(R) 10 Pro

- Windows(R) 10 Enterprise

Windows Server 2012

- Microsoft(R) Windows Server(R) 2012 Standard

- Microsoft(R) Windows Server(R) 2012 Datacenter

- Microsoft(R) Windows Server(R) 2012 R2 Essentials

- Microsoft(R) Windows Server(R) 2012 R2 Standard

- Microsoft(R) Windows Server(R) 2012 R2 Datacenter

Windows Server 2016

- Microsoft(R) Windows Server(R) 2016 Standard

- Microsoft(R) Windows Server(R) 2016 Datacenter

Windows Server 2019

- Microsoft(R) Windows Server(R) 2019 Standard

- Microsoft(R) Windows Server(R) 2019 Datacenter

Windows PE

- Microsoft(R) Windows(R) Preinstallation Environment

Windows 7

- Windows(R) 7 Professional

- Windows(R) 7 Ultimate

Windows 8.1

- Windows(R) 8.1 Pro

- Windows(R) 8.1 Enterprise

Windows 10

- Windows(R) 10 Pro

- Windows(R) 10 Enterprise

DOS

- Microsoft(R) MS-DOS(R) operating system, DR DOS(R)

MSFC

- Microsoft(R) Windows Server(R) 2012 Standard Failover Cluster

- Microsoft(R) Windows Server(R) 2012 Datacenter Failover Cluster

SCVMM

- Microsoft(R) System Center 2012 Virtual Machine Manager

- Microsoft(R) System Center 2012 R2 Virtual Machine Manager

- Microsoft(R) System Center 2016 Virtual Machine Manager

Linux

Linux

- Red Hat(R) Enterprise Linux(R) 6.0 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.0 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.1 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.1 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.2 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.3 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.3 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.4 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.4 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.5 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.5 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.6 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.6 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.7 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.7 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.8 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.8 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.9 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.9 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.10 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.10 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.0 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.1 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.2 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.4 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.5 (for Intel64)

- SUSE(R) Linux Enterprise Server 10 Service Pack 2 for x86

- SUSE(R) Linux Enterprise Server 10 Service Pack 2 for AMD64 & Intel64

- SUSE(R) Linux Enterprise Server 10 Service Pack 3 for x86

- SUSE(R) Linux Enterprise Server 10 Service Pack 3 for AMD64 & Intel64

- SUSE(R) Linux Enterprise Server 11 for x86

- SUSE(R) Linux Enterprise Server 11 for AMD64 & Intel64

- SUSE(R) Linux Enterprise Server 11 Service Pack 1 for x86

- SUSE(R) Linux Enterprise Server 11 Service Pack 1 for AMD64 & Intel64

- Oracle Enterprise Linux Release 6.7 for x86 (32-bit)

- Oracle Enterprise Linux Release 6.7 for x86_64 (64-bit)

- Oracle Enterprise Linux Release 7.2 for x86 (32-bit)

- Oracle Enterprise Linux Release 7.2 for x86_64 (64-bit)

Red Hat Enterprise Linux

- Red Hat(R) Enterprise Linux(R) 6.0 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.0 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.1 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.1 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.2 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.3 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.3 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.4 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.4 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.5 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.5 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.6 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.6 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.7 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.7 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.8 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.8 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.9 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.9 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.10 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.10 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.0 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.1 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.2 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.4 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.5 (for Intel64)

Red Hat Enterprise Linux 6

- Red Hat(R) Enterprise Linux(R) 6.0 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.0 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.1 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.1 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.2 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.3 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.3 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.4 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.4 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.5 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.5 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.6 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.6 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.7 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.7 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.8 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.8 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.9 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.9 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 6.10 (for x86)

- Red Hat(R) Enterprise Linux(R) 6.10 (for Intel64)

Red Hat Enterprise Linux 7

- Red Hat(R) Enterprise Linux(R) 7.0 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.1 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.2 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.4 (for Intel64)

- Red Hat(R) Enterprise Linux(R) 7.5 (for Intel64)

SUSE Linux Enterprise Server

- SUSE(R) Linux Enterprise Server 10 Service Pack 2 for x86

- SUSE(R) Linux Enterprise Server 10 Service Pack 2 for AMD64 & Intel64

- SUSE(R) Linux Enterprise Server 10 Service Pack 3 for x86

- SUSE(R) Linux Enterprise Server 10 Service Pack 3 for AMD64 & Intel64

- SUSE(R) Linux Enterprise Server 11 for x86

- SUSE(R) Linux Enterprise Server 11 for AMD64 & Intel64

- SUSE(R) Linux Enterprise Server 11 Service Pack 1 for x86

- SUSE(R) Linux Enterprise Server 11 Service Pack 1 for AMD64 & Intel64

Oracle Enterprise Linux

- Oracle Enterprise Linux Release 6.7 for x86 (32-bit)

- Oracle Enterprise Linux Release 6.7 for x86_64 (64-bit)

- Oracle Enterprise Linux Release 7.2 for x86 (32-bit)

- Oracle Enterprise Linux Release 7.2 for x86_64 (64-bit)

KVM

RHEL-KVM

- Red Hat(R) Enterprise Linux(R) 6.1 (for x86) Virtual Machine Function

- Red Hat(R) Enterprise Linux(R) 6.1 (for Intel64) Virtual Machine Function

- 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

- Red Hat(R) Enterprise Linux(R) 6.3 (for x86) Virtual Machine Function

- Red Hat(R) Enterprise Linux(R) 6.3 (for Intel64) Virtual Machine Function

- Red Hat(R) Enterprise Linux(R) 6.4 (for x86) Virtual Machine Function

- Red Hat(R) Enterprise Linux(R) 6.4 (for Intel64) Virtual Machine Function

- Red Hat(R) Enterprise Linux(R) 6.5 (for x86) Virtual Machine Function

- Red Hat(R) Enterprise Linux(R) 6.5 (for Intel64) Virtual Machine Function

- Red Hat(R) Enterprise Linux(R) 6.6 (for x86) Virtual Machine Function

- Red Hat(R) Enterprise Linux(R) 6.6 (for Intel64) Virtual Machine Function

- Red Hat(R) Enterprise Linux(R) 6.7 (for x86) Virtual Machine Function

- Red Hat(R) Enterprise Linux(R) 6.7 (for Intel64) Virtual Machine Function

- Red Hat(R) Enterprise Linux(R) 6.8 (for x86) Virtual Machine Function

- Red Hat(R) Enterprise Linux(R) 6.8 (for Intel64) Virtual Machine Function

Xen

Xen

- Citrix XenServer(R) 5.5

- Citrix Essentials(TM) for XenServer 5.5, Enterprise Edition

- Citrix XenServer(R) 6.0

- Citrix Essentials(TM) for XenServer 6.0, Enterprise Edition

Citrix

Citrix XenServer

- Citrix XenServer(R) 6.0

- Citrix XenServer(R) 6.0.2

- Citrix XenServer(R) 6.1.0

- Citrix XenServer(R) 6.2.0

- Citrix XenServer(R) 7.1 LTSR

- Citrix XenServer(R) 7.2

- Citrix Hypervisor(R)

XenServer 6

- Citrix XenServer(R) 6.0

- Citrix Essentials(TM) for XenServer 6.0, Enterprise Edition

Citrix XenApp

- Citrix XenApp(R)

- Citrix Virtual Apps(R)

Citrix XenDesktop

- Citrix XenDesktop(R)

- Citrix Virtual Apps and Desktops(R)

Oracle Solaris

Solaris

- Oracle Solaris 10 05/09 (Update7)

- Oracle Solaris 11 11/11

- Oracle Solaris 11.1

- Oracle Solaris 11.2

- Oracle Solaris 11.3

Oracle VM

OVM for x86 2.2

- Oracle(R) VM Server for x86 2.2

OVM for x86 3.x

    OVM for x86 3.2

        - Oracle VM Server for x86 v3.2.*x*

    OVM for x86 3.3

        - Oracle VM Server for x86 v3.3.*x*

OVM for SPARC

    - Oracle(R) VM Server for SPARC

Oracle VM Manager

    - Oracle(R) VM Manager

EMC

  Navisphere

    - EMC Navisphere Manager

  Solutions Enabler

    - EMC Solutions Enabler

VMware

  VMware vSphere or vSphere

    - VMware vSphere(R) 4

    - VMware vSphere(R) 4.1

    - VMware vSphere(R) 5

    - VMware vSphere(R) 5.1

    - VMware vSphere(R) 5.5

    - VMware vSphere(R) 6

    - VMware vSphere(R) 6.5

    - VMware vSphere(R) 6.7

  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 ESXi 5.1

    - VMware(R) ESXi(TM) 5.1

  VMware ESXi 5.5

    - VMware(R) ESXi(TM) 5.5

  VMware ESXi 6.0

- VMware(R) ESXi(TM) 6.0

VMware ESXi 6.5

- VMware(R) ESXi(TM) 6.5

VMware ESXi 6.7

- VMware(R) ESXi(TM) 6.7

VMware Infrastructure Client

- VMware(R) Infrastructure Client

VMware Tools

- VMware(R) Tools

VMware vSphere 4.0 or vSphere 4.0

- VMware vSphere(R) 4.0

VMware vSphere 4.1 or vSphere 4.1

- VMware vSphere(R) 4.1

VMware vSphere 5 or vSphere 5

- VMware vSphere(R) 5

VMware vSphere 5.1 or vSphere 5.1

- VMware vSphere(R) 5.1

VMware vSphere 5.5 or vSphere 5.5

- VMware vSphere(R) 5.5

VMware vSphere 6.0 or vSphere 6.0

- VMware vSphere(R) 6.0

VMware vSphere 6.5 or vSphere 6.5

- VMware vSphere(R) 6.5

VMware vSphere 6.7 or vSphere 6.7

- VMware vSphere(R) 6.7

VMware vSphere Client or vSphere Client

- VMware vSphere(R) Client

VMware vCenter Server or vCenter Server

- VMware(R) vCenter(TM) Server

VMware vCenter Server Appliance or vCenter Server Appliance

- VMware(R) vCenter(TM) Server Appliance(TM)

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 Storage VMotion

- VMware(R) Storage VMotion

VMware vDS

- VMware(R) vNetwork Distributed Switch

VMware Horizon View

- VMware Horizon View 5.2.*x*

- VMware Horizon View 5.3.*x*

- VMware Horizon 6.0 (with View)

VMware VSAN or VSAN

- VMware(R) Virtual SAN(TM)

VMware vSphere Web Client or vSphere Web Client

- VMware vSphere(R) Web Client

VMware NSX

- VMware NSX(R)

- VMware NSX(R) for vSphere(R)

- VMware NSX(R) for vSphere(R) 6.3

VMware NSX Controller or NSX Controller

- VMware NSX(R) Controller(TM)

VMware NSX Edge or NSX Edge

- VMware NSX(R) Edge(TM)

VMware NSX Manager or NSX Manager

- VMware NSX(R) Manager(TM)

Excel

Excel

- Microsoft(R) Office Excel(R) 2007

- Microsoft(R) Office Excel(R) 2010

- Microsoft(R) Office Excel(R) 2013

Excel 2007

- Microsoft(R) Office Excel(R) 2007

Excel 2010

- Microsoft(R) Office Excel(R) 2010

Excel 2013

- Microsoft(R) Office Excel(R) 2013

Browsers

Internet Explorer

- Internet Explorer(R) 11

Firefox

- Firefox(R)

Antivirus Software

OfficeScan

- Trend Micro OfficeScan

McAfee ePolicy Orchestrator

- McAfee(R) ePolicy Orchestrator(R)

McAfee ePO

- McAfee(R) ePolicy Orchestrator(R)

McAfee Agent

- McAfee(R) Agent

McAfee Endpoint Security

- McAfee(R) Endpoint Security

Symantec Endpoint Protection

- Symantec(TM) Endpoint Protection

Symantec Endpoint Protection Manager

- Symantec(TM) Endpoint Protection Manager

BMC

BladeLogic

- BMC BladeLogic Server Automation

ETERNUS

ESC

- ETERNUS SF Storage Cruiser

ServerView

ServerView Agent

- ServerView SNMP Agents for MS Windows (32-bit and 64-bit)

- ServerView Agents Linux

- ServerView Agents VMware for VMware ESX Server

VIOM

- ServerView Virtual-IO Manager

ISM

- ServerView Infrastructure Manager

- Infrastructure Manager

SVOM

- ServerView Operations Manager

SVFAB

  - ServerView Fabric Manager

RCVE

  - ServerView Resource Coordinator VE

ROR

  - FUJITSU Software ServerView Resource Orchestrator

ROR VE

  - FUJITSU Software ServerView Resource Orchestrator Virtual Edition

ROR CE

  - FUJITSU Software ServerView Resource Orchestrator Cloud Edition

Resource Coordinator

  - Systemwalker Resource Coordinator

  - Systemwalker Resource Coordinator Virtual server Edition

Resource Coordinator VE

  - ServerView Resource Coordinator VE

  - Systemwalker Resource Coordinator Virtual server Edition

Resource Orchestrator

  - FUJITSU Software ServerView Resource Orchestrator

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- The contents of this manual are subject to change without notice.

Revision History

Month/Year Issued, Edition	Manual Code
October 2020, First Edition	J2X1-8172-01ENZ0(00)

Copyright Notice

Contents

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.

The operation window regarding L-Platform and user information and the dashboard window for monitoring resource operation status and usage rate of resource pools are provided for infrastructure administrators. 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	Infrastructure Administrator	Tenant Administrator	Tenant user
Home	The window displayed immediately after login to the ROR console. A function list and notifications are displayed.	Yes	Yes	Yes
Dashboard(Pool Conditions)	Displays the resource pool usage status	Yes	Yes	No

Function	Overview	Infrastructure Administrator	Tenant Administrator	Tenant user
Dashboard (System Conditions)	Displays L-Server performance information and configuration information	Yes	Yes	Yes
Dashboard (Capacity Planning)	Anticipate the demand for resource pools and perform simulations of VM guest reallocations.	Yes	Yes	No
Resource	A window for managing the resource pool and the relationship of resources to L-Server	Yes	No	No
Template	A window for managing L-Platform Templates	Yes	Yes	No
L-Platform	A window for managing L-Platform	Yes	Yes	Yes
Request	A window for assessing and approving L-Platform usage applications and other applications from tenant users	Yes	Yes	Yes
Accounting	Usage charge for L-Platforms is displayed.	Yes	Yes	No
Tenant	A window for managing tenants and users belonging to tenants	Yes	Yes	No
Account	A window for changing a logged in user's information and password	Yes	Yes	Yes
Option	Sets the [Home] Tab as the window displayed at login.	Yes	Yes	Yes
Help	Displays this product's manual	Yes	Yes	Yes

Yes: Displayed (However, some functions may not be displayed according to the user's access rights.
Refer to "5.1 Restricting Access Using Roles" in the "Design Guide CE" for information on privileges.)

No: Not displayed

Refer to "Chapter 3 Home", and subsequent chapters for information 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 (Infrastructure Administrator)
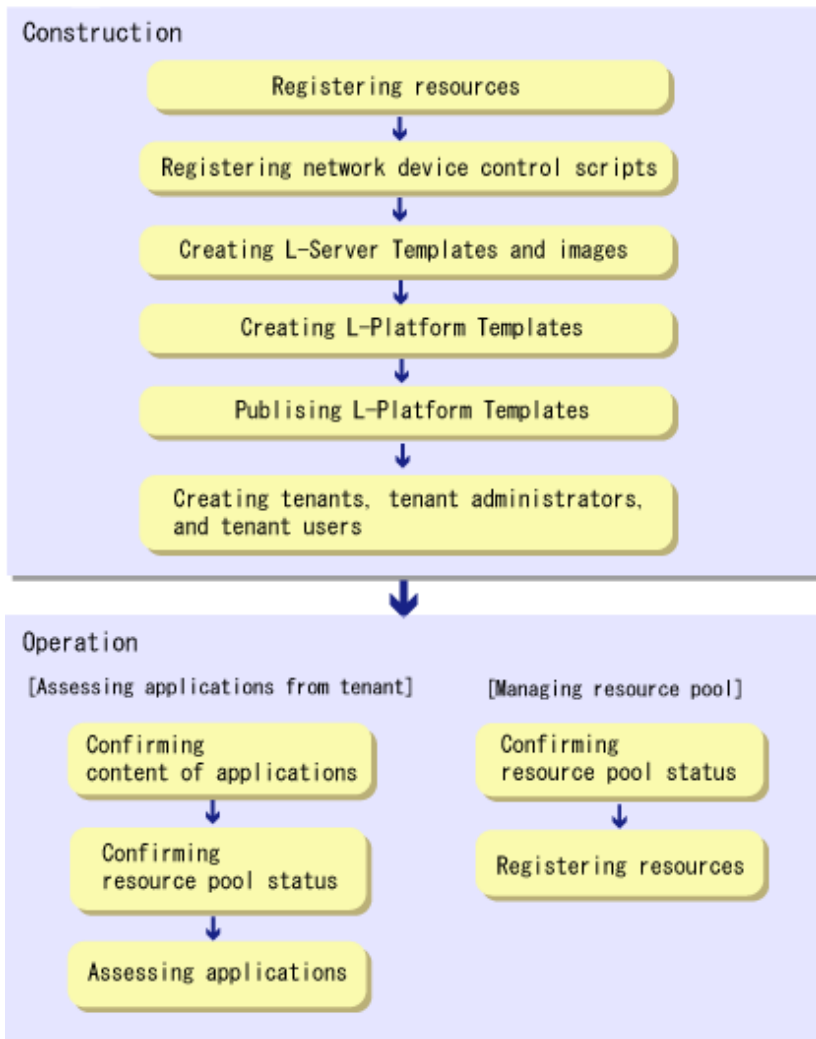
Construction

1. Registering resources
   Register resources.
   Refer to "Chapter 5 Registering Resources" in the "User's Guide for Infrastructure Administrators (Resource Management) CE" for details.

2. Registering network device control scripts
   Deploy the network device control scripts.
   Refer to "5.7 Registering Network Devices" in the "User's Guide for Infrastructure Administrators (Resource Management) CE" for details.

3. Creating L-Server Templates and images
   Create L-Server Templates and images.
   Refer to "Chapter 15 L-Server Template Operations" in the "User's Guide for Infrastructure Administrators (Resource Management) CE" for details.

4. Creating L-Platform Templates
   Create L-Platform Templates.
   Refer to "8.3.1 Creating New L-Platform Template" for details.

5. Publishing L-Platform Templates
   Publish the created L-Platform Template.
   Refer to "8.3.5 Publishing and Hiding L-Platform Template" for details.

6. Creating tenants, tenant administrators, and tenant users
   Register the tenant, Tenant Administrator, and tenant users.
   Refer to "Chapter 11 Tenant" for details.

Operation

[Assessing Applications from Tenant]

1. Confirming content of applications
   Check the content of applications, such as L-Platform usage applications, reconfigurations, cancellations, and so on, received from Tenant Administrators and tenant users.
   Refer to "9.2 L-Platform Management" 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. Assessing applications
   Assessment the contents of applications from Tenant Administrators and tenant users.
   Refer to "10.2 Assessing 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. Registering resources
   If necessary, Register resources to the resource pool to ensure sufficient free capacity.
   Refer to "Chapter 5 Registering Resources" in the "User's Guide for Infrastructure Administrators (Resource Management) CE" for details.

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 the following instructions and restrictions.

- The ROR console uses the Web browser's standard fonts and is designed to be viewed in a window of 1024 by 768 pixels (Recommendation value: 1280 by 768 pixels) or larger. When using a monitor with a higher resolution than this, it is recommended to enlarge the screen size. Extremely resizing the Web browser or scaling the screen may cause the display to collapse.

- Surrogate pair characters cannot be used on the ROR Console.

- In environments where the admin server is Windows, and multiple IP addresses are used, when a login window with a different URL from the address bar's URL in which the IP address or host name (FQDN) is specified, the warning may not disappear. Also, the following may occur.

    - The login window is not displayed

    - A certificate error occurs even though the certificate is registered

  Use the following procedure as the corrective action for the above.

    - For Windows Server 2012 or later

      Set the interface metric value smaller than any other interfaces used by the admin server.
      The metric values of each interface can be checked by using the "netstat -r" command.

      ## 💡 Example

      For Microsoft(R) Windows Server(R) 2012 Standard

          1. Press the [Windows Logo] + [R] keys.

             The [Run] dialog is displayed.

          2. Enter "ncpa.cpl", and click the [OK] button.

          3. Right-click [Network Interface], and click [Properties].

          4. Click [Internet Protocol Version 4(TCP/IPv4)], and then click [Properties].

          5. Click [Advanced] on the [General] tab.

          6. Clear the [Automatic metric] checkbox on the [IP Settings] tab, and enter the metric [Interface metric] field.

- When opening the ROR console with Internet Explorer, read the following additional instructions and restrictions.

    - When accessing the ROR console, 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 JavaScript, Active Script, Cookies, and IFRAMEs. These must be enabled in the Web browser settings before using the ROR console. Use TLS 1.0 or TLS 1.2.

    - 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.

    - When opening the ROR console right after launching a Web browser, a warning window concerning the site's security certificate will be displayed.
      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.

The login screen can be displayed by selecting the following option: "Continue to this web site (not recommended).".

- 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.

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

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

- When opening the ROR console with Firefox, read the following additional instructions and restrictions.

  - Confirm that the "Allow pages to choose their own fonts, instead of my selections above" is checked in the [Advanced] setting in [Options]-[Content]-[Fonts & Colors]. If it is not checked, check it.

  - The ROR console uses JavaScript, Cookies, and IFRAMEs. These must be enabled in the Web browser settings before using the ROR console. Use TLS 1.0 or TLS 1.2.

  - 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.

  - Create a certificate associated with the IP address or hostname of the admin server and add it to the Web browser.
    Refer to "Appendix B HTTPS Communications" in the "Design Guide CE" for detail instructions to create and install certificate.

- After upgrading managers or applying patches, it is necessary to delete your Web browser's cache.
  For the method for deleting the cache, refer to "C.5 Client" in the "Setup Guide CE".

- If you are using TLS 1.2, you must run the TLS 1.2 enabled script after applying the following update. Refer to update Information file for details.

  - [Windows Manager] T015389WP-01 or later

  - [Linux Manager] T015391LP-01 or later

Opening the ROR Console

This section explains how to access the ROR console.

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 using internal authentication, the login window for Resource Orchestrator will be displayed.
When Single Sign-On has been configured, the login window for Single Sign-On is displayed.
However, when Single Sign-On authentication has already been performed, the ROR console can be started without displaying the login window.

For details on Single Sign-On, refer to "Chapter 12 Configuring Single Sign-On" in the "Design Guide CE".

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

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

Note

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- If the login screen is not displayed, check that the following settings are correct.

    - 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).

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Login

- In the login screen, enter the following items, and click the [Login] button.
  The ROR console is displayed after a successful login.

    - User ID

    - Password

- When logging in for the first time, the [Home] tab is displayed. When logging in for the second time and successive times, the tab that was displayed at the last logout is displayed.

  It is also possible for each user to set whether the [Home] tab is to be displayed at login. To change the option, click "Options" in the upper right corner of the ROR Console. This option is not reflected on the backup site during switchover due to Disaster Recovery. Each user has to change the option individually after switchover.

- When login to the ROR console fails using Single Sign-On authentication, configuration of the environment may have failed.

  Stop the manager, and reconfigure Single Sign-On.
  For details on how to reconfigure Single Sign-On, refer to "8.10 Reconfiguring Single Sign-On" in the "Operation Guide CE".

Logout

To log out, select "Logout" in the global header, and click the [OK] button in the confirmation dialog.

Note

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- 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.

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Exit

To exit the ROR console, simply close the Web browser window.

Chapter 3 Home

This chapter explains the ROR Console Home window.

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.

3.1 Setup Wizard

This section explains the initial setup using the Setup Wizard.

Use the following procedure:

1. Select the [Home] tab from the ROR Console, and then click [Setup Wizard] displayed on the Tools of the Functions list.

2. Start the initial setup from the displayed window.

   The following eight steps are required.

   In each step, click <Next> to move to the next step, and click <Back> to return to the previous step. In the last step, click <Finish> to complete the initial setup. To move to the next step without changing the current settings in each step, simply click <Next>.

   Perform the following settings in each step. For details of the setting items for each step, refer to the table below.

   Application Process

   Select whether approval and assessment (application process) should be performed for L-Platform usage application, configuration modification, and cancellation.

   Email

   Enter the SMTP server name, port number, and sender's email address.

   Tenant

   Enter the parameters for tenant management settings.

   L-Platform1/2

   Enter the parameters for L-Platform settings.

   L-Platform2/2

   Enter the parameters for L-Platform settings.

   Accounting

   Enter the parameters for usage fees for the L-Platform and Accounting Tabs.

   OS Property

   Enter the parameters to set for the OS when creating the virtual L-Server.

   Confirm

   The content of the settings can be checked.

Note

- If the application process checkbox is being changed from on to off after the manager starts its operation, make sure that there are no pending processes before changing it. If there are pending processes, Perform the tasks below to end all processes:

  - Cancel

  - Approve or reject

  - Accept or dismiss

- Set the following settings on "L-Platform 1/2" and "L-Platform 2/2" before operations commence. This attribute cannot be switched once operations have commenced.

  - Overcommit function

  - System disk for physical L-Servers

  - Setting method for host name

  - Setting method for L-Server's resource name

  - Setting method for folder's resource name

3. When something other than the OS properties has been changed, restart the manager before resuming operation.

This table contains the settings involved for each step.

Step	Setting Items	Description	Definition file reference
Step 1 Application Process	Application process function (*3)	Select whether to use the application process. (*1)	-
	L-Platform subscription	The Application Process regarding L-Platforms can be set. (*1) If "Enable" is selected in Application process and all these settings are cleared, the Request tab will be displayed on the ROR Console, but it will not be possible to use the application process. However, if "Enable" is selected in the Application process, these settings can be modified for each tenant using the [Tenants] tab of the ROR Console.	Refer to "9.2.2 Setting Application Process Settings" and "9.2.3 Setting Application Process to be Used" in the "Setup Guide CE". (*2)
	L-Platform reconfiguration		
	L-Platform cancellation		
Step 2 Email	SMTP server name	The host name and port number of the SMTP server, and the sender's mail address can be set. Also, when all parameters are defined, the Mail Sending function is enabled, and SMTP server authentication is defined as none.	Refer to each setting of "9.1 Settings for Sending Email" in the "Setup Guide CE".
	Port number		
	Sender's email address		
Step 3 Tenant	Perform user management by tenant administrator (*3)	User management performed by the tenant administrator and the reflection of information on the directory service during user	Refer to each setting of "8.6.1 Settings for Tenant Management and Account Management" in the "Operation Guide CE".
	Setting method for registering a tenant user by tenant administrator		

Step	Setting Items	Description	Definition file reference
	Update user information to the directory service	registration using single sign-on authentication can be configured.	
Step 4 L-Platform1/2	Overcommit function	The L-Platform management overcommit function can be set. When "Enable" is selected, the definition for displaying the reserved CPU frequency and memory in the System Condition Server List is also made. Neither the number of CPUs nor the memory size set in "Display Function Settings for Estimated Price" and "Usage Charge Calculator Settings", which are settings related to the overcommit function, are set here. Change the setting if necessary.	Refer to "9.6 Settings for the Overcommit Function" in the "Setup Guide CE" and "8.8 System Condition Server List Settings" in the "Operation Guide CE".
	Distribution ratio setting method	The simple selection method for the distribution ratios of CPUs and memory that corresponds to the distribution ratio settings of VMware can be set.	Refer to "8.5.4 Distribution Ratio Settings" in the "Operation Guide CE".
	Reconfigure an L-Platform from the template	When making an L-Platform usage application, the value specified in the L-Platform template can be modified.	Refer to "8.5.1 Settings for Permissions to Change L-Platform Templates" in the "Operation Guide CE".
	Server specification setting method	When making an L-Platform usage application, or when changing the configuration of an L-Platform, the server specification setting method can be set.	Refer to "8.5.3 Settings for the Simplified Reconfiguration Function" in the "Operation Guide CE".
	Segment display method	When performing an application to use an L-Platform, the method for setting up the subnets that are allocated to segments be can set.	Refer to "8.5.2 Subnet Settings at Segment Editing" in the "Operation Guide CE".
	System disk for physical L-Servers	When a physical L-Server is deployed from the L-Platform window, the disk to use as the system disk for the physical L-Server can be set.	Refer to "9.9 System Disk Settings for Physical L-Servers" in the "Setup Guide CE".
Step 5 L-Platform2/2	Setting method for host names	The Host Name of the virtual server can be set. "Tenant name + sequential number" is displayed, only when "tenant name + sequential number" is specified in the host name settings for virtual servers. The settings cannot be	Refer to "9.4 Setting the Host Names for Virtual Servers" in the "Setup Guide CE".

Step	Setting Items			Description	Definition file reference
				modified from other settings to "tenant name + sequential number".	
	Setting method for the L-Server's resource name			The setting method for the resource names of the folders and the L-Server of the L-Platform created when applying to use an L-Platform can be set.	Refer to "9.5 Setting the Method for Setting Resource Names" in the "Setup Guide CE".
	Setting method for the folder's resource name				
Step 6 Accounting	Usage fee (estimated price) for L-Platform Tab			It is possible to set whether to display the Usage fee (the estimated price) on the L-Platform Tab in the [L-Platforms] tab based on L-Platform template accounting information.	Refer to "8.7.1 Display Function Settings for Estimated Price" in the "Operation Guide CE".
	Perform usage charge calculation (*3)			The usage charge calculator function can be set.	Refer to "8.7.4 Usage Charge Calculator Settings" in the "Operation Guide CE".
	Default cut-off date				
	Default receiver's email address for usage fee information				
Step 7 OS Properties	Windows	Domain name		The default values of the information on the [OS] tab, etc. can be set when creating a virtual L-Server.	Refer to "8.1.8 OS Property Definition File" in the "Setup Guide CE".
		Full name			
		Organization name			
		Product key			
		License mode			
		Configuration required for participation in the Active Directory domain	Domain name		
			Domain user ID		
			Domain user password		
			Confirm password		
	Linux	Domain name			
		DNS search path			
		Hardware clock setting			
	Solaris	Administrator user			
		Root role password			
		Confirm password			
	Common	Administrator password			
		Confirm password			
		Primary DNS server			
		Secondary DNS server			

*1: "Global settings" common across systems are used for the application process instead of "Unique settings" for each tenant. Refer to "11.3 Creating a Tenant" for information on "Unique settings".

*2: Regarding the use of the setup wizard and definition file:

- In the setup wizard, the six items explained in "9.2.2 Setting Application Process Settings" and "9.2.3 Setting Application Process to be Used" in the "Setup Guide CE" are displayed grouped into three items.

- When the items in the setup wizard are not checked, "false" is set for the corresponding item described in "9.2.2 Setting Application Process Settings" in the "Setup Guide CE". When the items are checked, "true" is set.

- For the items described in "9.2.3 Setting Application Process to be Used" in the "Setup Guide CE", the definitions corresponding to the items checked in the setup wizard are configured.

*3: When these setting items have been changed, the tab display permissions for the basic roles corresponding to these features are changed. The tab display permissions for each role can be changed by customizing the roles. Refer to "Chapter 3 Configuring Users and Customizing Roles" in the "User's Guide for Infrastructure Administrators (Resource Management) CE" for information on customizing roles.

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In the setup wizard, the items explained in the sections indicated below are configured.

- "Chapter 8 Changing Settings" in the "Operation Guide CE"

- "Chapter 9 Post-Installation Procedures" in the "Setup Guide CE"

- "8.1.8 OS Property Definition File" in the "Setup Guide CE"

Start the setup wizard, and configure any items that need to be changed but are not configured in the setup wizard.

"Setup Guide CE"

"Appendix G Definition Files"

G.1 Definition Files (For Both Physical L-Servers and Virtual L-Servers)

G.2 Definition Files (For Physical L-Servers)

G.3 Definition Files (For Virtual L-Servers)

G.4 Definition Files (Network)

"Chapter 9 Post-Installation Procedures"

9.3 Customizing the Dashboard

9.10 Settings for Restarting Managers

9.11 Changing Multiple Operations of Managers

9.12 Edit the License Agreement

9.13 Editing the User Agreement when Registering a User

"Operation Guide CE"

"Chapter 8 Changing Settings"

8.5.6 Editing the Environment Setup File for the L-Platform API

8.5.7 Edit the License Agreement

8.5.8 Settings when RHEL5-Xen is used

8.5.9 Default Password Setting for Sent Emails

8.5.10 Settings for the Maximum Number of Connections for the L-Platform Template

8.5.11 Customizing the User Rights for L-Platform Operations

8.6 Settings for Tenant Management and Account Management

8.7 Accounting Settings

8.8 System Condition Server List Settings

8.9 Settings for Event Log Output for CMDB Agent
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3.2 Editing the Home Messages

This section explains how to edit the messages that are shown in the lower section of the home window of the ROR console.

Information can be edited from the ROR console using the following procedure:

1. To edit the message, select the tab from the following:

   - For the Infra Admins Only

     Edit messages sent to only the infrastructure administrator.

   - For the General Users

     Edit messages sent to the tenant administrator and to tenant users.

   ## P Point
   ....
   The tenant administrator and the tenant user can only refer to the messages labeled General Users.
   ....

2. Click [Edit] on the upper-right side of the table.

3. The [Edit - Information] window is displayed.

   To add information, click [Add] on the [Edit - Information] window.

   To perform other operations, select information from the list, and then click [Move up] / [Move down], [Edit], or [Delete].

   Click [Save] to save the changes after operations have been completed.

   Adding Information

   This section explains how to add information.

   Perform the following procedure to add information.

   a. Click [Add] on the [Edit - Information] window.

      The [Add entry] dialog is displayed.

   b. Set the following items:

      Schedule

      There is no specified format.

      When not displaying the date, leave this field blank.

      Enter up to 30 alphanumeric characters or symbols. Commas (",") cannot be used.

      Messages

      Enter up to 250 alphanumeric characters or symbols.

   c. Click the [OK] button.

      The entered information is added.

   Editing Information

   This section explains how to edit information.

   Perform the following procedure to edit information:

   a. Select the information to edit from the list.

   b. Click [Edit].

      The [Edit entry] dialog is displayed.

   c. Set the following items:

      Schedule

There is no specified format.

When not displaying the date, leave this field blank.

Enter up to 30 alphanumeric characters or symbols. Commas (",") cannot be used.

Messages

Enter up to 250 alphanumeric characters or symbols.

d. Click the [OK] button.

The information is updated.

Moving Information

This section explains how to move information in the list.

Perform the following procedure to move information:

a. Select the information to move from the list.

b. Click [Move up] or [Move down].

The selected information is moved up or down one line.

Deleting Information

This section explains how to delete information.

Perform the following procedure to delete information:

a. Select the information to delete from the list.

b. Click [Delete].

The [Delete entry] dialog is displayed.

c. Click [Yes].

The selected information is deleted.

4. Click [Save] to save the changes after operations have been completed.

Click [Cancel] to discard the changes and return to the [Information] window.

Chapter 4 Dashboard (Pool Conditions)

This chapter explains how to use pool condition operations.

4.1 Pool Conditions Overview

The Pool Conditions 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) (*1)

- VM pool (memory) (*1)

- Storage pool

- Network pool

- Server pool (*2)

- Address pool (*2)

     *1: The charts for overall volume, used volume, and L-Servers available for deployment will not consider VM hosts installed on physical L-Servers and registered in VM pools, and that operate on a physical server released during physical server reconfiguration.

     * 2: Only displayed if physical servers are registered to the server pool. Also, the information of the address set resources of the global IP address are not displayed.

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.
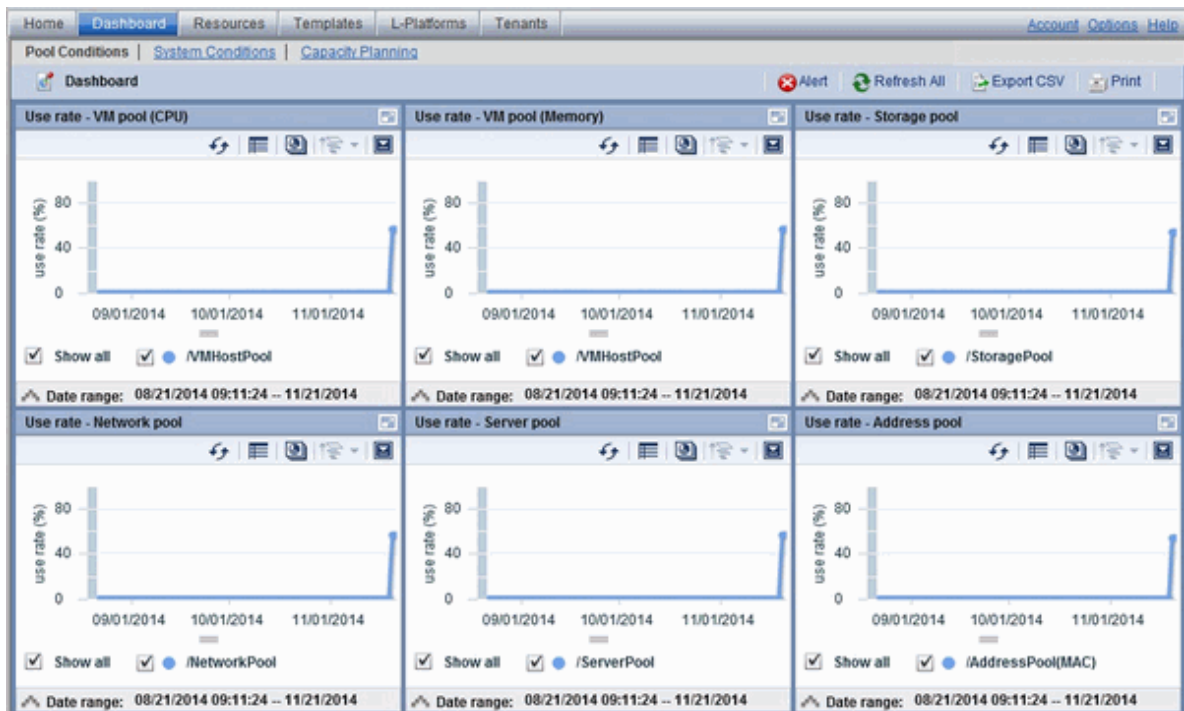
![Note icon] **Note**

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Dual-role administrator privileges

Global pool is displayed by default when logging in as the dual-role administrator.

To reference another pool, use the [Tenant ID] menu at the top right of the window.

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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. Also, the information of the address set resources of the global IP address are not displayed.

The table below shows the icons displayed in charts.

Icon	Explanation
![icon]	Displays the relationship chart menu Selects the relationship chart for either "Use state" or "Allocatable L-Servers".
![icon]	Switches between the use rate chart and the relationship chart.

Icon	Explanation
↻	Updates the chart with the most recent information
☰	Toggles between table and polyline graph displays
▣	Displays a list of functions The following functions may be used: - 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. - History: Cannot be used. - Show relational alerts: Displays the [Alert List (For Each Chart)] window. - 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

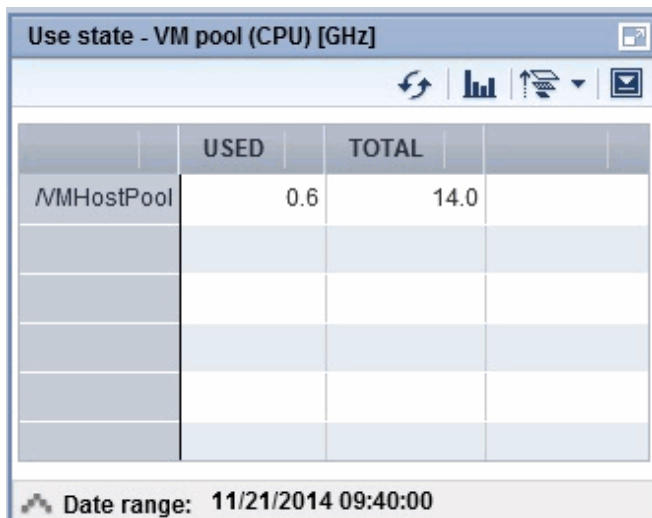2. Display detailed information in other charts.

    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.

Use state - VM pool (CPU) [GHz]

	USED	TOTAL	
/VMHostPool	0.6	14.0	

Date range: 11/21/2014 09:40:00

 Note
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- 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 Check logs such as the operating system logs, and restart the Manager. Refer to "2.1 Starting and Stopping Managers" in the "Operation Guide CE" for information on stopping and starting the Manager.
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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.

The use rate graph displays the daily average. The displayed data will be updated every five minutes.

A VM pool (Memory) window example is shown below.
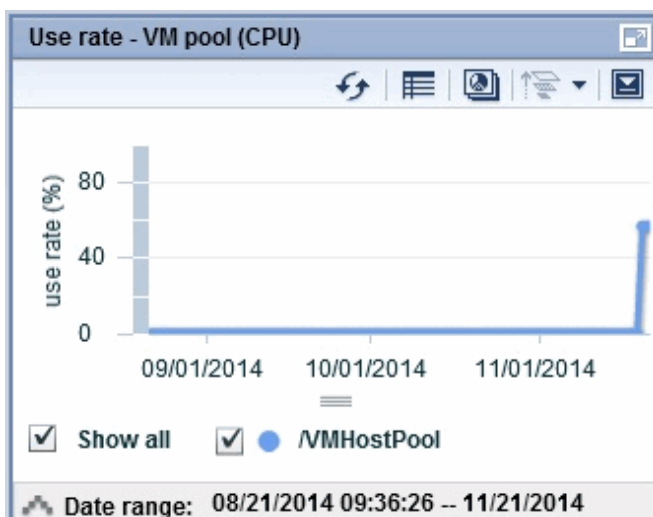
Detailed information can be displayed in other charts in the resource pool charts.

The data displayed in the detailed information will be updated every five minutes.

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

The table below shows the other charts.

Type	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: - 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.

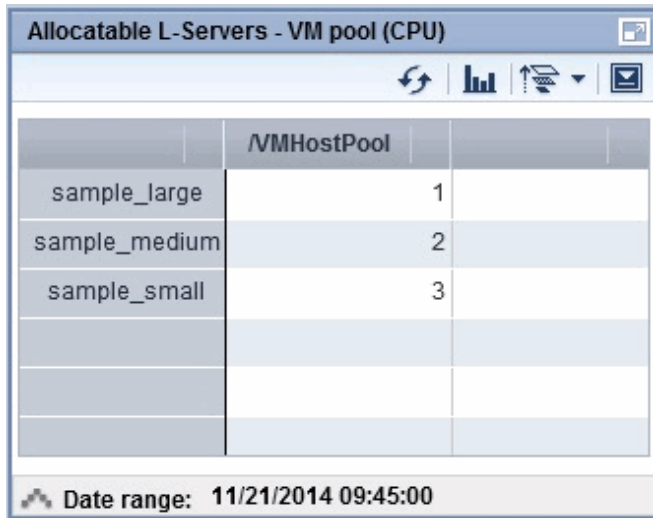*2: For all storage pools that have thin provisioning function enabled, zero is displayed as the number of L-Servers that can be deployed, regardless of the L-Platform Template type. Specify thin provisioning function enable/disable separately for each storage pool.

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

- Example: The number values (absolute values) for the used amount and number is shown below.
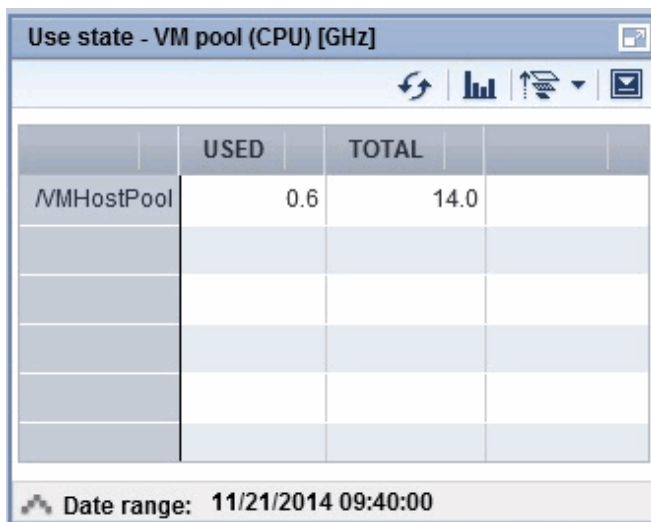
- Example: L-Servers that can be deployed is shown below.

4.4 Alert List Display

This section explains the Alert list.

If an alert has occurred in a resource pool, detailed information on the alert that has occurred can be checked by the Alert List.
The methods of checking detailed information on alerts are the method of displaying all alerts and the method of displaying alerts for each chart.
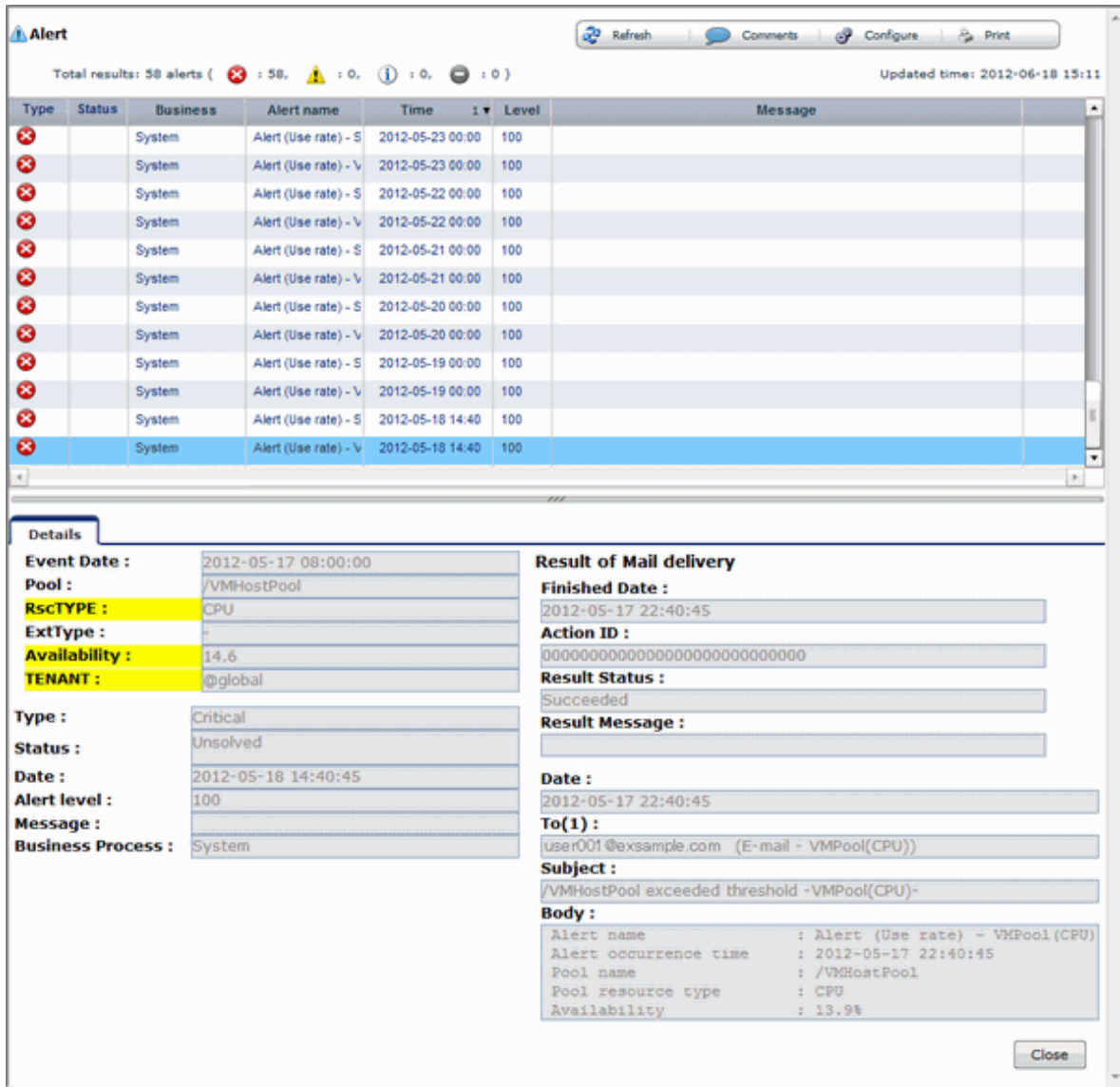
Information

Refer to "Appendix B Customizing the Dashboard" in the "Setup Guide CE" for information on how to customize alert information.

4.4.1 Alert List (All)

When the [Alert] button is clicked from the [Pool Conditions] window, the [Alert list (all)] window will be displayed.

Figure 4.1 Alert List (All)

The table below explains the buttons at the top right of the Alert list window.

Button	Description
Refresh	Updates the Alert list to the latest status.
Comments	The Comment dialog box will be displayed. Adds a comment on an alert selected from the Alert list. Allows a history of past comments to be viewed. In addition, changes the status of an alert to "Resolve Alert" in accordance with the addition of the comment.
Configure	The Alert Configure dialog box will be displayed. Sets the alert display. Modifies search conditions and customizes the display result. The changes of setting in the Alert list are applied until the window is closed. When the Alert list is closed and opened again, the setting will be reset to the default values.
Print	Outputs an image of the Alert list.

The table below explains the tab at the bottom of the Alert list window.

Tab	Description
Details	Displays detailed information on an alert selected from the Alert list. The background of the attributes specified as the alert conditions will be displayed in yellow. Refer to "B.1.3 Customizing Threshold Values" in the "Setup Guide CE" for information on setting conditions.

[Comment] dialog box

This section explains the Comment dialog box.

Item	Description
Add Comment	Adds a comment on the selected alert.
Comment history	Allows a history of past comments to be viewed.

Button	Description
Resolve Alert	Changes an alert to resolve alert. A comment is entered in the Add Comment column beforehand.
Add Comment	Adds a comment on an alert that has occurred.

[Alert configuration] dialog box (Search Fields)

Item	Description
Time	Select the date and time at which the alert to be searched for occurred.
Alert solved status	Select the status.
Message	Enter the message to be searched for.
Alert type	Select "Critical".
Target Events (Mandatory item)	Select the events to be searched, "System [Business process]".
Alert Name (Mandatory item)	Select the alert name.
Alert level	This is fixed at "100".

[Alert configuration] dialog box (Custom Columns)

Set the contents of the items in the table below that are displayed in the Alert list window.

Item	Description
Auto Refresh	Specify the interval at which the window is to be updated. The default is "5".
Number of results	Specify the number of items to be displayed in the Alert list.
Custom Columns	Select the items to be displayed in the Alert list from "Available Custom Columns".

4.4.2 Alert List (for Each Chart)

Use either of the following methods to display an Alert list (for each chart):

- Click the alert icon ( ) that is displayed in each chart.

- Select Show relational alerts from the [Show function] menu of each chart.

Figure 4.2 Alert List (for Each Chart)
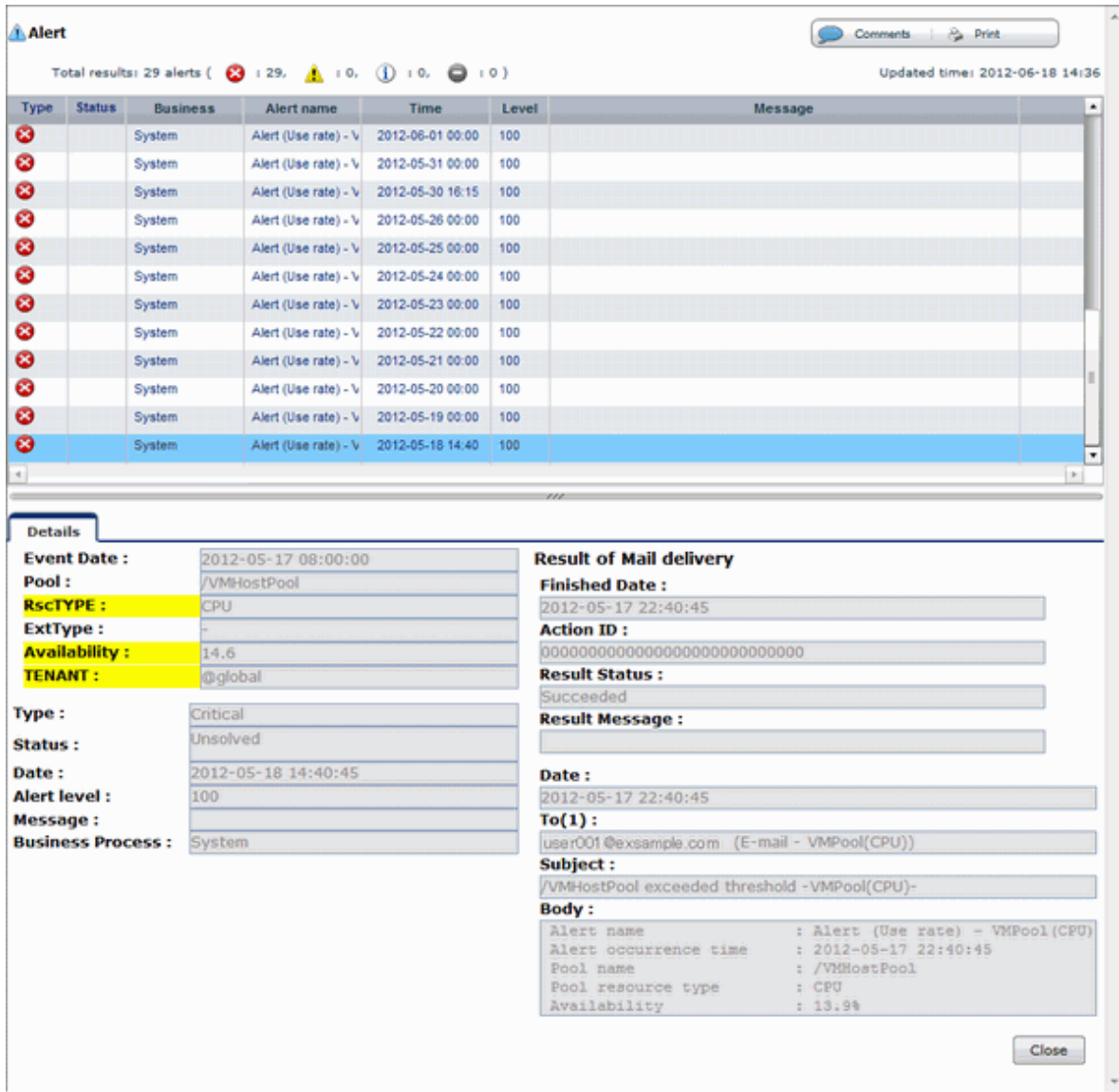
The table below explains the buttons at the top right of the Alert list window.

Button	Description
Comments	The Comment dialog box will be displayed. Adds a comment on an alert selected from the Alert list. Allows a history of past comments to be viewed. In addition, changes the status of an alert to resolve in accordance with the addition of the comment.
Print	Outputs an image of the Alert list.

The table below explains the tab at the bottom of the Alert list window.

Tab	Description
Details	Displays detailed information on an alert selected from the Alert list. The background of the attributes specified as the alert conditions will be displayed in yellow.

Tab	Description
	Refer to "B.1.3 Customizing Threshold Values" in the "Setup Guide CE" for information on setting conditions.

4.4.3 Alert Resolve

When an alert occurs, an alert icon ( ) will be displayed at the top left of the charts. When the alert has been changed to resolve all of the alerts for the chart, the alert icon displayed at the top left of the charts will disappear.

The procedure for changing a displayed alert to resolve the alert is shown below.

1. Click the [Alert] button. Alternatively, use the method explained in "4.4.2 Alert List (for Each Chart)" to display the Alert list window.

2. Select the alert to be changed to resolve and click the [Comments] button.
   The Comment dialog box will be displayed.

3. Enter a comment in the "Add Comment" column and then click the [Resolve Alert] button.
   The comment entered in the "Comment history" column will be displayed.

4. Click the [Close] button and close the Comment dialog box.
   When the alert is changed to "Resolve alert, a check mark ( ) will be added to the "Status" column of the list.

Note

- If the window display does not change even if the alert has been changed to "resolve alert", click the [Refresh] button.

- The Alert list for each chart will only display unresolved alerts, and will not display alerts that have been resolved.

Information

The following procedure can be used to return an alert that was changed to resolve back to having alert status once again:

1. Select the resolving alert and then open the [Comment] dialog box.

2. Enter a comment, click the [Reopen Alert] button, and then close the dialog box.

Chapter 5 Dashboard (System Conditions)

This chapter explains how to monitor system conditions.

The configuration information of L-Platforms and L-Servers and the performance information of VM hosts and L-Servers can be checked in the operational status.

Note

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 all tenants and VM hosts:

- CPU utilization

- Disk R/W usage

- Disk R/W count

- Memory usage

- Network usage

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.

2. In the [System Conditions] window, select the [Tree Display] tab.

   The configuration of all tenants is displayed in the tree at the left.
   At [View], the "Tenant" showing a tree configuration is displayed.
   Users can toggle between "Tenant" and "Tenant (History)".
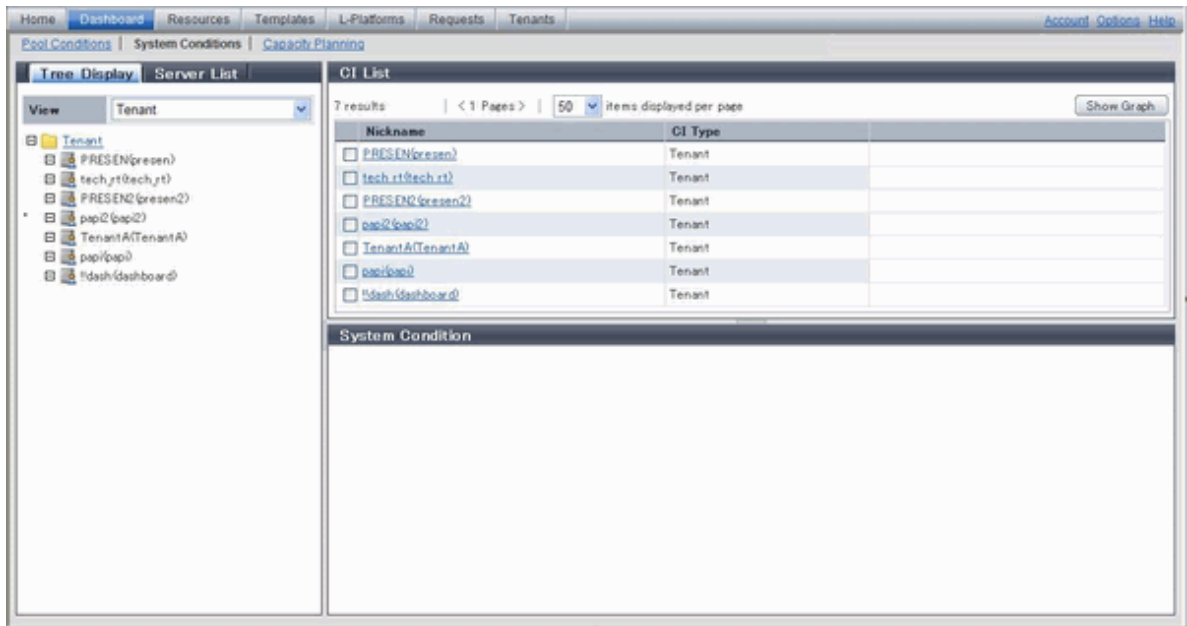   The tenants which were deleted are deleted from "Tenant" and "Tenant (History)".

   - Tenant
     Displays the L-Platforms and L-Servers currently in use.

- Tenant (History)

    The L-Platforms and L-Servers, including ones used in the past, are displayed.

    Those that were cancelled over a year ago are no longer displayed in the history.

Point

The following describes how to find an L-Platform to display when there are a large number of L-Platforms.

1. Select the tenant in the pane on the left. When there are a large number of tenants, use the browser's "find on this page" feature to find the tenant while the tenant list is displayed in the pane on the left.

2. Expand the tree of the tenant found in step 1, then use the browser's "find on this page" feature to find the L-Platform while the L-Platform list is displayed.

3. 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.

4. 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 information on the displayed system conditions.

    The table below explains the displayed items.

Item	Explanation
Nickname	Displays the display name of the configuration item. 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. The following display names are displayed in accordance with the CI type: - For the tenant CI type: The tenant name determined during tenant registration ("tenant name (tenant ID)")

Item	Explanation
	- 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	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: - 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 server virtualization software is Hyper-V, RHEL5-Xen, Solaris Zones, OVM for x86 3.x, and OVM for SPARC.

*4: The disk R/W count is not displayed if the server virtualization software is Hyper-V, RHEL-KVM, Solaris Zones, and OVM for SPARC.

*5: The memory usage is not displayed if the server virtualization software is Hyper-V, and OVM for SPARC. However, this is displayed if the setting for the dynamic memory in Hyper-V is enabled.

*6: The network usage is not displayed if the server virtualization software is Hyper-V, Solaris Zones, and OVM for SPARC. It is also not displayed if the physical L-Server is Linux/Solaris.

📝 Note

- Information obtained from server virtualization software is displayed in the system conditions. Virtual Memory usage is not included.

- When the server virtualization software of managed servers is VMware, RHEL5-Xen, RHEL-KVM, OVM for x86 3.x, or OVM for SPARC, the graph is not displayed when the manager is stopped because the data cannot be collected.
  Also, when data cannot be collected temporarily due to restarting of the manager and so on, some of the data is not displayed.

- 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.

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

   * Note: 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%.

- When [Tenant (History)] is selected on the [Tree Display] tab, the operation status of the canceled L-Platform or L-Server is not displayed.

Display examples for the [Total] tab and the [All] tab are shown below.
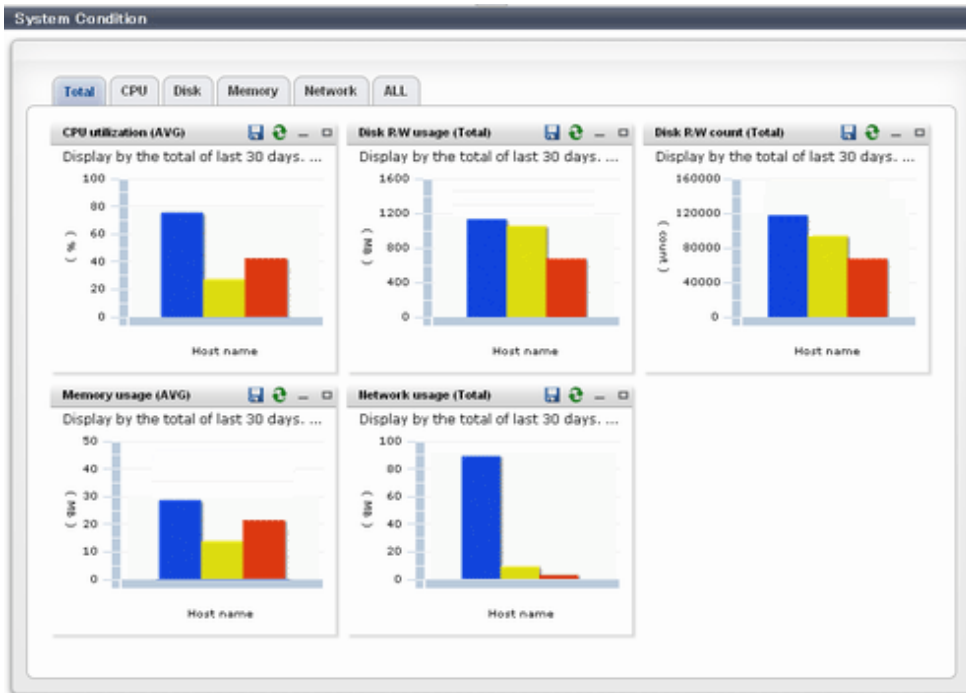
- [Total] tab

- [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

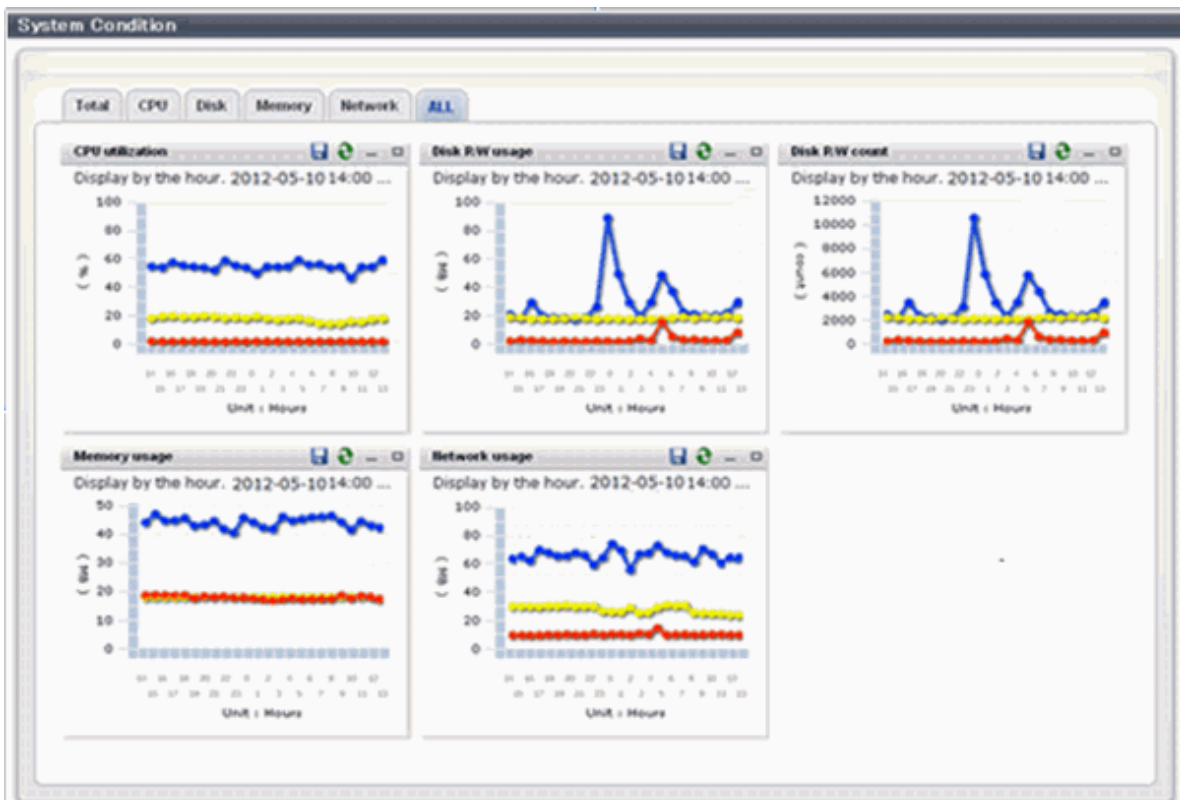| Icon	Tool tip	Explanation
💾	Download CSV file	Downloads the graph data in CSV format
—	Minimize	Minimizes the specified window
▢	Maximize	Maximizes the specified window
⊐	Restore	Restores the maximized window

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 (*)		yyyy-mm-dd HH:mm:ss
	resrcid	Resource ID		- in case of physical servers and Windows: "#" + CPU number or _Total - in case of physical servers and Linux/ Solaris: CPU number or _Total - in case of Hyper-V: VM name + ":Hv VP" + virtual Processer number
	recid	Record ID		Output any of the following - WIN_CPUBUSY - UX_CPUBUSY - VMW_GCPU - HV_VCPU - XEN_CPU - KVM_CPU - OVMSPARC_CPU
	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)	
	cpupcent	CPU utilization	%	Output for physical servers Processer utilization
	vmgcused	CPU utilization	%	Output only for VMware Physical CPU utilization per 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 allocated to a virtual machine and consumed by hypervisor code

Graph type	Column name	Explanation	Unit	Description
	xenpcused	CPU utilization	%	Output for RHEL5-Xen/OVM for x86 3.x CPU utilization (total utilization of virtual CPUs set in the domain)
	xencpun	Number of virtual CPUs in the domain	number	Output for RHEL5-Xen/OVM for x86 3.x
	Nickname	VM name		
	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
	zonecpucappct	CPU utilization	%	Output for Solaris Zones CPU utilization (utilization of virtual CPUs set in the zone)
	ovmcpupcent	CPU utilization	%	Output for OVM for SPARC CPU utilization (utilization of virtual CPUs set in the domain)
Disk R/W usage	sdattim	Collection start time (*)		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/Solaris: 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/Solaris
	iokwrite	Disk write usage	Kbytes	Output only for Linux/Solaris
	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 for VMware/RHEL5-KVM/physical server

Graph type	Column name	Explanation	Unit	Description
	kvmdiskblockrdby	Disk read usage	bytes	Output only for RHEL-KVM Disk read usage in the domain
	kvmdiskblockwrby	Disk write usage	bytes	Output only for RHEL-KVM Disk write usage in the domain
Disk R/W count	sdattim	Collection start time (*)		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/Solaris: 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/Solaris read count
	iowrite	Disk write count		Output only for Linux/Solaris 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 for RHEL5-Xen/OVM for x86 3.x Virtual block device read count
	vbdwr	Disk write count		Output for RHEL5-Xen/OVM for x86 3.x Virtual block device write count
	Nickname	VM name		Output for VMware/RHEL5-Xen/OVM for x86 3.x /physical server
Memory usage	sdattim	Collection start time (*)		yyyy-mm-dd HH:mm:ss
	resrcid	Resource ID		- in case of physical servers and Windows: MEMORY - in case of physical servers and Linux/Solaris: FREEMEM

Graph type	Column name	Explanation	Unit	Description
	recid	Record ID		Output any of the following - WIN_MEMORY - UX_MEMFREE - VMW_MEM - HV_DMEM_VM - XEN_MEM - KVM-MEM
	consintl	Interval time		- 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 for RHEL5-Xen/OVM for x86 3.x Memory capacity allocated to domain
	Nickname	VM name		
	kvmmemused	Memory usage	Mbytes	Output only for RHEL-KVM Memory capacity allocated to domain
	zonepmemused	Memory usage	Kbytes	Output for Solaris Zones Memory capacity allocated to zone
Network utilization	sdattim	Collection start time (*)		yyyy-mm-dd HH:mm:ss
	resrcid	Resource ID		Output only for Windows Network device name
	recid	Record ID		Output any of the following - WIN_NET_INTERFACE - VMW_NET - XEN_NET - KVM-NET
	consintl	Interval time		- 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)	

Graph type	Column name	Explanation	Unit	Description
	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)
	vmnpmvtr	Network usage (sent)	Mbits	Output only for VMware Amount of data transferred by virtual network device port unit
	vmnpmbrecv	Network usage (received)	Mbits	Output only for VMware Amount of data received by virtual network device port unit
	xenkbtx	Network usage (sent)	Kbytes	Output for RHEL5-Xen/OVM for x86 3.x Amount of data sent by virtual network interface
	xenkbrx	Network usage (received)	Kbytes	Output for RHEL5-Xen/OVM for x86 3.x Amount of data received by virtual network interface
	Nickname	VM name		Output for VMware/RHEL5-Xen/RHEL-KVM/OVM for x86 3.x/and physical servers with Windows OS
	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

* Note: 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 Nickname 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: - 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: - 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: - 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: - If the element is a tenant: The value determined during tenant registration

Item			Explanation
			- 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.

5.3 VM Hosts System Conditions Display

Perform the following steps to display the VM hosts 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.

2. In the [System Conditions] window, select the [Tree Display] tab.
   Select the "VM Host" under [View].

Point

. . . .
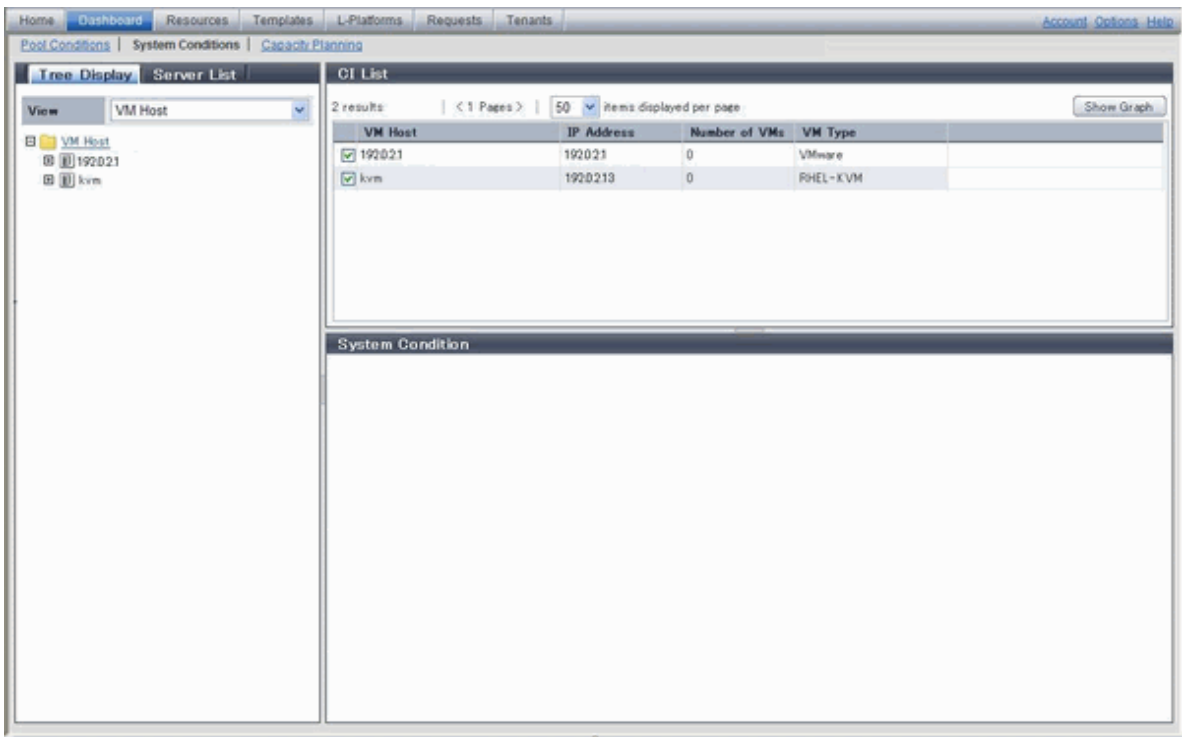
If there are several VM hosts, search for the desired VM host by displaying the list of VM hosts and then using the web browser's 'Find on this Page' function.

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3. From the tree at the left, select the VM hosts for which to display the system conditions.

   The selected VM hosts are displayed in the CI list on the right.
   If the "VM hosts" folder is selected in the tree, all VM hosts under the folder are displayed in the CI list.
   The VM hosts are displayed in descending order of update date time.

4. Select a VM hosts 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 "5.3.1 System Conditions Display" for information on the displayed system conditions.

The table below explains the displayed items.

Item	Explanation
VM Host	Displays the VM host name displayed at [Resources] tab - [Trees] pain in ROR console display. Note that name change is not always reflected immediately in some cases, for example, when you change the VM host name on the VM Management Software. The change is usually reflected within five minutes.
IP Address	Displays the IP address of the VM host.
Number of VMs	Displays the number of VM guests that have been deployed using the [L-Platforms] tab and are operating on the VM host.

VM Type	Displays the type of server virtualization software of the VM host.
	Example:
	  - "VMware": VMware
	  - "Hyper-V": Hyper-V
	  - "RHEL-KVM": RHEL-KVM
	  - "Solaris Containers": Solaris Zones
	  - "OVM-x86": OVM for x86 3.x
	  - "OVM-SPARC": OVM for SPARC

🗒 Note

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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.

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5.3.1 System Conditions Display

The system conditions of the VM hosts 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 VM hosts can be displayed at once in the graphs. If more than five VM hosts 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	Horizontal polyline graph	One hour/day/month/year from the current time	Possible
	Disk R/W count	Horizontal polyline graph	One hour/day/month/year from the current time	Possible
Memory	Memory usage	Horizontal polyline graph	One hour/day/month/year from the current time	Possible

Tab name	Display content (*1)	Graph type	Display interval	Display interval switching (*2)
Network	Network usage (*3)	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: Will not display if the VM host server virtualization software used is either RHEL5-Xen, RHEL-KVM, OVM for x86 3.x or OVM for SPARC.

Note

- 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.

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

    * Note: 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.

- Proper data collection cannot take place if the VM host to be monitored continuously indicates CPU utilization of 100%. Accordingly, a display resembling one of the examples below may appear.
  Example:

  - CPU utilization rate displays as exceeding 100%.

  - Data cannot be collected, graph does not display.

- If the server virtualization software of the VM host is Hyper-V, network usage of a virtual network is the sum of network usage of the physical NICs that are registered with the virtual network. Because of this, in a system environment where each physical NIC of a teaming configuration is registered with virtual networks, each NIC is included for the calculation, therefore network usage is doubly added up.

- To provide a viewpoint of hosts, memory usage is displayed as the total memory usage of a host including usage in the VM kernel and the service console. The memory usage of the system conditions display can be used to check the total memory usage of a host at that moment.

Display examples for the [Total] tab and the [All] tab are shown below.
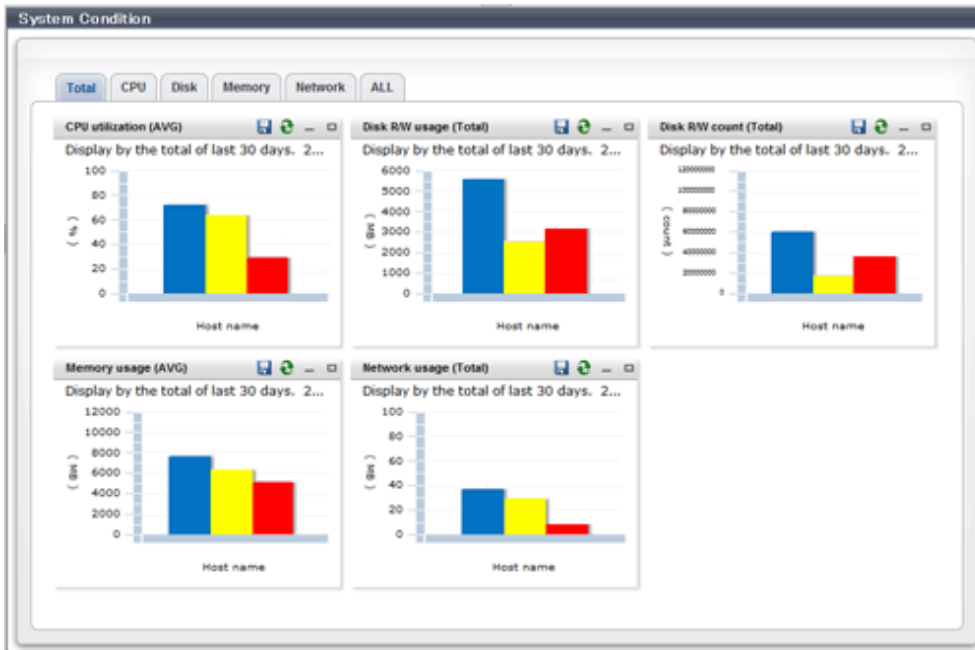
- [Total] tab

- [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
💾	Download CSV file	Downloads the graph data in CSV format
—	Minimize	Minimizes the specified window

Icon	Tool tip	Explanation
□	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	date_time	Collection start time		yyyy-mm-dd HH:mm:ss
	Nickname	VM host Nickname		
	value	CPU utilization	%	
Disk R/W usage	date_time	Collection start time		yyyy-mm-dd HH:mm:ss
	Nickname	VM host Nickname		
	value	Disk R/W usage	Mbytes	
Disk R/W count	date_time	Collection start time		yyyy-mm-dd HH:mm:ss
	Nickname	VM host Nickname		
	value	Disk R/W count		
Memory usage	date_time	Collection start time		yyyy-mm-dd HH:mm:ss
	Nickname	VM host Nickname		
	value	Memory usage	Mbytes	
Network utilization	date_time	Collection start time		yyyy-mm-dd HH:mm:ss
	Nickname	VM host Nickname		
	value	Network usage (sent and received)	Mbytes	

5.4 Server List Display

Perform the following steps to display the server list:

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

   The [System Conditions] window is displayed.

2. In the [System Conditions] window, select the [Server List] tab.

3. Enter the search conditions in the left pane.

   Select or enter the following item, and then click the [Search] button.

Item	Explanation
Tenant	In the displayed tenant list, select the check box of the tenant to display. Use the browser's "find on this page" feature to find a tenant when there are a large number of tenants. The [Select/Deselect All] check box can be used to switch between selecting and deselecting all tenant check boxes.

4. A list of servers that match the search conditions is displayed.
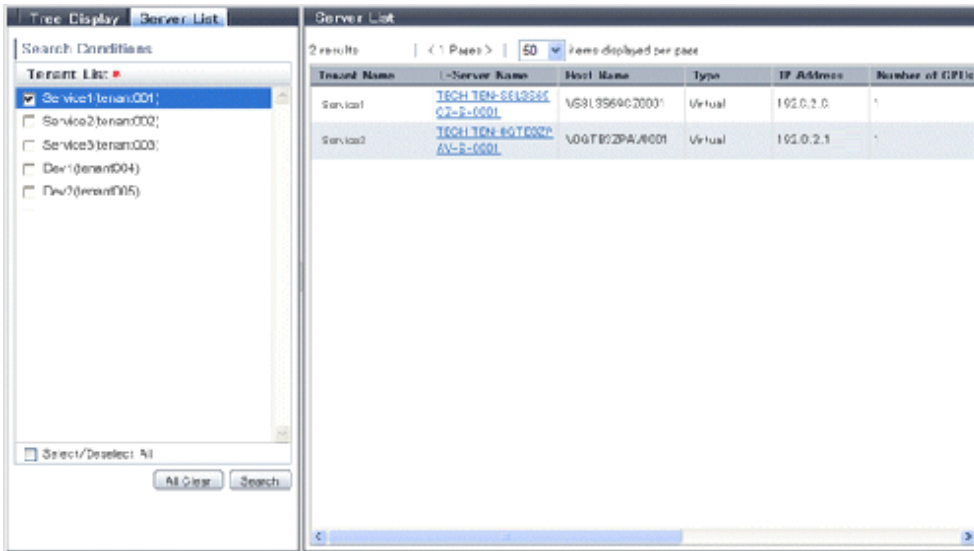
The table below explains the items displayed in the server list.

Item	Explanation
Tenant Name	The tenant name of the tenant related to the L-Server Example: First Business Department
L-Server Name	The server name of the L-Server Example: ID015-WEB-001
Host Name	The host name of the L-Server Example: V4KRXZS6R60001
Type	The L-Server type Example: economy
IP Address	IP address of the L-Server control NIC Example: 192.0.2.10
Number of CPUs	Number of CPUs Example: 2
CPU Clock (GHz)	The CPU clock rate, in GHz units Example: 2.0
Reserved CPU Clock (GHz)	The minimum applied value of the CPU clock rate reserved for the L-Server, in GHz units Example: 1.6 The CPU reserve clock rate is displayed only if the over-commit display function of the viewlist_en.xml file is enabled. Refer to "8.8 System Condition Server List Settings" in the "Operation Guide CE" for information on the viewlist_en.xml file setting method.
Memory (GB)	The memory size allocated to the L-Server, in GB units Example: 4.0
Reserved Memory (GB)	The minimum applied value of the memory size rate reserved for the L-Server, in GB units Example: 2.0 The memory reserve size is displayed only if the over-commit display function of the viewlist_en.xml file is enabled. Refer to "8.8 System Condition Server List Settings" in the "Operation Guide CE" for information on the viewlist_en.xml file setting method.
System Disk (GB)	The disk size used as the system disk, in GB units Example: 30.0

Item	Explanation
Total Added Disk(GB)	The total value of the disk size for added disks. If there are multiple added disks, the total value for those disks is output. The unit is GB. Example: 60.0

Note

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

Point

The following describes how to find an L-Server to display when there are a large number of servers in the server list.

1. Select the check box for the tenant in the pane on the left. If you do not know the tenant name, select the [Select/Deselect All] check box so that all tenant check boxes are checked.

2. Click the [Search] button in the pane on the left.

3. Use the browser's "find on this page" feature to find the L-Server to display while the server list for the tenant found in step 2 is displayed in the pane on the right. You can change the number of items displayed per page with the drop-down list at the top of the pane on the right. For example, change the number of results displayed from 50 to 300.

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 virtual machine relocation

Reports	Display item	Description
VMware rsc. usage cond.(List of host)	- CPU usage amount and rate - Memory usage amount and rate - Disk I/O count - Disk throughput - Network send and receive count - Network throughput - Built-in resource information	Understand the use of resources on the VM host (VMware) registered in the pool. VM hosts with available resources will be detected as VM hosts that might be consolidated.
VMware rsc. usage cond.(Virtual machine stack)	- CPU usage amount - Memory usage amount - Disk I/O count - Disk throughput - Network send and receive count - Network throughput	Check the virtual machines located in the VM host and their resource usage for the VM hosts considered as migration sources in "VMware rsc. usage cond.(List of host)". Check the resource usage in each virtual machine in the migration source, and use this information to ascertain which virtual machine should be allocated to which destination candidate VM host.
VMware virtual machine relocation simulation	- CPU usage amount - Memory usage amount - Disk I/O count - Disk throughput - Network send and receive count - Network throughput	Simulate the resource usage if virtual machines considered as migration candidates are reallocated to VM hosts considered as migration targets.

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.

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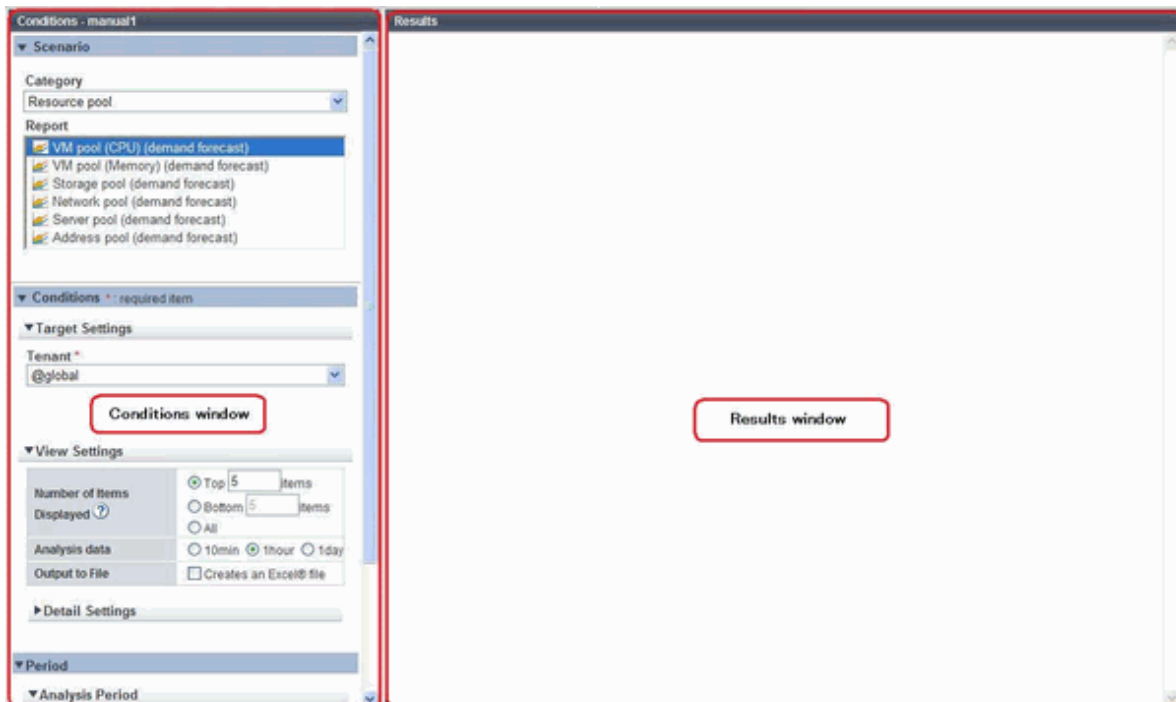
The [Capacity Planning] window is made up of the following elements:

Component	Description
[Conditions] window	Set categories, reports, and the analysis conditions for the various reports. Operations in this window are described in following sections:
[Results] window	The contents of the reports are displayed.

Conditions window layout

Basic operations in the conditions window

Component	Description
Category	Select a category that matches the purpose of operation.
Report	Select a report that matches the purpose of operation.
Target Settings	A specification relating to the target of the report.
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.
Period	Specify the periods for analysis.
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.
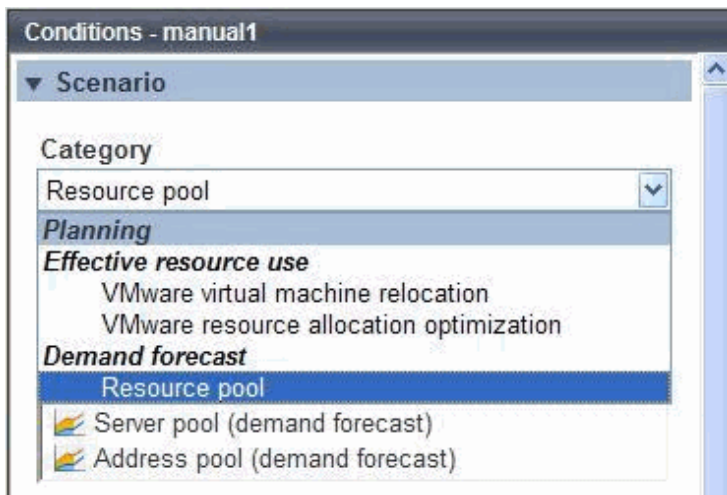
Report

Select the appropriate report.
The items in [Conditions] depend on the report selected.
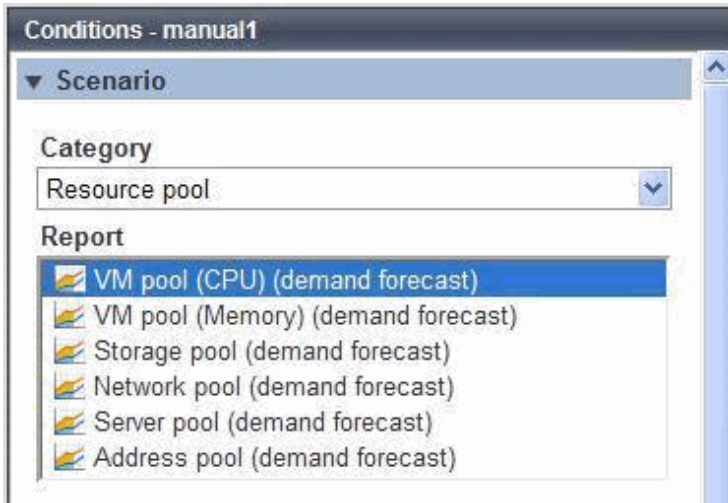
6.2.2 Conditions

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.

VMware virtual machine relocation

Item			Description
Tenant			Select the tenant to be used for VMware virtual machine simulation from the tenant menu.
Relocation candidate	Relocation candidate		To add a candidate for reallocation, click [Add], then add using the [Add Relocation candidate] dialog that is displayed. A list of candidates for reallocation is shown when making additions. The display format is "host name:virtual machine name". The maximum number of relocation candidates is 50. The maximum number of selectable hosts that contain the virtual machines of a relocation candidate is 5. To delete a candidate for reallocation, click [Delete] for the relevant virtual machine and delete it. However, as there is no data for L-Servers that have not been run during the specified analysis period, they are not displayed in the results window. Also, while it is possible to configure without using this product and select a virtual machine that is not being managed as an L-Server, perform one of the following if executing a reallocation: 　- Reallocate using VMware's own functionality 　- After importing as an L-Server, reallocate using this product
	Add Relocation candidate	Host	Select the source host from the host menu.
		Virtual machine	Select the virtual machine that is the candidate for reallocation. Multiple options can be selected. Relationship information with the VM host for virtual machines that have performed migration, deployment, and release operations may not be updated immediately after the operations. The relationship between the VM host and the VM guest may require up to 1 hour to be updated on the screen. For example, if the migration operation is not reflected, after specifying the pre-migration VM host on the host, select the virtual machine.
Aggregation target's information	Direct input of installed resource Aggregate to a host in operation		If the consolidation destination host has already been registered in the tenant, select [Aggregate to a host in operation]. The number of CPUs and amount of memory in the specified host are shown as black lines in the displayed graph. If the host to be consolidated is not registered, select [Direct input of installed resource].
	Host		If [Aggregate to a host in operation] was selected, select the consolidation destination host from the menu. Hosts chosen for consolidation cannot be specified.
	CPU Core Number Memory		If [Direct input of installed resource] was selected, specify the consolidation destination server CPU clock number (GHz), number of cores in the CPU, and loaded memory capacity (GB) as numbers. 　- Specify a number between 0.001 and 1000 for CPU (clock count). 　- Specify an integer between 1 and 1000 for Core Number for the number of cores in the CPU. 　- Specify a number between 0.001 and 1000000 for the memory. The specified number of CPUs and amount of memory are shown as black lines in the displayed graph.

 Note

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Virtual hosts that have been stopped for more than 5 hours do not display virtual machine candidates for reallocation.

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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
Threshold	Specify the CPU and memory usage rates that will be tolerated on the consolidation destination server (optional). If this is specified, it is shown as a red line in the graph.
Analysis mode	Specify the analysis method. - **Hourly** The maximum value for resource usage by time slot is calculated for each consolidation candidate server and displayed as a stack. Check that there is no problem with the resources by time unit after consolidation. - **Weekly** The maximum value for resource usage by day of the week is calculated for each consolidation candidate server and displayed as a stack. Check that there is no problem with the resources by day of the week unit after consolidation. - **time-line** The maximum value for resource usage calculated for each consolidation candidate server and displayed as a stack.
Number of Items Displayed	Select the number of data items to use for analysis. The number of data items can be selected as follows: - **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	Select the data interval to use for analysis. The following data intervals can be selected: - **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	The content of the results window is output as an Excel file.

Item	Description
	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. Disable clipboard redirection if operation is to be performed using a remote desktop connection. 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.

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
Aggregation method	Analyze by maximum value.	The maximum values in the data interval are displayed.
	Analyze by mean value.	The average values in the data interval are displayed.
Output object	Analyze according to the disk reading and writing.	Select to display a distribution graph and table showing reads and writes.
	Analyze according to the network sending and receiving.	Select to display a distribution graph and table showing sends and receives.
Threshold (Arbitrariness)		Specify the pool usage rates that will be tolerated on the consolidation destination server (optional). If this is specified, it is shown as a red line in the graph.

6.2.3 Period

This section explains periods.

Analysis Period

Item	Description
Start date End date	Specify the period of the analysis. 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.

Forecast Date

This can be specified for the following reports:

- VM pool(CPU) (demand forecast)

- VM pool(Memory) (demand forecast)

- Storage pool (demand forecast)

- Network pool (demand forecast)

- Server pool (demand forecast)

- Address pool (demand forecast)

Item	Description
Date	Forecasting is performed up to the specified date. Select the day, month and year using a drop-down list box to select the date.

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**
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> 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.
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> ⋯⋯

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 "6.2.6 CSV File Items" for information on the downloaded CSV file items. Depending on your environment, the file might not be preserved and the content of CSV might not be displayed on the screen. In this case, please refer to "Preservation of CSV file" of the following information.
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.
Print	This button appears when you click the [Display in separate window] button. It prints the displayed content.

Information

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Preservation of CSV file

There are the following ways of preservation of CSV file.

Relation setting of CSV file

Please set it with the machine that is opening a browser where the phenomenon is generated as follows.

1. Right-click an arbitrary CSV file and open the property.

2. Click the [Change] button of the [General] tab.

3. Select an arbitrary program (for instance, Note Pad etc.) from [Select A Program To Open] and click [OK].

However, the phenomenon might be generated even when this setting is done depending on the environment. In this case, please preserve the object file in the following way.

Preserving objects in the file

It is possible to download it without the setting by the following procedure.

1. Right-click on [Save in CSV format] button of the report screen.

2. Select [Save Target As] (*) from the displayed menu.

* Note: [Save Link As] in case of Firefox

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When the VMware virtual machine relocation category is selected

The strings shown in the results window are described as follows.

String	Description
VMW_GCPU	CPU usage
VMW_MEM	Memory usage
VMW_DISK	Disk I/O count, disk throughput
VMW_NET	Network send and receive count, network throughput

Note

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The memory usage displayed in the report for the [VMware rsc. usage cond.(List of host)] in the [VMware virtual machine relocation] category is the "Total value of memory usage by all currently operating virtual machines and memory usage for vSphere services". Use this to check the increase or decrease of memory usage due to adding or reallocating virtual machines.

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When the 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**

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

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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 virtual machine relocation)

This section describes CSV file items for different reports.

VMware rsc. usage cond. (List of host)

Item	Column name	Explanation	Unit	Description
CPU(VMW_P CPU)	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		Physical.CPU
	recid	Record ID		VMW_PCPU
	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
	vmpcpul	CPU utilization	%	Average CPU usage ratio for physical CPUs
CPU(VMW_P CPU2)	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		_Total
	recid	Record ID		VMW_PCPU2
	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
	vmpcusemhz	CPU usage	MHz	
	vmpccorenum	CPU core Number	number	
	vmpccoremhz	CPU speed per core	MHz	

Item	Column name	Explanation	Unit	Description
Memory (VMW_PMEM)	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		Physical.Memory
	recid	Record ID		VMW_PMEM
	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
	vmpmemm	Physical memory size	Mbytes	
	vmpmusedmem	Memory usage	Mbytes	
Disk(VMW_PDISK)	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		Name of the device inside VMware
	recid	Record ID		VMW_PDISK
	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
	vmpdreads	Disk reading count	reads	Physical disk
	vmpdwrites	Disk writing count	writes	Physical disk
	vmpdmbread	Read size	Mbytes	Physical disk
	vmpdmbwrt	Write size	Mbytes	Physical disk
Network (VMW_NET)	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		Names beginning with "vmnic" are physical NIC names; additionally, if the virtual machine name follows a colon, it is a virtual NIC.
	recid	Record ID		VMW_NET
	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

Item	Column name	Explanation	Unit	Description
				- 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
	vmnppckttr	No. of outbound packets	packets	Physical or virtual network device port units
	vmnpmvtr	Send size	Mbits	Physical or virtual network device port units
	vmnppcktrecv	No. of inbound packets	packets	Physical or virtual network device port units
	vmnpmbrecv	Receive size	Mbits	Physical or virtual network device port units
	vmnvmname	Virtual machine name		If it is a virtual NIC, the virtual machine name is included.
Hardware resources information (VMW_PCPU 2)	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		_Total
	recid	Record ID		VMW_PCPU2
	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
	vmpcusemhz	CPU usage	MHz	
	vmpccorenum	CPU core Number	number	
	vmpccoremhz	CPU speed per core	MHz	
Hardware resources information (VMW_PMEM)	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		Physical.Memory
	recid	Record ID		VMW_PMEM
	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
	vmpmemm	Memory size	Mbytes	Physical memory size
	vmpmusedmem	Memory usage	Mbytes	

VMware rsc. usage cond. (Virtual machine stack)

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
	vmgcusemhz	Virtual machine CPU usage	MHz	
	vmname	Virtual machine name		
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		- 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
	vmgmtm	Estimated size of the working set of a resource pool or a virtual machine	Mbytes	
	vmmvmname	Virtual machine name		
Disk	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		
	recid	Record ID		VMW_DISK

Item	Column name	Explanation	Unit	Description
	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
	vmdreads	Disk reading count	reads	Physical disk
	vmdwrites	Disk writing count	writes	Physical disk
	vmdmbread	Read size	Mbytes	Physical disk
	vmdmbwrt	Write size	Mbytes	Physical disk
	vmdvmname	Virtual machine name		
Network	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		
	recid	Record ID		VMW_NET
	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
	vmnppckttr	No. of outbound packets	packets	Physical or virtual network device port units
	vmnpmvtr	Send size	Mbits	Physical or virtual network device port units
	vmnppcktrecv	No. of inbound packets	packets	Physical or virtual network device port units
	vmnpmbrecv	Receive size	Mbits	Physical or virtual network device port units
	vmnvmname	Virtual machine name		If it is a virtual NIC, the virtual machine name is included.

VMware virtual machine relocation simulation

Item	Column name	Explanation	Unit	Description
CPU	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		
	recid	Record ID		VMW_GCPU

Item	Column name	Explanation	Unit	Description
	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
	vmgcusemhz	Virtual machine CPU usage	MHz	
Memory	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		
	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
	vmgmtm	Estimated size of the working set of a resource pool or a virtual machine	Mbytes	
Disk	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		
	recid	Record ID		VMW_DISK
	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
	vmdreads	Disk reading count	reads	Physical disk
	vmdwrites	Disk writing count	writes	Physical disk
	vmdmbread	Read size	Mbytes	Physical disk

Item	Column name	Explanation	Unit	Description
	vmdmbwrt	Write size	Mbytes	Physical disk
Network	sdattim	Collection start time		yyyy/mm/dd HH:mm:ss
	sysname	System name		
	resrcid	Resource ID		
	recid	Record ID		VMW_NET
	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
	vmnppckttr	No. of outbound packets	packets	Physical or virtual network device port units
	vmnpmvtr	Send size	Mbits	Physical or virtual network device port units
	vmnppcktrecv	No. of inbound packets	packets	Physical or virtual network device port units
	vmnpmbrecv	Receive size	Mbits	Physical or virtual network device port units

Note

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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.

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6.2.6.2 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

Item	Column name	Explanation	Unit	Description
	coverage	Data coverage ratio		Displays the ratio of data collected during the interval from 0 through 1
	vmgcused	CPU utilization	%	
	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
	vmgcnumcpu	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>

6.2.6.3 Demand Forecast (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		tenanl 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
vmpoolprocused	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		tenanl 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		tenanl name:/pool name
recid	Record ID		ROR_STORAGEPOOL
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
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		tenanl name:/pool name
recid	Record ID		ROR_NETWORKPOOL
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
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		tenanl name:/pool name
recid	Record ID		ROR_SERVERPOOL
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
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		tenanl name:/pool name
recid	Record ID		ROR_ADDRESSPOOL
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
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 Simulating the Reallocation of Virtual Machines : [VMware virtual machine relocation]

It is possible to perform a simulation of the resource usage if a virtual machine is migrated to a host with CPU and memory overcommit applied from another host. By migrating virtual machines based on the simulation, hosts can be made available.
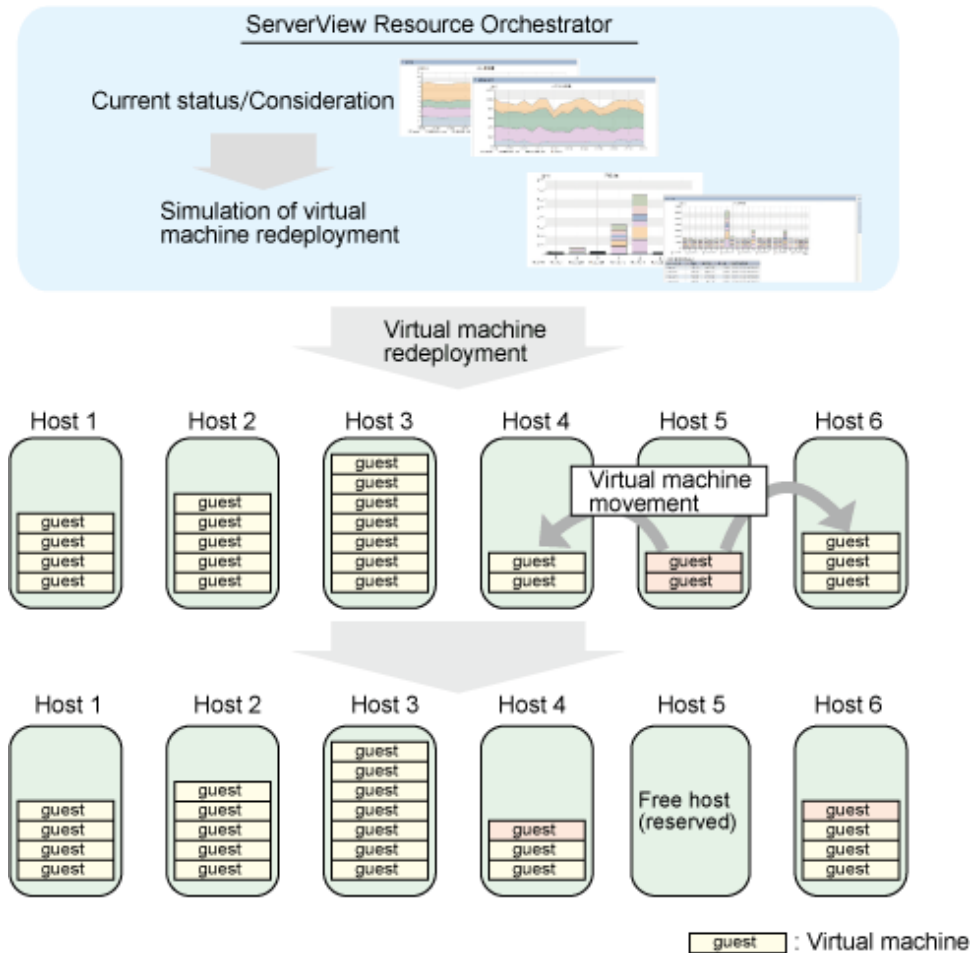
This section describes the procedure for simulating using a [VMware virtual machine reallocation] category scenario.

Understanding the current status

In the [Capacity Planning] window, select the [VMware rsc. usage cond. (List of host)] report of the [VMware virtual machine relocation] 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

CPU usage rate

No.	Category	System name	AVG	MAX	MIN	Core number	Total CPU performance(MHz)	Date and time of Maximum value
1	CPU usage rate(%)	192.0.2.1	1.41	1.50	1.22	8.00	16,000.57	2012/06/14 08:00:00
2	CPU usage rate(%)	192.0.2.2	1.40	1.45	1.37	8.00	16,000.57	2012/06/14 02:00:00
3	CPU usage rate(%)	192.0.2.3	1.04	1.11	0.73	8.00	16,000.57	2012/06/14 00:00:00

CPU usage

No.	Category	System name	AVG	MAX	MIN	Core number	Total CPU performance(MHz)	Date and time of Maximum value
1	CPU usage(MHz)	192.0.2.1	225.67	240.58	196.50	8.00	16,000.57	2012/06/14 08:00:00
2	CPU usage(MHz)	192.0.2.2	223.76	232.42	219.67	8.00	16,000.57	2012/06/14 02:00:00
3	CPU usage(MHz)	192.0.2.3	166.35	177.33	117.00	8.00	16,000.57	2012/06/14 00:00:00

Save in CSV format [VMW_PCPU]

Save in CSV format [VMW_PCPU2]

Memory

Memory usage rate

No.	Category	System name	AVG	MAX	MIN	Hardware memory capacity(MB)	Date and time of Maximum value
1	Memory usage rate(%)	192.0.2.1	0.54	0.57	0.50	12,278.00	2012/06/14 04:00:00
2	Memory usage rate(%)	192.0.2.2	0.42	0.44	0.39	12,278.00	2012/06/14 07:00:00
3	Memory usage rate(%)	192.0.2.3	0.15	0.15	0.15	12,278.00	2012/06/14 08:00:00

A list of resources allocated to each host and resource usage is displayed.
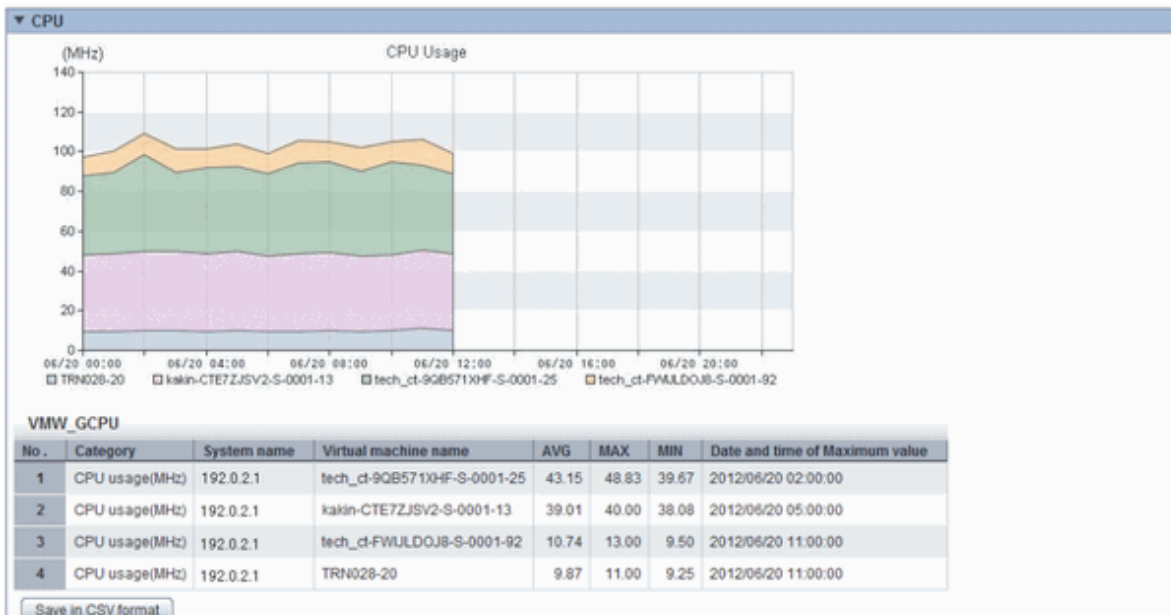
Sort by CPU usage and memory usage where overcommit is enabled to check which hosts have available resources. For example, consider the host with the lowest amount of resource usage as the migration source, and the host with the next lowest rate as the migration target.
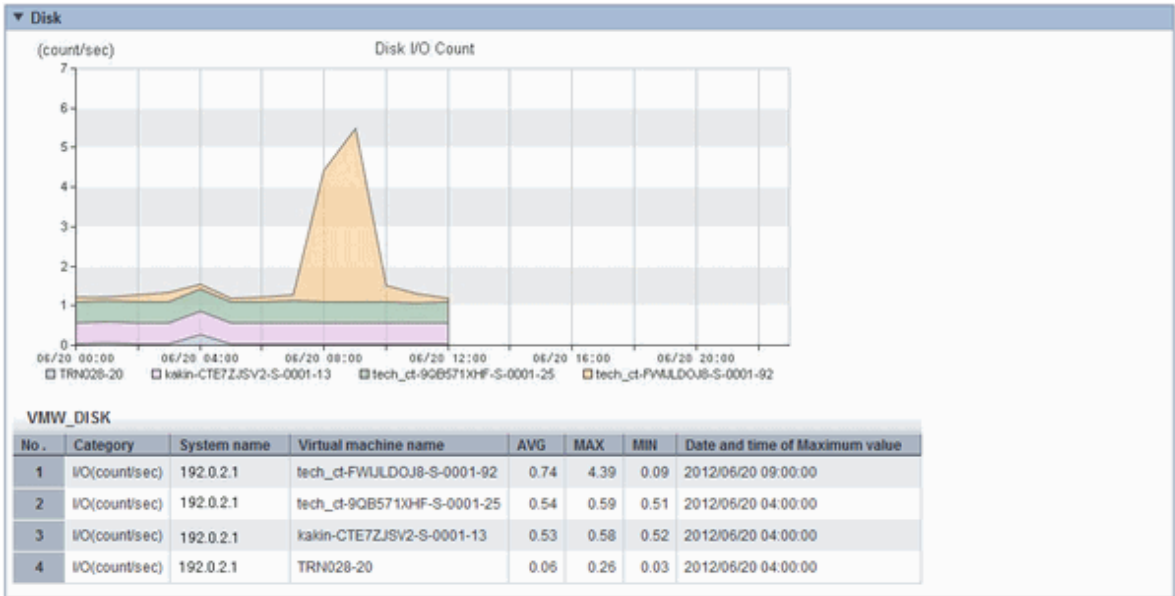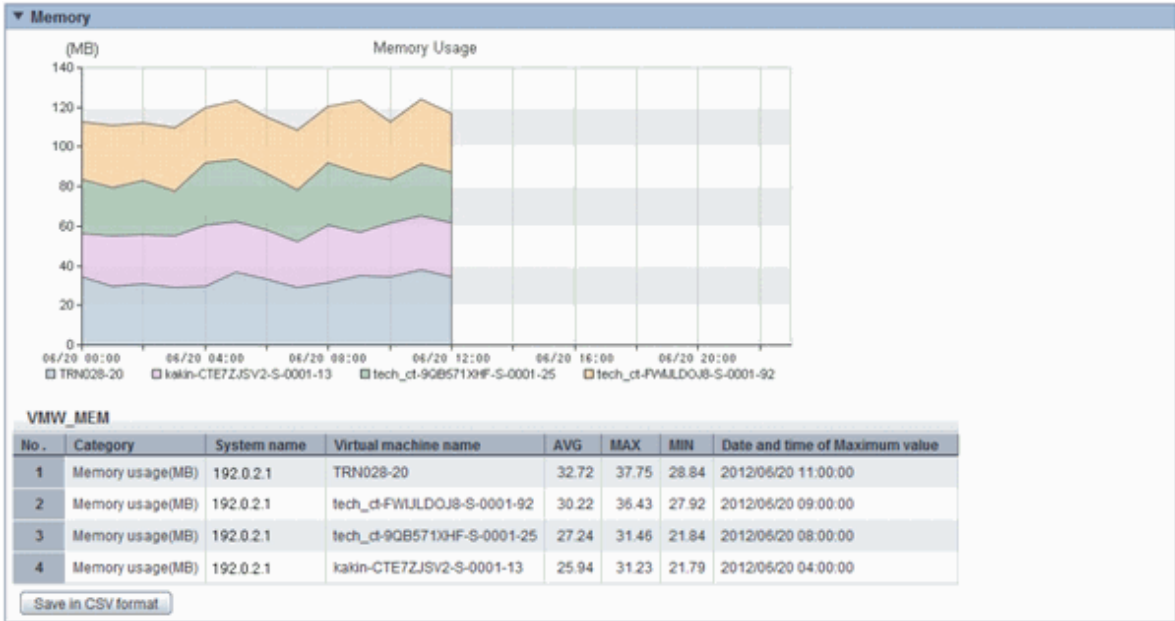
Also check the hosts that are being considered as a migration source and target to see whether the disk and network throughput is acceptable.
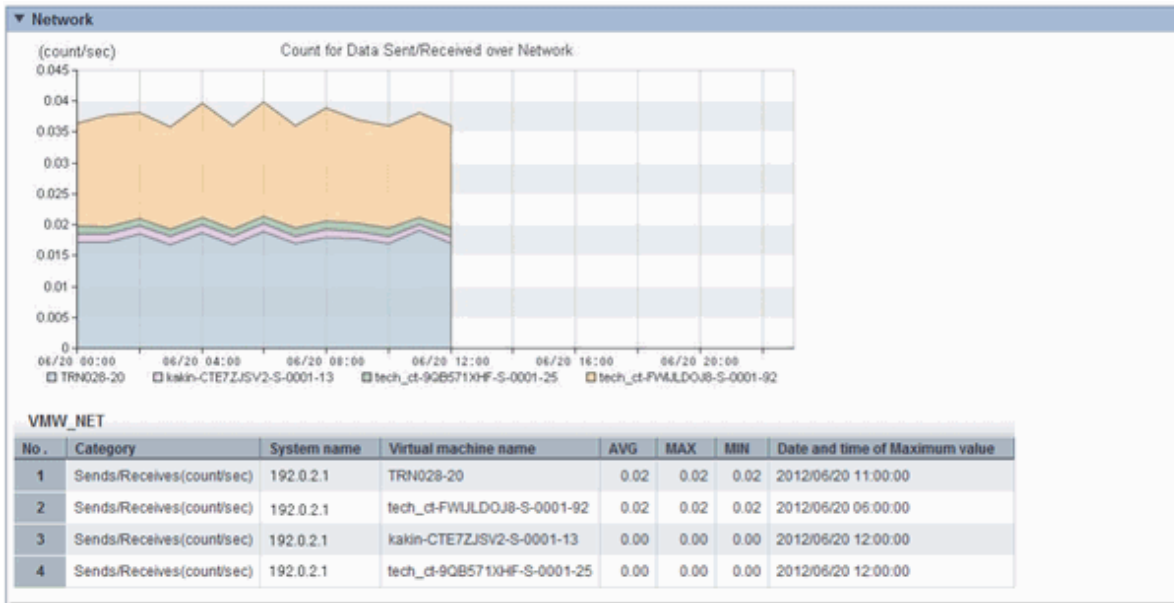
Considering reallocation

In the [Capacity Planning] window, select the [VMware rsc. usage cond. (Virtual machine stack)] report of the [VMware virtual machine relocation] 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

VMW_GCPU

No.	Category	System name	Virtual machine name	AVG	MAX	MIN	Date and time of Maximum value
1	CPU usage(MHz)	192.0.2.1	tech_ct-9QB571XHF-S-0001-25	43.15	48.83	39.67	2012/06/20 02:00:00
2	CPU usage(MHz)	192.0.2.1	kakin-CTE7ZJSV2-S-0001-13	39.01	40.00	38.08	2012/06/20 05:00:00
3	CPU usage(MHz)	192.0.2.1	tech_ct-FWULDOJ8-S-0001-92	10.74	13.00	9.50	2012/06/20 11:00:00
4	CPU usage(MHz)	192.0.2.1	TRN028-20	9.87	11.00	9.25	2012/06/20 11:00:00

Save in CSV format

Memory

VMW_MEM

No.	Category	System name	Virtual machine name	AVG	MAX	MIN	Date and time of Maximum value
1	Memory usage(MB)	192.0.2.1	TRN028-20	32.72	37.75	28.84	2012/06/20 11:00:00
2	Memory usage(MB)	192.0.2.1	tech_ct-FWIJLDOJ8-S-0001-92	30.22	36.43	27.92	2012/06/20 09:00:00
3	Memory usage(MB)	192.0.2.1	tech_ct-9QB571XHF-S-0001-25	27.24	31.46	21.84	2012/06/20 08:00:00
4	Memory usage(MB)	192.0.2.1	kakin-CTE7ZJSV2-S-0001-13	25.94	31.23	21.79	2012/06/20 04:00:00

Save in CSV format

Disk

VMW_DISK

No.	Category	System name	Virtual machine name	AVG	MAX	MIN	Date and time of Maximum value
1	I/O(count/sec)	192.0.2.1	tech_ct-FWIJLDOJ8-S-0001-92	0.74	4.39	0.09	2012/06/20 09:00:00
2	I/O(count/sec)	192.0.2.1	tech_ct-9QB571XHF-S-0001-25	0.54	0.59	0.51	2012/06/20 04:00:00
3	I/O(count/sec)	192.0.2.1	kakin-CTE7ZJSV2-S-0001-13	0.53	0.58	0.52	2012/06/20 04:00:00
4	I/O(count/sec)	192.0.2.1	TRN028-20	0.06	0.26	0.03	2012/06/20 04:00:00

The resource usage information for all virtual machines on the migration source host are displayed in a stack graph.

Check the resource usage in each virtual machine, and use this information to ascertain which virtual machine should go to which destination candidate host.

Simulation of reallocation

In the [Capacity Planning] window, select the [VMware virtual machine relocation simulation] report of the [VMware virtual machine relocation] category, set the analysis conditions and run the simulation.

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

- Hourly display
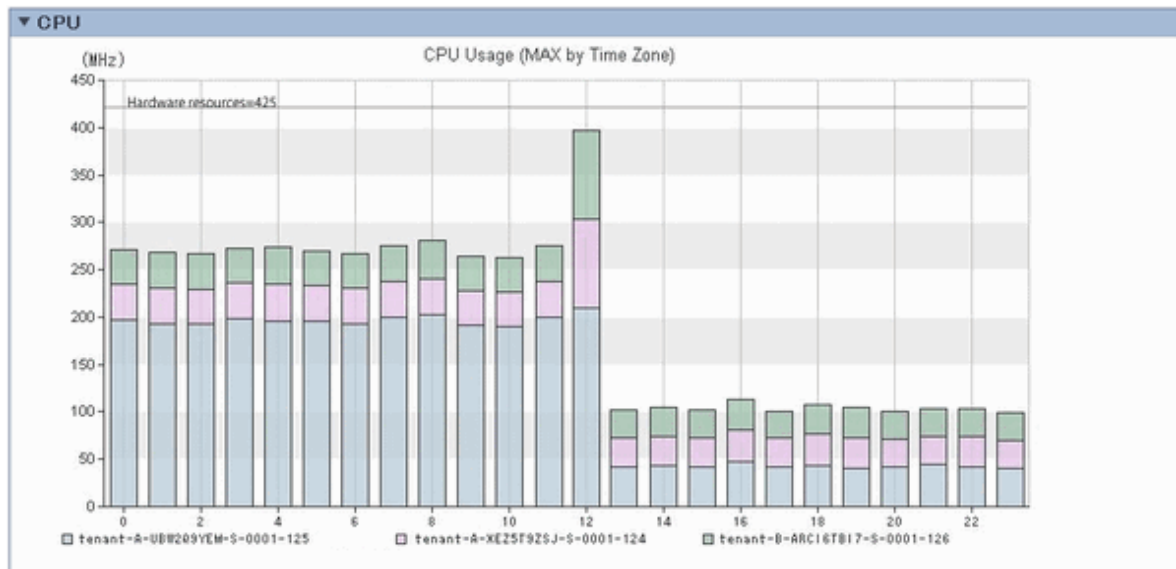
- Weekly display
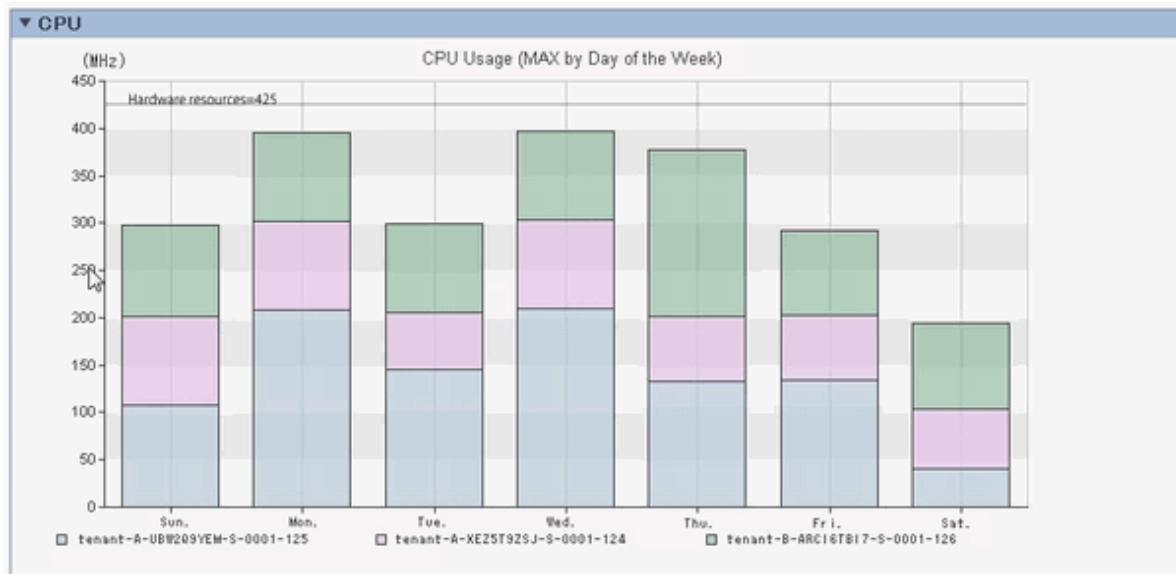
- Time-line display
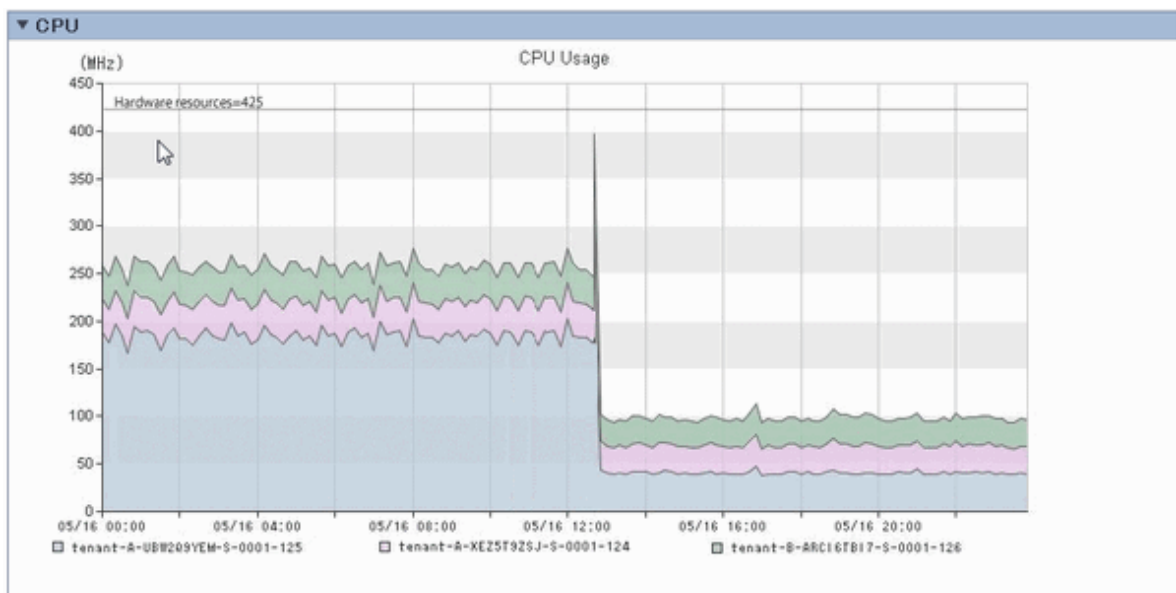
The information about virtual machines to be consolidated and all virtual machines in the consolidation destination are displayed in a stack graph. Tables are also displayed along with the above graphs.

If a value will be too great throughout a period of time or there is a bias for certain time slots or days of the week, consider the combinations of the virtual machines to be reallocated.
If a tolerated threshold value was set, check that the value is not exceeded.

6.3.2 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.
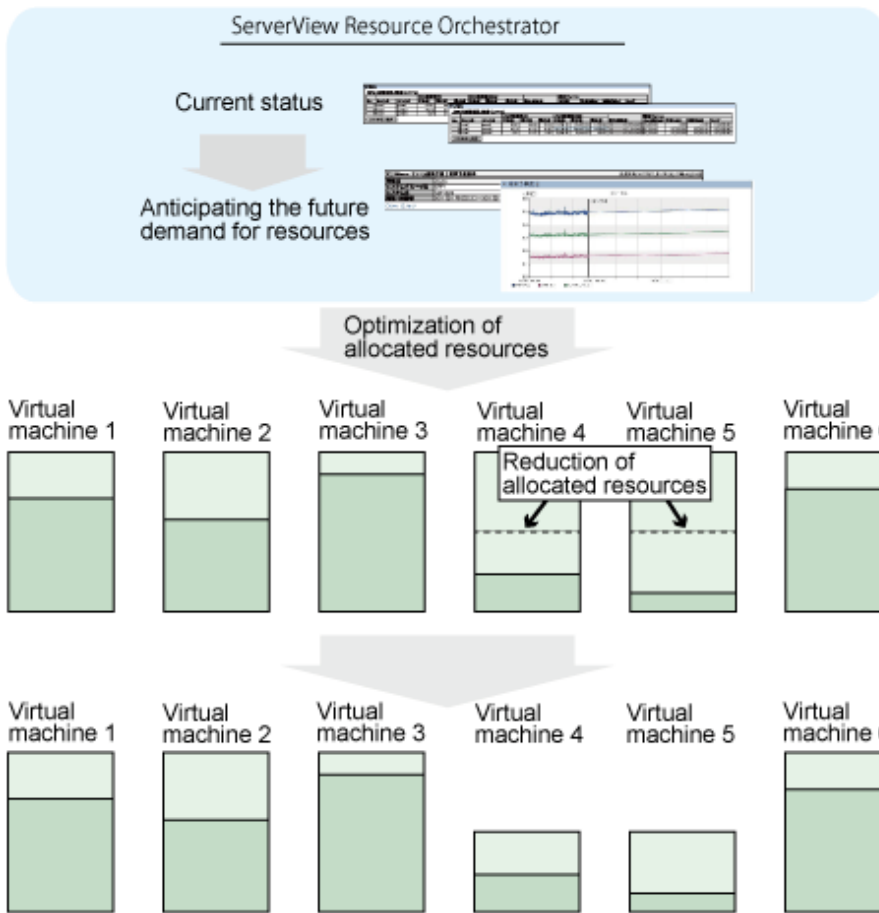
This section describes the procedure for attempting to optimize resource by using the [VMware resource allocation optimization] category scenario.

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-6N74UUIHZ-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-UBWWDXG0W-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-6N74UUIHZ-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-UBWWDXG0W-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)	Rese

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.

6.3.3 Anticipating the Future Demand for Resources : [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 [Resource pool] category scenarios.

Demand Forecast

In the [Capacity Planning] window, select the appropriate report of the [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.
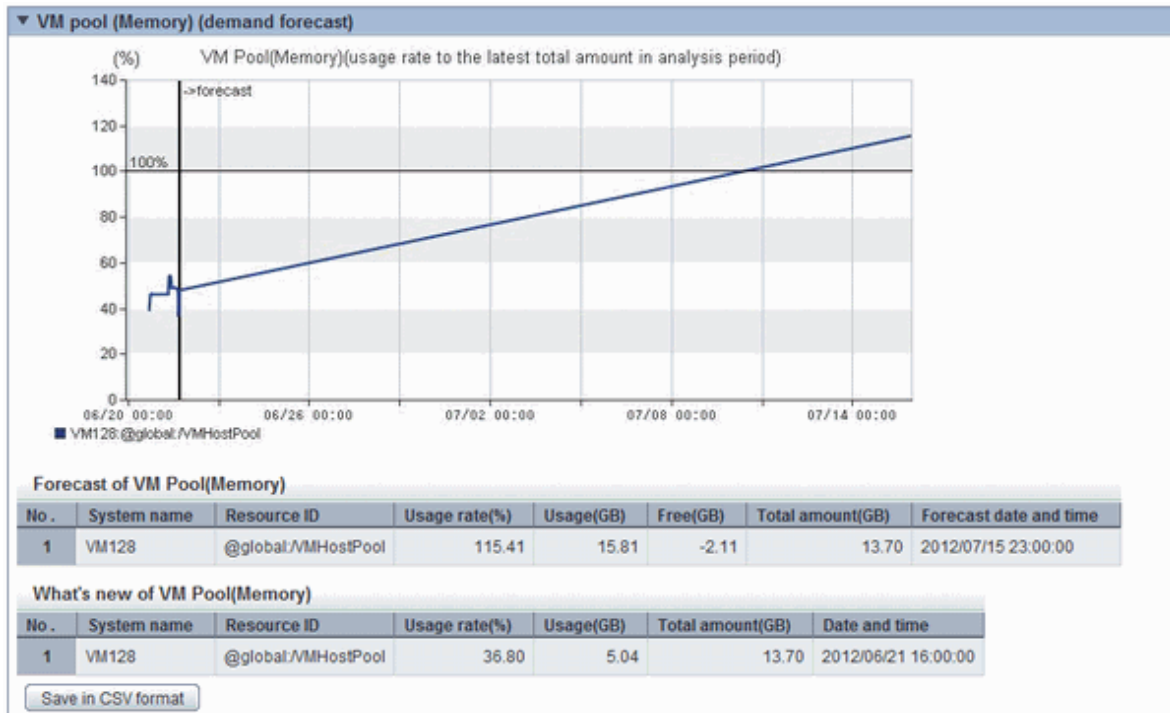
Perform regression analysis based on past CPU usage and memory usage to anticipate the resources that will be used.

Chapter 7 Resource

Refer to the "User's Guide for Infrastructure Administrators (Resource Management) CE" for information on the [Resources] tab in the ROR console.

Chapter 8 Template

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

8.1 L-Platform Template Overview

This section provides an overview of L-Platform templates.

8.1.1 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 8.1 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 8.1 Relationship between information comprising the L-Platform template
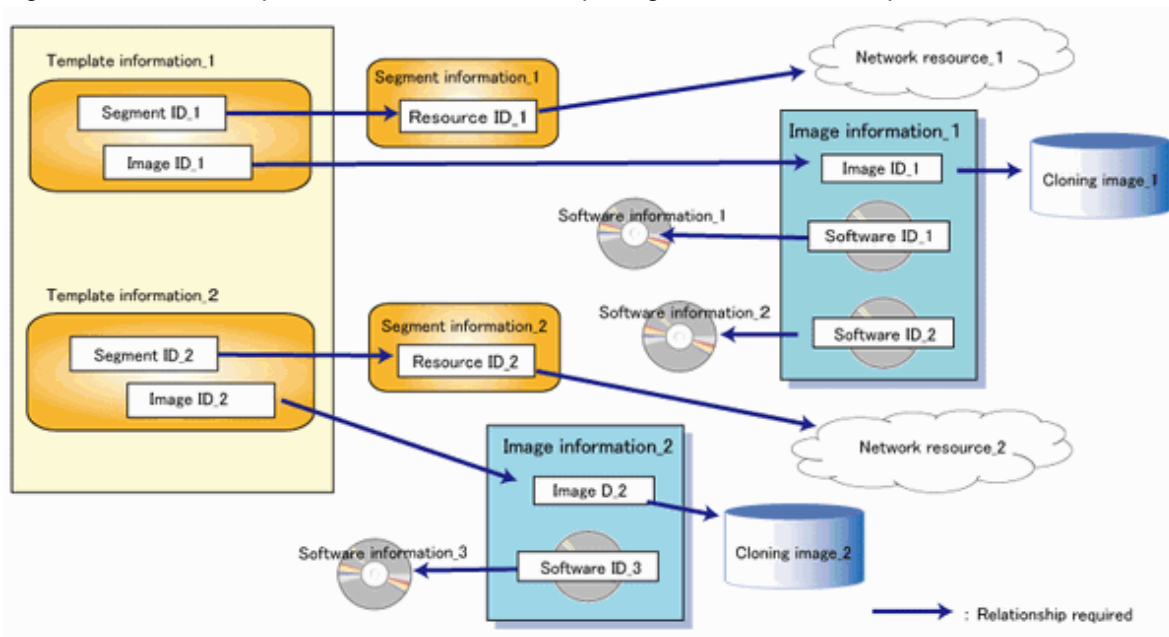
8.1.2 Flow of L-Platform Template Creation

This section describes the flow when creating an L-Platform template.

8.1.2.1 Preparation for L-Platform Template Creation

The following steps are required prior to creating an L-Platform template:

- Create network resources

  Refer to "5.6 Registering Network Resources" in the "User's Guide for Infrastructure Administrators (Resource Management) CE" for information on how to create network resources.

- Create the L-Server Template

  Refer to "Chapter 15 L-Server Template Operations" in the "User's Guide for Infrastructure Administrators (Resource Management) CE" for information on how to create L-Server templates.

- Create the cloning image

  Refer to "17.5.1 Collecting and Registering" in the "User's Guide for Infrastructure Administrators (Resource Management) CE" for information on how to create cloning images.

8.1.2.2 Create the L-Platform Template

The following steps are required to create an L-Platform template:

1. Create the software information

2. Create the image information

3. Create the segment information

4. Create the template information

Note that segment information can also be created before the software information.

8.1.2.3 Publish the L-Platform Template

When an L-Platform template is created, it is hidden.

After creation, L-Platform templates must be published before they can be used for creating L-Platforms.

8.1.3 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 Infrastructure Administrator can perform operations for both tenant-specific templates and global templates.

8.1.4 Notes if Using a Firewall

Note the following points when using a firewall:

- Configuration must be in keeping with the modes for auto-configuration of network devices when you create an L-Platform template

  You must configure the L-Platform template according to the modes for auto-configuration of network devices. Refer to "2.2.7.4 Network Device Automatic Configuration" in the "Design Guide CE" for information on the modes for auto-configuration of network devices, and Section "8.4.4.1 Set Basic Info Window" for information on how to configure the L-Platform template.

  - User Customization Mode

    Uses a previously registered ruleset when creating an L-Platform template.

- The firewall must be configured after the L-Platform is deployed

  Provide this information to the tenant administrator, alongside the parameters to be set and their values.

8.1.5 Notes if a Server Load Balancer (SLB) is included

Note the following points when the L-Platform template you are creating includes a server load balancer:

- The server load balancer needs to be configured after the L-Platform is deployed

    Explain this point to the tenant administrator. Also explain the virtual IP address, any other parameters, and the values to be set in them to the tenant administrator so that the server load balancer is configured properly.

- Server load balancer operations use rulesets

    Explain the rulesets used during operation to the tenant administrator. Also explain parameters and the values to be set in the rulesets to the tenant administrator.

8.1.6 Notes on Using VDI (Virtual Desktops)

When using VDI (Virtual Desktop), note the following points.

- When using user information registered in an Active Directory for authentication of the VDI admin server, configuration is necessary

    When the user information (user ID) of a tenant user who applies to use an L-Platform, or a tenant administrator is not registered in the Active Directory for authentication of the VDI admin server, it is necessary to configure the definition file to enable specification of the VDI user name when applying to use an L-Platform.
    For details of the settings, refer to "8.5.14.2 Settings for VDI User Names" in the "Operation Guide CE".

- It is not possible to mix images for VDI coordination and images not for VDI coordination in an L-Platform template.

    When an image for VDI coordination is deployed in an L-Platform template, do not deploy images not for VDI coordination in the same L-Platform template.

8.2 Explanation of Windows

This section explains the [Templates] tab of the ROR console.

The following shows the ROR console [Templates] tab window.

Figure 8.2 Window displayed in the [Template] tab
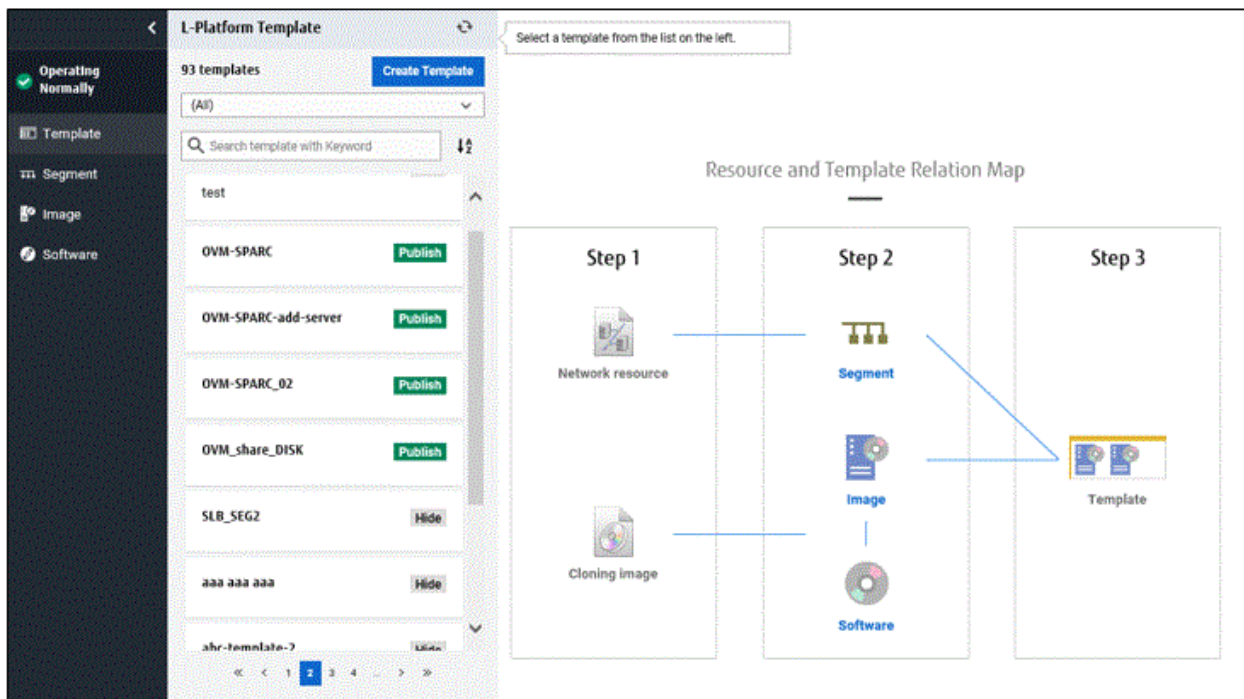
8.2.1 Menu

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

Template

The [L-Platform Template] window will be displayed.

Segment

The [Segment List] window will be displayed.

Image

The [Image List] window will be displayed.

Software

The [Software List] window will be displayed.

🖙 Note

. . . .

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

. . . .

8.2.2 L-Platform Template Window

Select [Template] in the menu to display the [L-Platform Template] window.

8.2.2.1 Resource and Template Relation Map Window

The steps to compile the information that makes up L-Platform templates are displayed as buttons in the [Resource and Template Relation Map] window displayed in the [Templates] tab of the ROR console.

When the button image for each type of information is clicked, the window with information for configuring the L-Platform template is displayed.

Table 8.2 Correspondences between button image and the information comprising the L-Platform template

Button Image	Information
Template	Template information
Segment	Segment information
Image	Image information
Software	Software information

8.2.2.2 Template Window

The following shows the [Template] window of the [L-Platform Template] window.

Figure 8.3 [Template] window
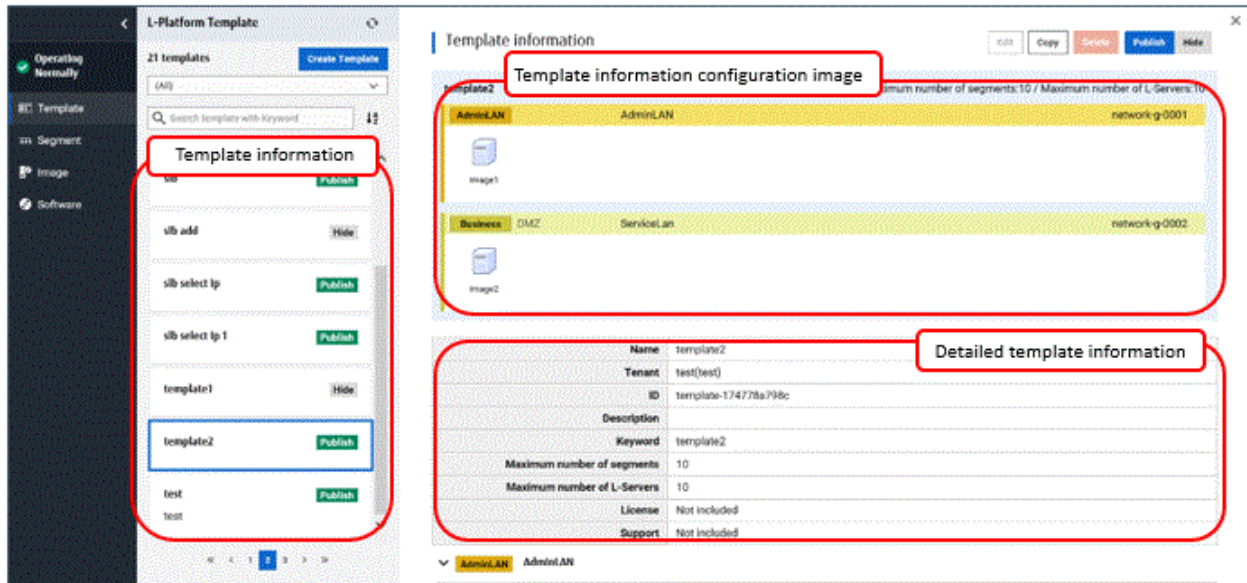
Window Explanation

The following explains the [Template] window:
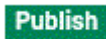
Pane name	Explanation
Template information	Located on the left side of the window, contains template information. The list can be displayed in ascending or descending order. The list can be filtered by tenant and by keyword. Strings included in the keyword filter are those that were specified in "keyword" in basic information of the template information.
Template information configuration image	Located on the upper right side of the window, displays the configuration image for the template information selected in "Template information".
Detailed template information	Located on the lower right side of the window, displays details about the template information selected in "Template information".

The following explains the buttons in the [Template] window:

Button name	Explanation
⟳	Updates template information. Sorting and selection are maintained.
Create Template	Creates new template information. Refer to "8.3.1 Creating New L-Platform Template" for details.
↓A̲Z	Toggle sorting of template list between ascending and descending order.
Edit	Edits the contents of existing registered template information. Refer to "8.3.3 Editing L-Platform Template" for details.
Copy	Creates new template information based on existing registered template information. Refer to "8.3.2 Copying L-Platform Template" for details.
Delete	Deletes template information. Refer to "8.3.4 Deleting L-Platform Template" for details.

Button name	Explanation
Publish	Publishes an L-Platform template. Refer to "8.3.5 Publishing and Hiding L-Platform Template" for details.
Hide	Hides an L-Platform template. Refer to "8.3.5 Publishing and Hiding L-Platform Template" for details.

The following explains the icons in the [Template] window:

Icon (Image)	Explanation
Publish	Publishes an L-Platform template. Refer to "8.3.5 Publishing and Hiding L-Platform Template" for details.
Hide	Hides an L-Platform template. Refer to "8.3.5 Publishing and Hiding L-Platform Template" for details.
⚠	Related resource does not exist. Or the resource has been frozen.

Refer to "8.4.4.2 Configure Window" for detail information about icons displayed in template information configuration image.

8.2.3 Segment Windows

Click [Segment] in the menu to display the [Segment List] window.

[Segment list] window

Displays a list of segment information.

The list can be displayed in ascending or descending order. To change the sequence, click "Ascending order" (Network resource name, tenant etc.).

Search by segment, or filter the list by tenant or category.
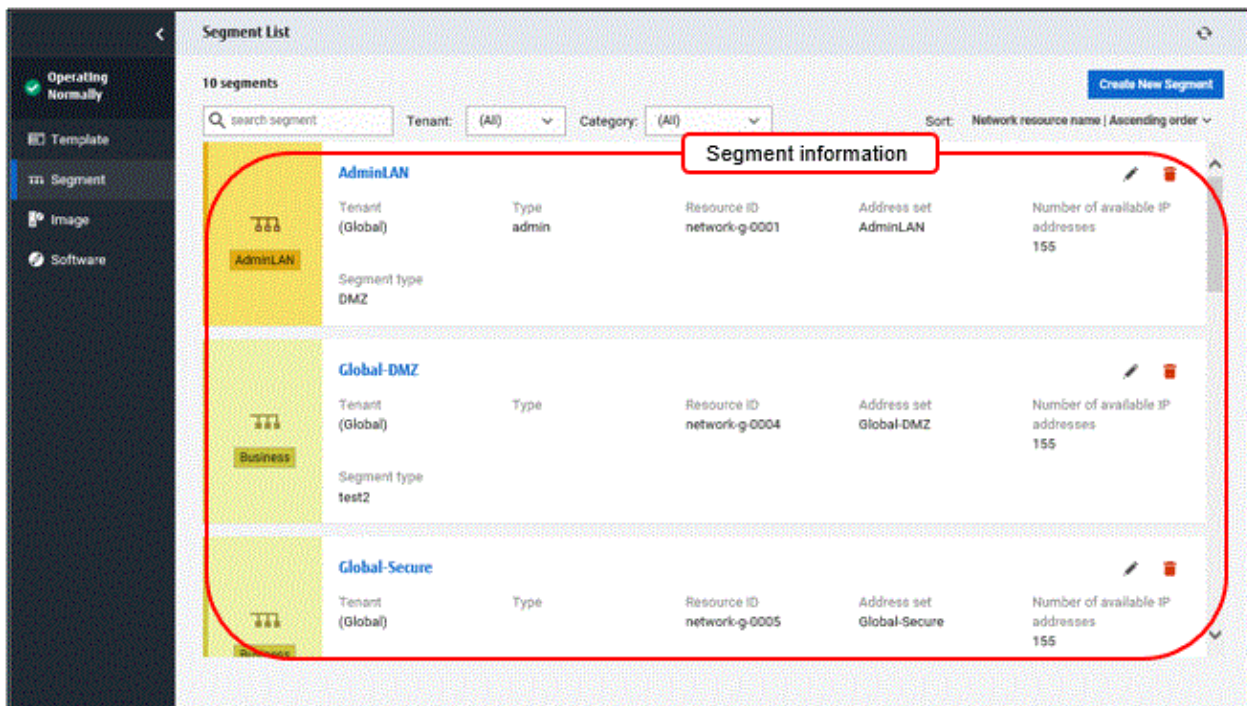
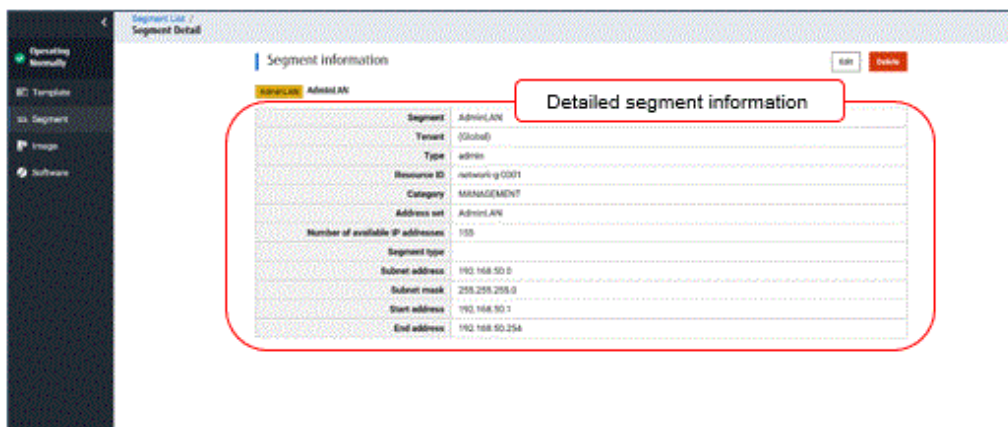The following explains the buttons in the [Segment List] window:

Button name	Explanation
↻	Updates segment information. The sort order is maintained.
Create New Segment	Creates new segment information. Refer to "8.3.1 Creating New L-Platform Template" for details.
✏	Edits the contents of existing registered segment information. Refer to "8.3.3 Editing L-Platform Template" for details.
🗑	Deletes the contents of segment information. Refer to "8.3.4 Deleting L-Platform Template" for details.

The following explains the icons in the [Segment List] window:

Icon	Explanation
🖧	Management segment
MNGMNT	Management segment
🖧	Business segment
Business	Business segment
🖧	Management segment with admin LAN allocated
AdminLAN	Management segment with admin LAN allocated
⚠	The associated network resource does not exist.

[Segment Detail] window

At [Segment List] window, click the segment name url at upper left of each segment to display its detail information.
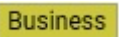

The following explains the buttons in the [Segment Detail] window:

Button name	Explanation
Edit	Edits the contents of existing registered segment information.

Button name	Explanation
	Refer to "8.3.3 Editing L-Platform Template" for details.
Delete	Deletes segment information.
	Refer to "8.3.4 Deleting L-Platform Template" for details.

The following explains the icons in the [Segment Detail] window:

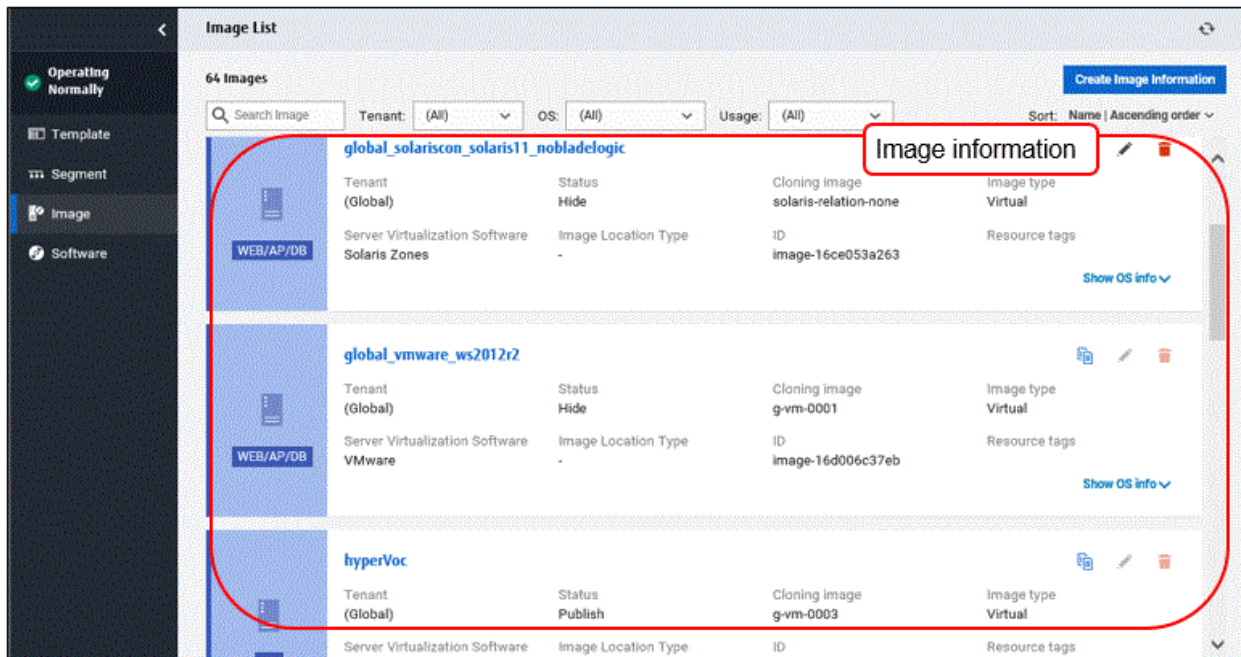| Icon (Image)	Explanation
MNGMNT	Management segment
Business	Business segment
AdminLAN	Management segment with admin LAN allocated

8.2.4 Image Windows

Click [Image] in the menu to display the [Image List] window.

[Image List] window

Displays a list of image information.

The display sequence can be changed to ascending or descending order. To change the sequence, click "Ascending order" (Name, Tenant, etc).

Search by image, or filter the list by tenant, OS, or usage.

The following explains the buttons and Link in the [Image List] window:

Button name/Link name	Explanation
↻	Updates image information. The sort order is maintained.
Create Image Information	Creates new image information. Refer to "8.3.1 Creating New L-Platform Template" for details.
Show OS info	Displays OS information.
📋	Creates new image information based on existing registered image information. Refer to "8.3.2 Copying L-Platform Template" for details.
✏	Edits the contents of existing registered image information. Refer to "8.3.3 Editing L-Platform Template" for details.
🗑	Deletes image information. Refer to "8.3.4 Deleting L-Platform Template" for details.

The following explains the icons in the [Image List] window:

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

[Image Detail] Window

On the [Image List] window, click the image information name link in the upper left corner of the image to display the [Image Details] window for the selected image information.

Displays details about the image information, software information, or patch information selected in "Image List".

If the cloning image associated with image information includes a data disk, [Disk] information will also be displayed.
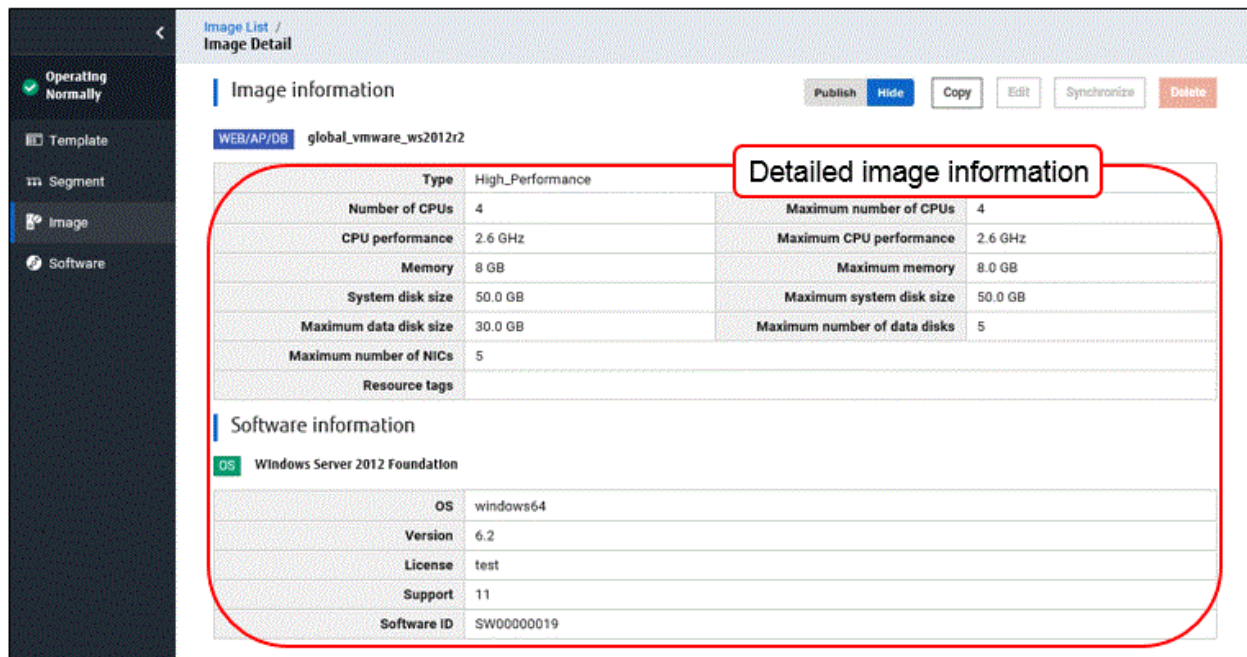
The following explains the buttons in the [Image Detail] window:

Button name	Explanation
Publish	Publishes image information. Refer to "8.3.6 Publishing Image Information" for details.
Hide	Hides image information. Refer to "8.3.6 Publishing Image Information" for details.
Copy	Creates new image information based on existing registered image information. Refer to "8.3.2 Copying L-Platform Template" for details.
Edit	Edits the contents of existing registered image information. Refer to "8.3.3 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 "8.3.7 Synchronizing Image Information" for details.
Delete	Deletes image information. Refer to "8.3.4 Deleting L-Platform Template" for details.

## 8.2.5 Software Window

Click [Software] in the menu to display the [Software List] window.

[Software List] Window

A list of software information which has been created is displayed.

The display sequence can be changed to ascending or descending order. To change the sequence, click the Sorted by (category, software name, etc.).

Search by software, or filter the list by tenant or category.
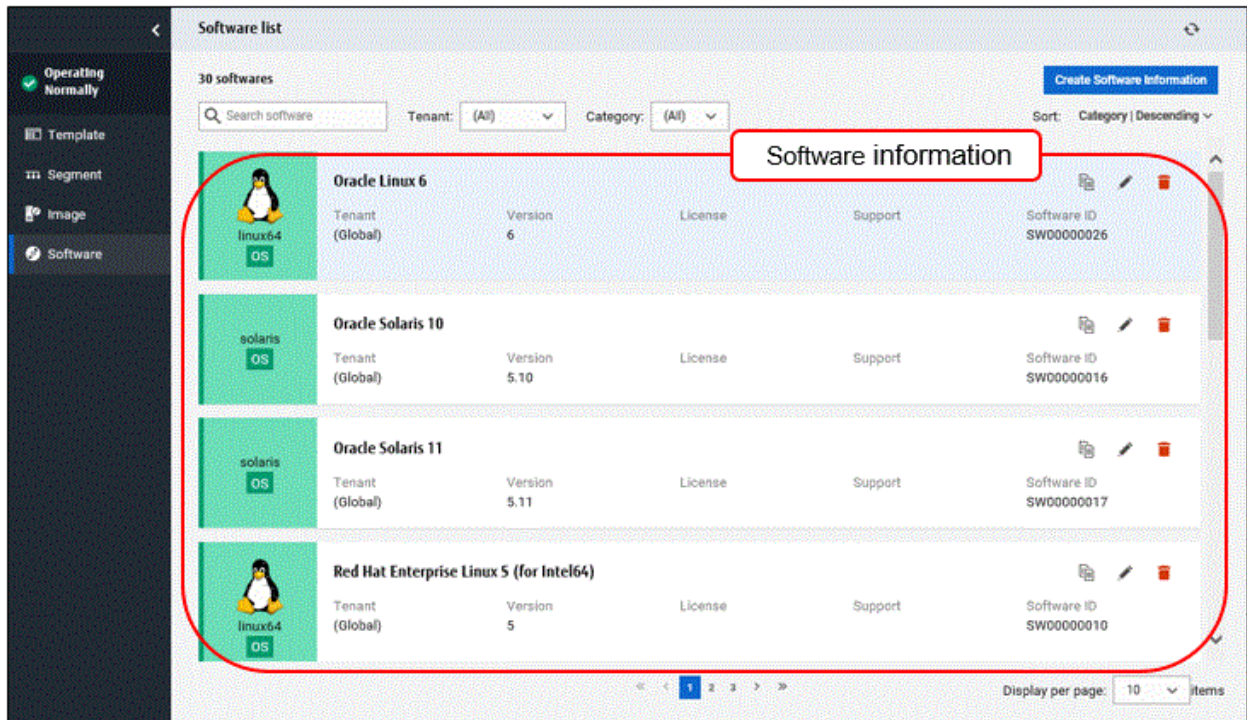
The following explains the buttons in the [Software List] window:

Button name	Explanation
↻	Updates Software information. The sort order is maintained.
Creates Software Information	Creates new software information. Refer to "8.3.1 Creating New L-Platform Template" for details.
📋	Creates new software information based on existing registered software information. Refer to "8.3.2 Copying L-Platform Template" for details.
✏	Edits the contents of existing registered software information. Refer to "8.3.3 Editing L-Platform Template" for details.
🗑	Deletes the software information. Refer to "8.3.4 Deleting L-Platform Template" for details.

8.3 L-Platform Template Operations

This section explains L-Platform template operations.

8.3.1 Creating New L-Platform Template

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

- Template information

- Segment information

- Image information

- Software information

Follow the procedure below to newly create the above information:

1. On the menu, select the tab (Template, Segment, Image, or Software) of the information to be newly created.

2. Clicks [Create New XXXX] ([Create New Segment], etc.) button for each kind of resources.

3. Set information in the new creation window.

   Refer to "8.4 Items to Set for Each Type of L-Platform Template Information" for information on the information to be set.

4. Click the [Create] button.

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

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

1. Software information

2. Image information

3. Segment information

4. Template information

However, Segment information can be created before Software information.

Point

In case of L-Platform templates, a server NIC is only located if it is allocated. When defining multiple NICs, select the target server, and then click the [Add NIC] button to add the required number of NICs.
The number of server NICs that can be allocated is the maximum number allowed for image information.

Information

Commands can also be used to create new L-Platform templates.
Refer to "Appendix A Using Commands to Register and Delete L-Platform Templates" for details.

Note

When enabling [Function number expansion (Onboard)], add the same number of NICs as the functions using the L-Platform template.

For example, when selecting "2" for [Number of functions per board] in the physical server environment on which only the on-board CNA is mounted, it is necessary to configure four NICs in total for four functions (two ports * two functions).

8.3.2 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 menu, 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 [Copy] button to edit a template. Use the ( ) button otherwise.

4. The information set in the copy window is the same as the referenced information. If required, change this information.

   Refer to "8.4 Items to Set for Each Type of L-Platform Template Information" for information 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.

🅿 Point

. . . .

In case of L-Platform templates, a server NIC is only located if it is allocated. When defining multiple NICs, select the target server, and then click the [Add NIC] button to add the required number of NICs.
The number of server NICs that can be allocated is the maximum number allowed for image information.

. . . .

8.3.3 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 menu, select the window (Template, Segment, Image, or Software) of the information to be edited.

2. From the list, select the information to be edited.

3. Click [Edit] button to edit a template. Use the ( ) button otherwise.

4. Change the information on the edit window.

   Refer to "8.4 Items to Set for Each Type of L-Platform Template Information" for information 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.

🅿 Point

. . . .

- 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.

- In case of L-Platform templates, a server NIC is only located if it is allocated. When defining multiple NICs, select the target server, and then click the [Add NIC] button to add the required number of NICs.
  The number of server NICs that can be allocated is the maximum number allowed for image information.

. . . .

8.3.4 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 menu, 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 [Delete] button to edit a template. Use the ( ) button otherwise.

   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 Segment information and Image information can be reversed.

P Point
. . . .

- 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.
. . . .

Information
. . . .
Commands can also be used to delete L-Platform templates.
Refer to "Appendix A Using Commands to Register and Delete L-Platform Templates" for details.
. . . .

8.3.5 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 menu, select the [Template].

2. From the Template information 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.

8.3.6 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 menu, select the [Image].

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.

8.3.7 Synchronizing Image Information

Cloning image resource IDs are held in the image information.

If a 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 menu, select the [Image].

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 "8.4 Items to Set for Each Type of L-Platform Template Information" for information 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.

Point
. . . .
  - Synchronizing of image information is not possible if template information that uses the target image information has been published, or the target image information has been published.

  - When updating a cloning image, collect it using the same name.
. . . .

Information
. . . .
When synchronizing image information, if the target image information has been used in an L-Platform template that has been deployed, or the image information has been published, perform the following procedure before performing synchronization, but after hiding the image information.

1. On the menu, select the [Template].

2. Select the L-Platform template that uses the target image information from the template information list, and click [Hide] button.

3. On the menu, select the [Image].

4. Select the target image information from the image information list and click [Hide] button.

8.4 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:

- Creating New L-Platform Template

- Copying L-Platform Template

- Editing L-Platform Template

- Synchronizing Image Information

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

8.4.1 Software Information

This section explains software information.

Explanation of Items

The following explains software information items:

Item name	Explanation
Tenant	Click [Create Software Information] button at [Software List] window to create new software information. Or click [Copy] button at upper right of each software information to copy from it. At the opened [Software Information] window, select the tenant who owns this software information from pull-down list of tenant name input field.
	At [Software List] window, select tenant name from pull-down list to filter the software information in software list by tenant who owns that software information.
	Note that, when copying an L-Platform template, a global template can be changed into a tenant-specific template but, conversely, a tenant-specific template cannot be changed into a global template.
Category	Enter the software category. Note that only "OS" can be specified
OS	Select one of the following software operating systems: - Windows - Linux - Windows (64 bit) - Linux (64 bit) - Solaris - Other
Software name	Enter up to 85 characters (excluding [,], <, >, &, ", and ') for the software name If this is filtered by 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 (an ASCII character string excluding [,], <, >, &, ", and ') for the software version

Item name	Explanation

License	Enter up to 85 characters (excluding [,], <, >, &, ", and ') for the software license information Specify the product key for the Windows operating system. This can be specified only when the operating system is Windows.
	
	- If the server virtualization software is RHEL-KVM
	  The operating systems that can be specified for the guest OS are Windows Server 2012.
	
	- If the server virtualization software is OVM for x86 or Citrix XenServer, the guest OS will not use this setting.
	
	- If the server virtualization software is Citrix XenServer:
	  When using Linux Manager or using Windows Manager and a cloning image where "OS settings during deployment" are disabled, the guest OS.
	  Refer to "17.5.1 Collecting and Registering" in the "User's Guide for Infrastructure Administrators (Resource Management) CE" for information on "OS settings during deployment" when collecting cloning images.

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] or [OK] button.

   The [Software List] window is displayed.

Note

When the [Software List] window is displayed, all the following items are reset:

- Tenant and keyword filtering

- Sorting

- windows

- Selected states

8.4.2 Image Information

Set image information on the following five windows:

1. [Select Image] window (this window is only seen when creating new image information)

2. [Set Basic Info] window

3. [Select Software] window

4. [Add Patch Info] window

5. [Confirm] window

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

8.4.2.1 Select Image Window

On the [Select Image] window, select the cloning image that will be used in the image information.
The list of cloning images that can be used will be displayed.

Explanation of Items

The following explains the items in the [Select Image] window:

Item name	Explanation
Tenant	Tenant name of the image pool in which the cloning image is stored. If the image pool is a global pool, "(Global)" will be displayed.
Cloning image	Cloning image name.
Data disk	Number of connected data disks.
Image type	Cloning image type. One of the following will be displayed: - "Virtual": For a virtual server cloning image - "Physical": For a physical server cloning image
Server Virtualization Software	Server virtualization software of the cloning image. One of the following will be displayed: [VMware] "VMware" [Hyper-V] "Hyper-V" [KVM] "RHEL-KVM" [Solaris Zones] "Solaris Zones" [Citrix Xen] "Citrix XenServer" [OVM for x86 2.2] "OVM for x86" [OVM for x86 3.x] "OVM for x86" [OVM for SPARC] "OVM for SPARC" [Physical Servers] "(Physical Server)"
Image Location Type	Type of the disk resource where the cloning image is stored. If the server virtualization software is RHEL-KVM, one of the following will be displayed: - "Raw Disk": For a disk resource created beforehand - "Virtual Disk": For a disk resource created automatically from the virtual storage resource For other server virtualization softwares, "-" will be displayed.
Creation date	Date of the cloning image creation.
Comment	Comment registered in the cloning image.

Operation Procedure

Follow the procedure below for operations at the [Select Image] window:

1. Select a cloning image from the list.

2. Click the [Next] button.

   The [Set Basic Info] window is displayed.

> 📙 **Note**
> ....
> If the server virtualization software is OVM for x86 or Citrix XenServer, cloning images with data disks are not supported.
> Such a cloning image will be handled as a cloning image without a data disk.
> ....

8.4.2.2 Set Basic Info Window

On the [Set Basic Info] window, set the basic information for the image information.

Explanation of Items

The following explains the items in the [Set Basic Info] window:

Item name	Explanation
Tenant	Select the tenant who owns this image information from pull-down list of tenant name input field. Note that, when copying an L-Platform template, a global template can be changed into a tenant-specific template but, conversely, a tenant-specific template cannot be changed into a global template.
Image information name	Enter up to 85 characters (excluding [,], <, >, &, ", and ') for the image information name

Type	Selects the registered L-Server template.
	The following L-Server templates will not be displayed:
	
	- 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.
	
	- L-Server templates with data disks are not displayed.
	  Register the number of disks as 1 when using with an L-Platform template.
	
	- If the server virtualization software is OVM for x86, L-Server templates specifying OVM 2.x(Oracle VM) are not displayed.
	
	- L-Server templates with different cloning images and server virtualization products are not displayed.

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
VDI	Select whether to perform VDI coordination. When performing VDI coordination, select the [Enabled] checkbox. This can only be specified when creating the information of a new image. - When performing VDI coordination, it is assumed that the software necessary for VDI coordination has been installed on the cloning image that is used for the image information. - When performing VDI coordination, deployment is only possible in the L-Platform template. Addition to an already deployed L-Platform is not possible. - VDI coordination is only possible when the OS of a cloning image is Windows 7, Windows 8, or Windows 8.1. If VDI coordination is attempted with an OS other than the above, deployment will fail.
System disk	Specify the size of the system disk for the server to be deployed. Range: 0.1-99999.9 GB. If one of the following conditions is satisfied, specify the same size as the system disk of the cloning image, because the system disk will be deployed with that size regardless of this setting. - The server virtualization software is OVM for x86 or Citrix XenServer. - The server virtualization software is RHEL-KVM, and the image location type of the cloning image is "Virtual Disk".

Item name	Explanation
Maximum system disk size	Specifies the maximum size of the system disk size in GB, which can be specified when creating a new L-Platform. The minimum allowed value is the disk size of the cloning image, and the maximum allowed value is the upper limit of the registered storage pool. When the [Don't set upper value] check box is selected, behavior will be as if the maximum value of the registered storage pool has been specified.
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] check box 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] check box is selected, behavior will be as if the maximum value of the registered VM pool has been specified. This cannot be specified if the server virtualization software is OVM for SPARC.
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] check box is selected, behavior will be as if the maximum value of the registered VM pool has been specified. If the server virtualization software is RHEL-KVM, the value must be less than or equal to max_definable_memory_size when memory hot plug is enabled in a VM specific information definition file. Notify the tenant administrator to specify a value less than max_definable_memory_size. Refer to "8.1.2 VM Specific Information Definition File" in the "Setup Guide CE" for information on the VM specific information definition file.
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] check box 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.
Administrator	When all the following conditions are satisfied, specify the administrator user name using a character string containing up to eight characters (Only alphanumeric characters can be specified). - The server virtualization software is Solaris Zones. - The OS of the cloning image is Solaris 11. When omitted, the value of the admin_user key configured in the OS property definition file is used.

Item name	Explanation
	For details on the OS property definition file, refer to "8.1.8 OS Property Definition File" in the "Setup Guide CE".

Initial password	Enter up to 85 characters (excluding [,], <, >, &, ", and ') for the password for the users below.
	[Windows]
	Specified password is set to OS.
	If this setting is omitted, an automatically-generated password will be set in the OS.
	
	- When the server virtualization software is VMware or Hyper-V:
	  The local administrator account password will be configured.
	
	- When the server virtualization software is RHEL-KVM
	  The local administrator account password will be configured. The operating systems that can be specified for the guest OS are Windows Server 2012. For other OSs, please specify the same password as the one that has been set in the cloning image.
	
	- When the server virtualization software is OVM for x86
	  The local administrator account password will be configured. The password specified here is not set in the OS. Specify the same password as the one that has been set in the cloning image.
	
	- When the server virtualization software is Citrix XenServer
	  Specify the password for the local administrator account. When using Linux Manager or using Windows Manager and a cloning image where "OS settings during deployment" are disabled, the password specified here is not set in the OS. Please specify the same password set in the cloning image.
	  Refer to "17.5.1 Collecting and Registering" in the "User's Guide for Infrastructure Administrators (Resource Management) CE" for information on "OS settings during deployment" when collecting cloning images.
	
	[Linux]
	Specifies the superuser password. The password specified here is not set in the OS. Specify the same password as the one that has been set in the cloning image.
	
	[Solaris]
	
	- When the server virtualization software is Solaris zone
	  Specify the superuser password. The specified password is set in the OS. If this setting is omitted, an automatically-generated password will be set in the OS.
	
	- When the server virtualization software is OVM for SPARC
	  Specify up to 8 characters for the super user password. The specified password is set in the OS. If this setting is omitted, an automatically-generated password will be set in the OS.
	
	[Other]
	Specify the password for default users (such as the super user) that can log in.
	The password specified here is not set in the OS.
	Specify the same password as the one that was set in the cloning image.

Initial password (confirm)	Specifies the same value as Initial password.
Root role password	When all the following conditions are satisfied, specify the Root role password using a character string containing up to 255 characters ([,], <, >, &, ", ' cannot be specified). - The server virtualization software is Solaris Zones. - The OS of the cloning image is Solaris 11. - Specify "root" or another value in [Administrator user name] (Do not omit it).

Item name	Explanation
	If all the conditions are met and the Root role password is omitted, an automatically generated password will be set in the OS.
Root role password (confirm)	Specifies the same value as Root role 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: 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] window is as follows:

1. Set the various basic information items for the image information.

2. Click the [Next] button.

   The [Select Software] window is displayed.

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- 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.

- Once an L-Platform has been created, it is not possible to change items that have the maximums of the following values specified:

   - Maximum number of CPUs

   - Maximum CPU performance

   - Maximum memory

   - Maximum number of data disks

   - Maximum data disk size

   - Maximum system disk size

   - Maximum number of NICs

   After an L-Platform has been created, when performing operations to add resources, specify values considering the number of resources being added.

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8.4.2.3 Select Software Window

On the [Select Software] window, set the software used in the cloning image in the image information.

Operation Procedure

The operation procedure on the [Select Software] window is as follows:

1. Select the software to set.

2. Click the [Next] button.

   The [Add Patch Info] window is displayed.

8.4.2.4 Add Patch Info Window

Add, change, or delete software patch information at the [Add Patch Info] window.
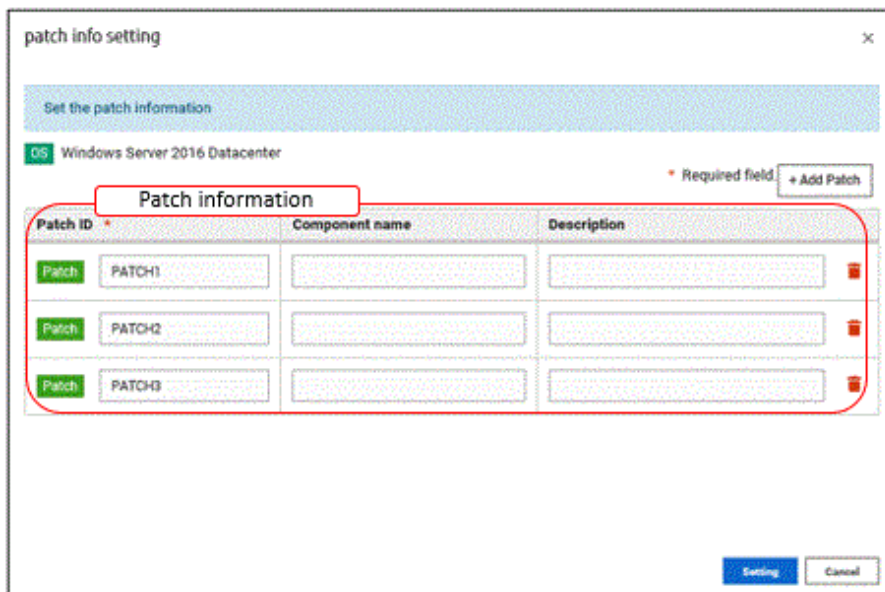
The [Add Patch Info] window is shown below.

Figure 8.4 [Add Patch Info] window
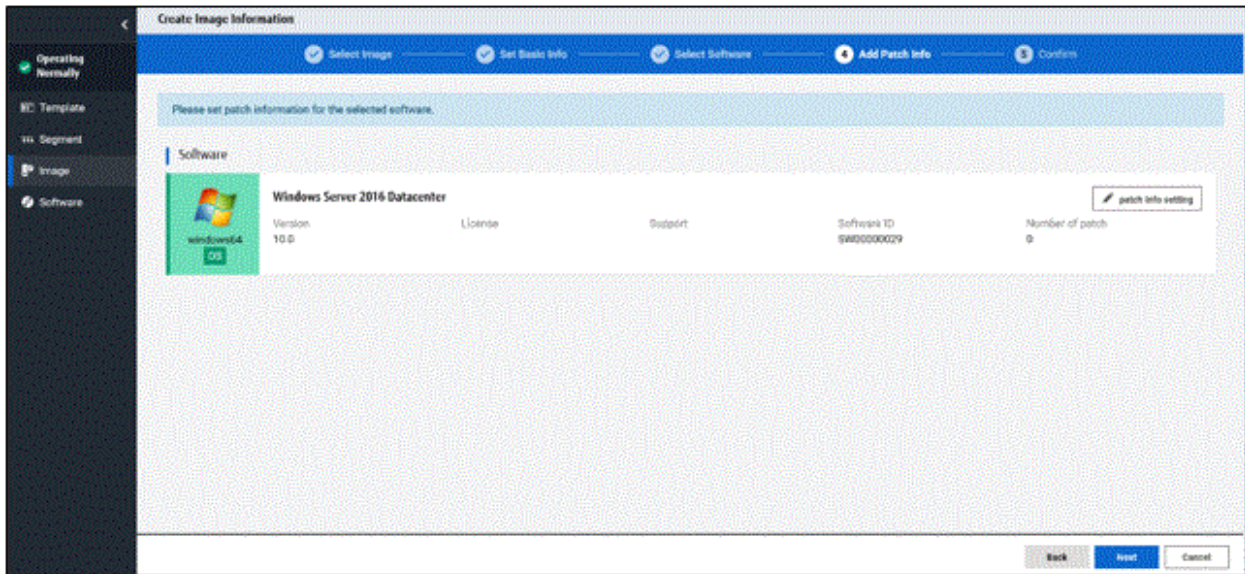
Click the [patch info setting] Button. The list of patch information for the selected software information is displayed.

Figure 8.5 [patch info setting] window

The following explains the button in the [patch info setting] window:

Button name	Explanation
Add Patch	Adds patch information. Refer to "Add Patch Information" for details.
🗑	Deletes patch information.. Refer to "Delete Patch Information" for details.

Add Patch Information

The procedure to add patch information is as follows:

1. Click the [patch Info Settings] button in the software.

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, so enter the required items.

4. Click the [Set] button to complete adding the patch information.

Explanation of Items

The following explains items in the [patch info setting] window:

Item name	Explanation
Name	Enter up to 32 bytes (an ASCII character string excluding [,], <, >, &, ", and ') for the name 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. Click the [patch Info Settings] button in the software.

2. A list of patch information will be displayed, so change the information as necessary.

3. Click the [Set] button to complete changing the patch information.

Delete Patch Information

The procedure to delete patch information is as follows:

1. Click the [patch Info Settings] button in the software.

2. A list of patch information will be displayed, so click the icon (🗑)button of the patch to delete.

   A deletion confirmation message is displayed.

3. Click the [OK] button.

   The patch information is deleted.

8.4.2.5 Confirm Window

Check the set image information at the [Confirm] window, and create, copy, or edit the image information.

Operation Procedure

The operation procedure on the [Confirm] window is as follows:

1. Check whether the displayed content is valid.

   If it is invalid, go back by clicking the [Back] button, and configure correct settings.

2. Click the [Create] or [OK] button.

   A message indicating that the image information has been created is displayed, and the image information is registered.

   After that, the [Image List] window is displayed.

Note

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When the [Image List] window is displayed, all the following items are reset:

- Tenant, operating system, and usage filtering

- Sorting

- Selected states

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8.4.3 Segment Information

This section explains segment information.

Explanation of Items

The following explains segment information items:

Item name	Explanation
Network resource name	Select a network resource name. This is only selectable when a new L-Platform template is being created.
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. When network resources are set in the segment information defined in the firewall and server load balancer (SLB) rulesets, specify the same string as was specified in "Segment Type (segment identifier)" in the parameter file of the ruleset.

Operation Procedure

The procedure to create segment information is as follows:

1. Set each of the segment information items.

2. Click the [Create] or [OK] button.

   The [Segment List] window is displayed.

Note

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When the [Segment List] window is displayed, all the following items are reset:

- Tenant and category filtering

- Sorting

- Selected states are all reset.

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8.4.4 Template Information

Set template information on the following three windows:

1. [Set Basic Info] window

2. [Configure] window

3. [Confirm] window

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

8.4.4.1 Set Basic Info Window

On the [Set Basic Info] window, set the basic information for the template information.

Explanation of Items

The following explains the items in the [Set Basic Info] window:

Item name	Explanation
Tenant	Select the tenant who owns this template information from pull-down list of tenant name input field. Note that, when copying an L-Platform template, a global template can be changed into a template-specific template but, conversely, a template-specific template cannot be changed into a global template.
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. Case is not distinguished for half-width and full-width alphanumerics.
Firewall	When creating an L-Platform template, you can select whether to use a firewall. To use a firewall, select [use] checkbox. Click [Set], and then select a ruleset from the [Firewall Ruleset Select] window. When a server load balancer is to be used to balance server loads together with a firewall, in the [Firewall Ruleset Select] window select a ruleset that allows server load balancers

Item name	Explanation

	to be deployed in a segment.
	The SLB support column determines whether a ruleset allows server load balancers to be deployed.
	The following table explains the symbols in the SLB support column:
	
	- Value in the SLB support column: −
	  This ruleset does not allow server load balancers (SLB) to be deployed in the segment.
	
	- Value in the SLB support column: ✓
	  This ruleset allows server load balancers (SLB) to be deployed in the segment.
	
	To delete a set firewall, clear [use].

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 ruleset is selected, the values specified in the ruleset are used as the initial value. You cannot specify this item when using a firewall without using a ruleset.
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. If a maximum number of L-Servers that can be deployed to an L-Platform template has been specified in a configuration file, that value will be the maximum. Refer to "8.5.10 Settings for the Maximum Number of Connections for the L-Platform Template" in the "Operation Guide CE" for information on a configuration file and how to set it.
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] window is as follows:

1. Set the various basic information items for the template information.

2. Click the [Next] button.

   The [Configure] window is displayed.

P Point

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- 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.

- Once an L-Platform has been created, it is not possible to change items that have the maximums of the following values specified:

  - Maximum number of segments

  - Maximum number of L-Servers

  After an L-Platform has been created, when performing operations to add resources, specify values considering the number of resources being added

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8.4.4.2 Configure Window

Configure the composition of various elements using the [Configure] window.

The [Configure] window is shown below.

Figure 8.6 [Configure] window
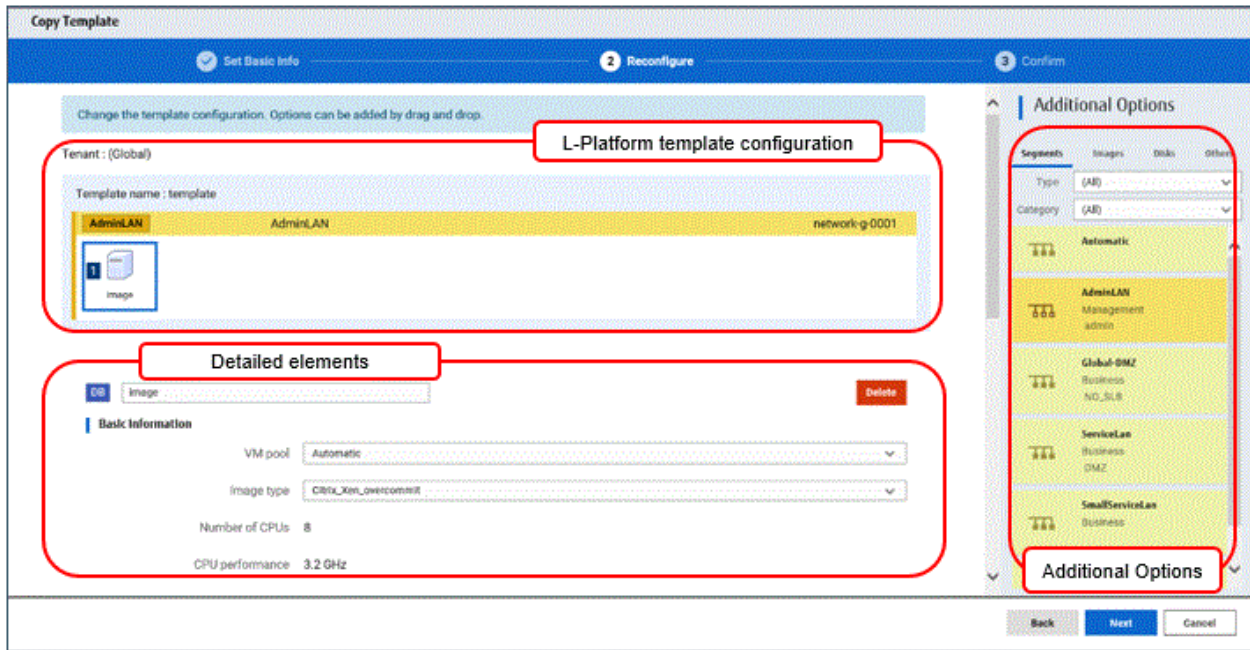
Window Explanation

The following explains the [Configure] window:

Pane name	Explanation
L-Platform template configuration	Top of the window; displays the configuration of an L-Platform template. The displayed elements are firewall, segments, server load balancer, servers (images), and disks.
Additional Options	Right side of the window; lists the elements (segments, images, disks, and server load balancer) that can be added to "L-Platform template configuration". The listed elements can be added to the L-Platform template configuration by dragging and dropping them to "L-Platform template configuration". To add a disk to the virtual server or physical server, drag from the list displayed in the [Disk] tab of [Additional Options] and drop it here.
Detailed elements	Lower part of the window; displays details about the elements selected in "Configuration of an L-Platform template" and enables their content to be edited. Click [Delete] button to enable elements to be deleted from "L-Platform template configuration". Click the [Add NIC] button to add NICs. The [Add NIC] button is enabled only when NICs can be added. Click the [🗑] button to delete the target NICs.

Icons displayed in the "L-Platform template configuration" are as follows:

Icon	Explanation	Icon	Explanation
	Virtual server without data disks		Virtual server with a single data disk
	Virtual server with multiple data disks		Physical server without data disks

Icon	Explanation	Icon	Explanation
	Physical server with a single data disk		Physical server with multiple data disks
	NIC of a Virtual server		NIC of a Physical server
	Grouped NICs		Firewall
	Server Load Balancer (SLB)		

The icons to indicate NICs or servers that are targets for server load balancer (SLB) distribution when the SLB displayed on the "L-Platform template configuration" is selected are as shown below.

The following examples show a virtual server NIC and a virtual server with a single data disk. There are similar icons for various other NICs and servers.

Icon	Explanation	Icon	Explanation
	Virtual server NIC for SLB distribution		Virtual server, with a single data disk, for SLB distribution

Icons displayed in [Additional Options] area are as follows:

Icon	Explanation	Icon	Explanation
	Virtual image information without data disks		Physical image information without data disks
	Virtual image information with data disks		Management segment
	Business segment		Management segment with admin LAN allocated
	Disconnected disk		Connected disk
	Server Load Balancer (SLB)		

Information

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Hover the mouse over the icons displayed in [Additional Options] to check details about the image information, such as the name, OS, segment name, disk name, label, and comments.
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Explanation of Items (Connection Destination)

If an external connection destination is set in the L-Platform template, the connection destination is displayed as an icon.

Explanation of Items (Firewall)

This section explains the items displayed in "Detailed elements" if a firewall was selected in "L-Platform template configuration".

Item name	Explanation
Firewall name	Enter up to 32 bytes (an ASCII character string excluding [,], <, >, &, ", and ') for the firewall name.
Ruleset	Displays the name of the ruleset.
Description	Displays the ruleset description.

![Note icon] **Note**

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When deploying a firewall, images for VDI coordination are not supported.

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Explanation of Items (Firewall Parameters)

Click [Setting] for firewall to display the [Set firewall parameter] window.

A list of parameters defined in the ruleset is displayed in the [Set firewall parameter] window.

Pane location	Item name	Explanation
Top	Selected ruleset	Displays the name of the ruleset.
	Description	Displays the ruleset description.
Middle	Segment/Server	The names of the segments or servers are displayed where the parameters are enabled. "-" is displayed for parameters unrelated to the segment or server.
	Parameter	Displays the names of the parameters.
	Description	Displays the parameter descriptions.
	Value	Enter the value to be set for the parameter.
Bottom	Description of the selected parameter	The description of the parameter in the row being pointed at is displayed.

Explanation of Items (Segments)

This section explains the items displayed in "Detailed elements" if a segment was selected in "L-Platform template configuration".

Item name	Explanation
Segment name	Enter up to 20 bytes (an 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. If a maximum number of NICs in an L-Platform template has been specified in a configuration file, that value will be the maximum. However, for segments defined in the firewall, the upper limit is the value specified in the firewall ruleset. If multiple NICs of the same server were connected to the same segment, each NIC is counted as one server.

Item name	Explanation
	It is not possible to change the maximum number of NICs after an L-Platform has been created. After an L-Platform has been created, when performing operations to add servers or NICs to segments, specify values considering the number being added.
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 ruleset.

📖 **Information**

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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.

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Explanation of Items (Server Load Balancer)

This section explains the items displayed in "Detailed elements" if a server load balancer was selected in "L-Platform template configuration".

Item name	Explanation
Server load balancer name	Enter up to 32 bytes (an ASCII character string excluding [,], <, >, &, ", and ') for the server load balancer name.
Deployment ruleset	When using a server load balancer using a ruleset, displays the name of the selected ruleset. Select rulesets in the [Select SLB ruleset] window. The [Select SLB ruleset] window is displayed when a server load balancer is added or when [Select ruleset] button is clicked to change a specified ruleset.
Description	Displays the description of the selected ruleset.

Explanation of Items (Server Load Balancer Parameters)

When [Parameter details] button is clicked, the [SLB Parameter Detail] window for the server load balancer is displayed.

A list of parameters defined in the ruleset is displayed in the [SLB Parameter Detail] window.

Pane location	Tab name	Item name	Explanation
Top	-	Selected ruleset	Displays the name of the ruleset.
		Description	Displays the ruleset description.
Middle	[SLB]	Parameters that do not depend on the server are displayed. The following items are displayed.	
		Parameter	Displays the parameter labels.
		Description	Displays the parameter descriptions.
		Value	The value to be set for the parameter is displayed.
	[Server]	Server-specific parameters are displayed. The following items are displayed.	

Pane location	Tab name	Item name	Explanation
		Server name	The names of the servers are displayed where the parameters are enabled. "-" is displayed for parameters unrelated to the server.
		Parameter	Displays the parameter labels.
		Description	Displays the parameter descriptions.
		Value	The value to be set for the parameter is displayed.
Bottom	-	Description of the selected parameter	The description of the parameter in the row being pointed at is displayed.

Note

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- Only one server load balancer can be deployed to each segment.

- If you use a firewall using a ruleset, you must choose the ruleset which supports server load balancers, otherwise server load balancer cannot be deployed.

- Segment identifier information must be set when a server load balancer is to be deployed in a segment.
  The server load balancer cannot be deployed if the segment has segment identifier information that does not match the Segment Type (segment identifier) set in the parameter file of the ruleset of the server load balancer to be used. If this happens, check that the segment identifier information in the segment information has been set correctly.

- With automatic selection segments, segment identifier information is empty initially. Therefore, when deploying a server load balancer to an automatic selection segment, before deploying the server load balancer, set a name that matches the Segment Type (segment identifier) set in the parameter file of the ruleset to be used.

- If the ruleset for building the server load balancer is undefined, the ruleset is not displayed in the [Select SLB ruleset] window. If this happens, click the [Cancel] button to close the [Select SLB ruleset] window.

- When deploying a server load balancer, images for VDI coordination are not supported.

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Explanation of Items (Images)

This section explains the items displayed in "Detailed elements" if an image was selected in "L-Platform template configuration".

Item name	Explanation
Server name	Enter up to 85 characters (excluding [,], <, >, &, ", and ') for the server name
VDI pool	For an image for VDI coordination, specify the VDI pool that the server will belong to after deployment. Specification is only possible for images for VDI coordination.
VM pool	Select the VM pool resource that is the server deployment destination. This can also be changed at the time of deployment.
VM Host	Select the VM host resource that is the server deployment destination. Select from the resources registered in the pool selected in the VM Pool section. This can also be modified during deployment. It can be selected when the server virtualization software is VMware or OVM for SPARC. In order to display this item, it is necessary to modify the system settings. For details on how to modify the settings, refer to "9.16 Setting the VM Host and Virtual Storage Specification Functions" in the "Setup Guide CE".
Storage pool	Select the storage pool resource that is the server deployment destination. This can also be changed at the time of deployment.

Item name	Explanation
	Note that when the server virtualization software is OVM for x86, this is set to [Automatic] and cannot be changed during deployment.
Virtual Storage	Select the virtual storage resource that is the server deployment destination. Select from the resources registered in the pool selected in the Storage Pool section. This can also be modified during deployment. It can be selected when the server virtualization software is VMware. In order to display this item, it is necessary to modify the system settings. For details on how to modify the settings, refer to "9.16 Setting the VM Host and Virtual Storage Specification Functions" in the "Setup Guide CE".
Image type	Selects the registered L-Server template that will be selected by default. L-Server templates with different cloning images and server virtualization products are not displayed.
System Disk	Specify the disk resource used for the system disk if the server virtualization software is OVM for SPARC, or if the server virtualization software is RHEL-KVM and the image location type of the cloning image is "Raw Disk". This can be modified during deployment too. The disk resource can be automatically selected according to the size of the system disk, or the disk resource can be directly selected. To make the settings, click the [Change] button to open the [Disk resource specification] window. - When you specify a disk resource according to the size of the system disk: A disk resource with a size larger than the size of the system disk is selected automatically. Select the [Specify by the size of the disk] option and specify a storage pool. A disk resource is selected from amongst those on the selected storage pool. If storage pool value is Automatic, then a disk resource is selected from amongst the available storage pools. - When you specify a disk resource directly: Directly specify the disk resource to be used. After selecting the [Specify by the resource name] option, select the disk resource from the list.
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)

This section explains the items displayed in "Detailed elements" if an image was selected in "L-Platform template configuration".

Item name	Explanation
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 - When the server virtualization software of the server to which the data disk is added is OVM for x86, "Automatic" is set for the storage pool and this cannot be changed during a deployment.
Virtual Storage	Select the virtual storage resource that is the data disk deployment destination. Select from the resources registered in the pool selected in the Storage Pool section. This can also be modified during deployment. It can be selected when the server virtualization software is VMware.

Item name	Explanation
	In order to display this item, it is necessary to modify the system settings. For details on how to modify the settings, refer to "9.16 Setting the VM Host and Virtual Storage Specification Functions" in the "Setup Guide CE".
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] window operations:

1. Select the tab (Segment, Image, Disk, or Others) for the element to be added in [Additional Options].

2. Drag and drop the element to be added to "Configuration of an L-Platform template" and add it to the template information.

   The relationship between the elements to be added and the information that can be dragged and dropped is shown below:

Table 8.3 Relationship between elements to be added and information that can be dragged and dropped

Element to be added	Drag and drop information
Segment	Template
Image	Segment
Disk	Image
Server Load Balancer	Segment

 Note
. . . .

- When the element to be added is an image, the only segments that can be dropped in an image created from a physical L-Server are control segments.

- Existing disk is available for the following images:

   - An image created from a physical L-Server

   - An image of an L-Server template whose server virtualization software is RHEL-KVM or OVM for SPARC

- It is not possible to add a new disk or an existing disk to an image whose L-Server template server virtualization software is Solaris zone.

- It is not possible to add an existing disk to an image whose L-Server template server virtualization software is OVM for x86 or Citrix XenServer.

- It is not possible to drop an existing disk that has already been attached to another server to an image whose L-Server template server virtualization software is OVM for SPARC.

- Disks cannot be added or deleted from cloning images that include data disks.
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3. Select the element to be added and edit it.

4. To delete the element, click [Delete] button in "Detailed elements".

5. To add an NIC to an image, select the image in "L-Platform template configuration" and click [Add NIC] button in "Detailed elements". To delete an NIC from an image, select the NIC in "L-Platform template configuration" and click [Delete NIC] button in "Detailed elements".

6. To group NICs on the physical server, select the physical server image or the NICs in "L-Platform template configuration" and click [Create NIC Group] in "Detailed elements". To ungroup NICs, select the grouped NICs in "L-Platform template configuration" and click [Delete NIC Group] in "Detailed elements".

7. Click the [Next] button.

   The [Confirm] window is displayed.

Information

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.

- Virtual or physical image information is added to the template information when an NIC is allocated.

- When the server virtualization software is OVM for SPARC, IP addresses are set only to the NICs that are connected to admin LAN when you deploy a server whose guest OS is Solaris 11. It is therefore recommended that you connect the NIC to the admin LAN.
  If a deployed server is not connected to admin LAN or a Resource Orchestrator system configuration does not enable tenant user or tenant administrator to access admin LAN, you need to set IP addresses and default gateway to a deployed server via console of the server virtualization software.

- If the server virtualization software is OVM for SPARC or Solaris zone, deployed servers are configured to disable direct root ssh login, and so tenant users cannot log in to the deployed servers. To solve this issue you need to configure the server to enable direct root ssh login.

- It is possible to register L-Platform templates with no servers defined.
  It is also possible to register L-Platform templates with no segments defined.
  When applying for a subscription to an L-Platform using an L-Platform template with no servers defined, it is necessary to add at least one server before deployment.
  When applying for a subscription to an L-Platform using an L-Platform template with segments defined, it is necessary to add at least one segment and one server before deployment.
  When using an L-Platform template with no servers defined or an L-Platform template with no segments defined, register at least one image information that has been published. Otherwise, it is not possible to apply for a subscription to an L-Platform which uses an L-Platform template with no servers defined or an L-Platform template with no segments defined because no images are displayed in [Additional Options] - [Server] in the reconfiguration window displayed when subscribing to the L-Platform.

8.4.4.3 Confirm Window

On the [Confirm] window, 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] window is as follows:

1. Check whether the displayed content is valid.

   If it is invalid, go back clicking 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 List] window is displayed.

Note

When the [Template List] window is displayed, all the following items are reset:

- Tenant and keyword filtering

- Sorting

- Windows

- Selected states

Chapter 9 L-Platform

This chapter explains how to manage L-Platforms and display the event logs.

9.1 Overview of L-Platform Management

Use the [L-Platforms] tab of the ROR console to manage L-Platforms and display the event logs.

The following section explains the menus displayed on the [L-Platforms] tab:

- L-Platform

  Select the [L-Platforms] in the menu, displays a list of L-Platforms.
  Select a deployed L-Platform from the list of L-Platforms and perform management of that L-Platform. Refer to "9.2 L-Platform Management" for information on the L-Platform management method.

- Server
  Select the [Server] in the menu, displays a list of servers. Select a server to display L-Platform details.
  For information on the L-Platform management method, refer to "9.2 L-Platform Management".

- Event logs
  Select the [Event Logs] in the menu, logs of the information regarding errors that occurred while using the functions on the [L-Platforms] tab are displayed.
  Refer to "9.3 Display Event Logs" for information on the event log display method.

Note

- If it becomes impossible to connect by the admin server stop and etc. when the [L-Platforms] tab is being operated, the icon 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.

  Example of message display

    - Failed to get system configuration.

    - Failed to get the access right.

- Usually, the Infrastructure Administrator cannot subscribe to L-Platform, but dual-role administrators can subscribe.

  Refer to "Appendix B Applying (Subscribe) for L-Platform Usage by Dual-Role Administrators" for details.

9.2 L-Platform Management

This section explains the management method of L-Platform templates that are in use, when using the [L-Platforms List] window or the [Server List] window.

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.

To display a list of the L-Platforms that are in use, select the [L-Platform] on the menu.

The following L-Platform operations can also be performed:

- L-Platform detailed information display

9.2.1 L-Platform Display Formats

This section describes the display format of the [L-Platform List] and [Server List] screens.

The available display formats are shown below:

Display format	Description
L-Platform List	Displays the L-Platform configuration images in a list
L-Platform List (list)	Displays the L-Platform list
Server List	A complete list of all deployed servers is displayed. You can refine the result to display only servers at the stopped or the abnormal state.

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 window.

Examples of each display format are shown below:

- L-Platform List

    Click [L-Platform] in menu to display the list of L-Platform with their configuration image.
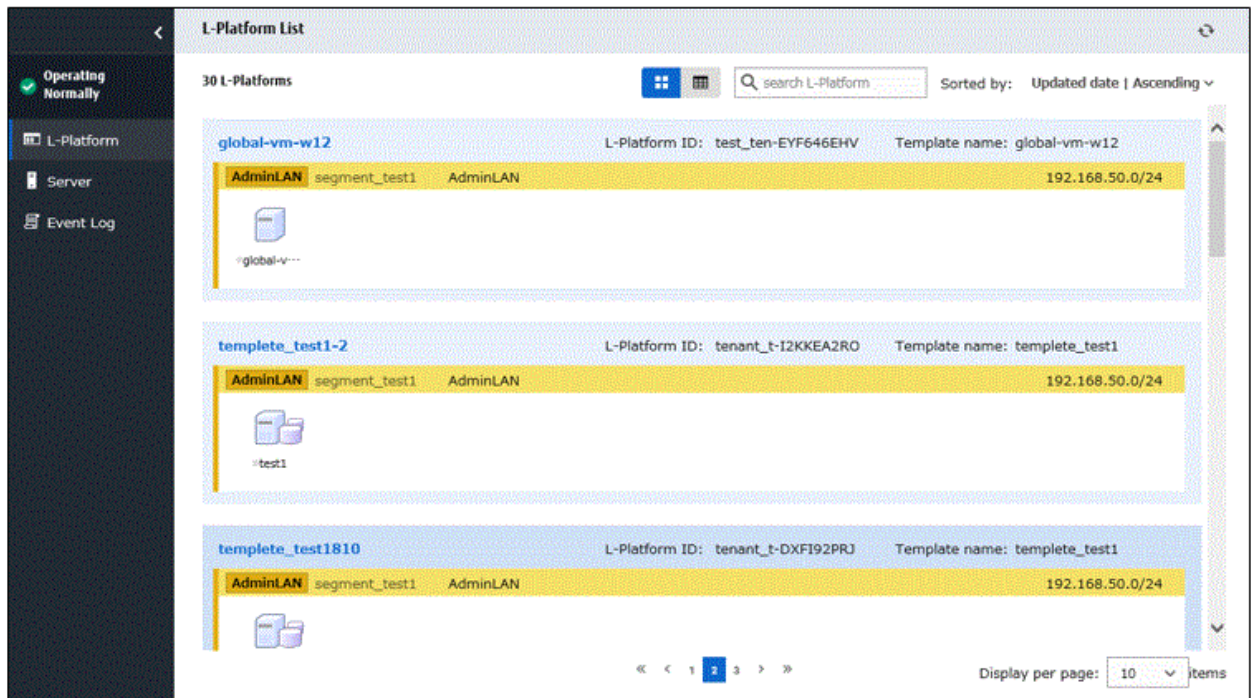
The following information can be checked on the [L-Platform List] window:

- L-Platform name: The L-Platform name set during L-Platform subscription

- L-Platform ID: The ID that identifies the L-Platform

- Template name: The name of the L-Platform Template

- L-Platform configuration: The L-Platform configuration image

L-Platform can be displayed in ascending or descending order based on the following items selected in [Sorted by].

- Update date

- L-Platform name

- L-Platform ID

- Tenant

- Template name
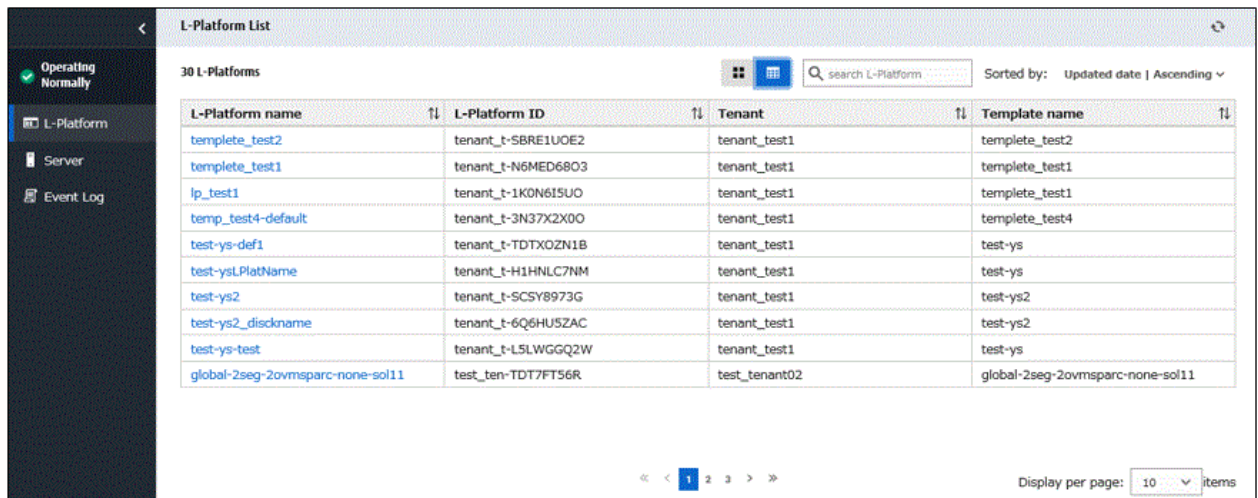
P Point
. . . .

From [L-Platform List] window, click the name of an L-Platform to display the detail information.

Refer to "9.2.2 L-Platform Detailed Information Display" for information on displaying the L-Platform details.
. . . .

- L-Platform List (list)

  Click [L-Platform] in menu, and then click the button ( ) on the top right hand side of the window to display a list of information

  on the L-Platforms.

  The following information can be checked on the [L-Platform List (list)] window.

  - L-Platform name: The L-Platform name set during L-Platform subscription

  - L-Platform ID: An ID to identify the L-Platform

  - Tenant: Identification name for the organization

  - 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) or Sorted by.

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Clicking the L-Platform name, details on the L-Platform can be displayed on the [L-Platform List (list)] window. Refer to "9.2.2 L-Platform Detailed Information Display" for information on displaying the L-Platform details.
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- Server List
  Selecting [Server] in the menu displays a list of information on servers included in an L-Platform.

The following shows an example of all servers being displayed. Select [Stop] in the upper right pull-down menu to display servers which have been stopped.

The following information can be checked on the [Server List] window.

- Status: Server status (Running, Stopped, Starting, Stopping, Deploying)

- 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

- Task: the current operating status for the specific server(Cloning, Snapshot, etc.)

- Number of snapshots: Number of snapshots or number of executed backups

- Action: a pull-down menu with available operations for the specific server.

The sequence of the servers displayed can be switched between ascending order and descending order by clicking the column headers.

🅿 Point

The following operations can be performed on the [Server List] window.

- Server name link button: Display details on an L-Platform or a disk.
  Refer to "9.2.2 L-Platform Detailed Information Display" for information on displaying L-Platform details.

- You can specify the servers to be displayed by clicking the upper right pull-down menu for the following items:

- (ALL): All servers are displayed.

- STOP: Servers which have been stopped are displayed.

- ERROR: The server whose task is failover displays.

📑 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.

📖 Information

For a dual-role administrator, the [All Tenants operation] button is displayed.
Refer to "Appendix C Tenant Operation by Dual-Role Administrators" for details.

## 9.2.2 L-Platform Detailed Information Display

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

1. Display the [L-Platform List], or the [Server List] window.
   Refer to "9.2.1 L-Platform Display Formats" for information on how to display the window.

2. Click the link of the target L-Platform or server.
   The [L-Platform Details] window will be displayed.

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

   - L-Platform configuration image

     By clicking the button (⬡) located on the top right hand side of the window, the L-Platform configuration is displayed as an
     image.
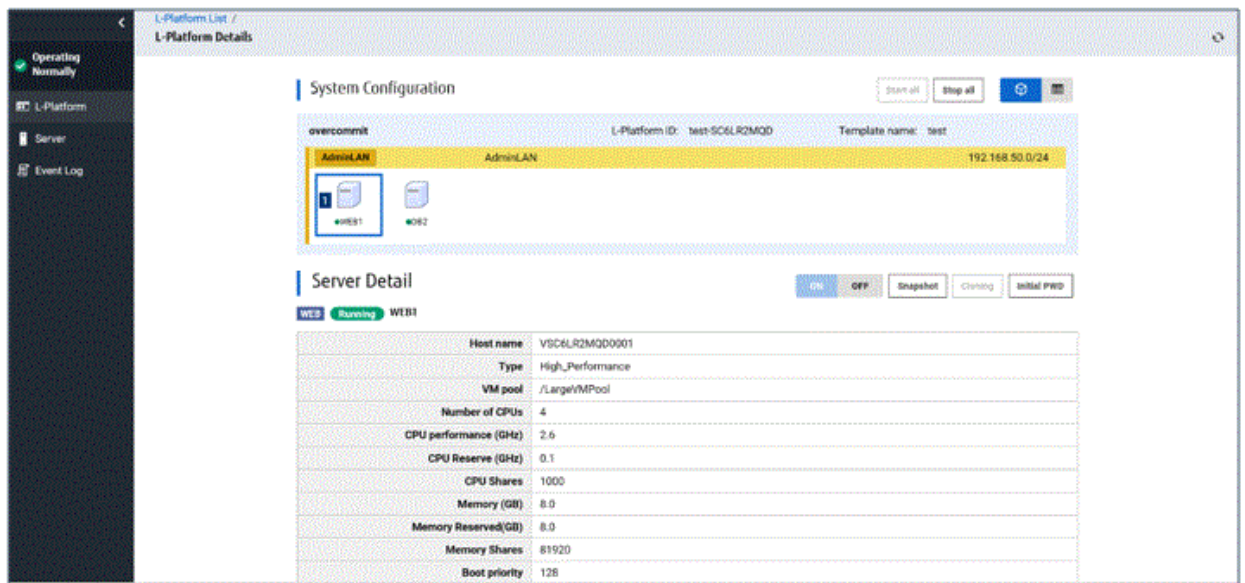
Icons displayed in the [L-Platform Details] window are as follows.

Icon	Explanation	Icon	Explanation
	Virtual server without data disks		Virtual server with a single data disk
	Virtual server with multiple data disks		Physical server without data disks
	Physical server with a single data disk		Physical server with multiple data disks
	NIC of a Virtual server		NIC of a Physical server
	Grouped NICs		Firewall
	Server Load Balancer(SLB)		

Icons displayed in the [L-Platform Details] window to indicate server statuses are shown below.
The power status is displayed using color to the left of the server name.

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

The table below describes the icons that indicate NICs or servers that are targets for server load balancer (SLB) distribution when the SLB displayed on the [L-Platform Details] window is selected.
The following examples show a virtual server NIC and a virtual server with a single data disk. There are similar icons for various other NICs and servers.

Icon	Explanation	Icon	Explanation
▸▸ 🖧	Virtual server NIC for SLB distribution	▸▸ 🗄	Virtual server, with a single data disk, for SLB distribution

- Server List

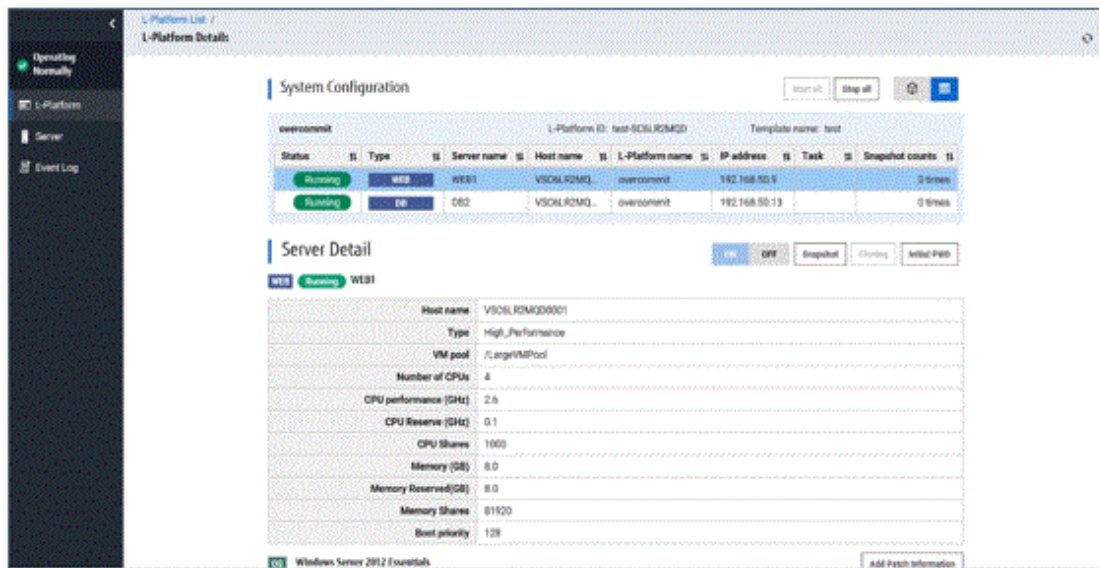 By clicking the button (▦) located on the top right hand side of the window, a list of all virtual servers included in the L-Platform is displayed. The server List also displays the extended disks included in the virtual servers.

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The following buttons can be used on the [L-Platform Details] window:

- [Software Details] button: Display software information

- [Initial PWD] button: Confirm the initial password
  Depending on the L-Platform settings, the "Initial password is "*Initial password*"". Sometimes it is displayed as ".
  The initial password is set after L-Platform deployment.
  When all the following conditions are satisfied, "The Root role password is "Root role password"." is displayed.

  - The server virtualization software is Solaris Zones

  - The OS of the virtual server is Solaris 11

- The administrator user name is a value other than that of the root account

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🛈 Note

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- For physical servers, the number of CPUs, operating frequency, and memory size displayed are those specified by the user during the L-Platform subscription or when adding a server as part of an L-Platform reconfiguration.
  For physical servers added to the L-Platform, the values in effect during registration are displayed.
  For this reason, even if the number of CPUs, operating frequency, and memory size are changed, the displayed values will not change.

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9.3 Display Event Logs

Event logs of the errors that occurred while using the functions of the [L-Platforms] tab can be displayed on the [Event Log] window.

Follow the steps below to display event logs:

1. Select [Event Log] in the menu.
   A list of event logs will be displayed.

The [Event log] window displays up to 100 events and each event is displayed until the same date of the next month from the date it occurred. If the same date does not exist in the next month, the event is displayed until the last date of the next month.

Refer to "Chapter 19 Messages Starting with VSYS" in "Messages" for information on the messages displayed in the event log.

🅿 Point

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CSV output

When the [Save as CSV] button located at the bottom left of the window is clicked, a browser standard file download dialog is displayed where the event logs can be saved as a CSV file.
The default CSV file name format is shown below. This file name can be modified as necessary.

```
event log_<date> + .csv
```

. . . .

Chapter 10 Request

This chapter explains how to operate the application list.

🔷 Note

- - The application list is enabled 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

10.1 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 [Requests] 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 [Assess] as the activity name.

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.

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: - Approval waiting - Approved - Approved (Error) - Rejected - _ (*1)
	Assess	One of the following responses will be displayed: - Approval waiting - Accepted - Accepted (Error) - Dismissed - _ (*1) - Blank (*2)
	Pending	One of the following responses will be displayed: - Pending - Cancel - _ (*1) - Blank (*2)
	Cancel	One of the following responses will be displayed: - 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 ' ApproverOnly' and 'JudgeOnly'

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				

10.2 Assessing an Application

If the requirement to be assessed is set for an application process, the Infrastructure Administrator assesses applications from Tenant Administrators and tenant users.

Point

Refer to "Appendix D Emails Sent during L-Platform Operations" for information on the email sent when an application process is assessed.

Perform the following steps to assess an application process:

1. Click the URL given in the assessment request email. Alternatively, login to the ROR console and select the [Requests] 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 assessed 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.

   ## 🖰 Note

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   The task activity "Reservation" is displayed in the following two cases. If there are tasks with the activity name "Reservation", refer to "If an L-Platform management function error occurs" and take action on the reserved process instances.

   - If the requirement to be assessed is set for an application process and an error occurred for an L-Platform management function during assessment reception processing

   - If the requirement to be assessed is not set for an application process and an error occurred for an L-Platform management function during the granting approval process

   ∙∙

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 [Assess] tab.

   If required, enter a comment in [Assessment comment].

6. Click either the [0: Accept] button or the [1: Dismiss] button on the [Make Choice] panel.

   Click the [0: Accept] button to start the requested processing.
   If an error then occurs during acceptance processing, an error notification email is sent to the Infrastructure Administrator.
   If the [1: Dismiss] button is clicked, a dismissal email is sent to the subscriber.
   If the application process has been set to either approving or assessing, a dismissal email is also sent to the approver.

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Usage fees checks

Estimated price for the L-Platform will only be displayed when the accounting display settings are 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

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📝 Note

- If the [0: Accept] button or the [1: Dismiss] 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.

- The task activity name changes to "Reservation" if an L-Platform management function error occurs during application assessment. Refer to "If an L-Platform management function error occurs" and take action on the reserved process instances.

- When assessing 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.

If an L-Platform management function error occurs

1. Take action on the reserved process instances.

   Click the URL given in the error notification email. Alternatively, login to the ROR console and select the [Requests] tab.

2. Select the process instance task, and then click the [Details] tab.

3. 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.

4. Select the [Pending] tab.
   Refer to the content displayed at [Error Content] and resolve the error as appropriate.
   Enter a comment in [Cancellation comment].

5. Click the [0: Cancel] button on the [MakeChoice] panel. An application cancellation email is sent to the subscriber

Note

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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.

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Chapter 11 Tenant

This chapter explains how to manage tenants.

11.1 Overview of Tenant Management

Tenants, users, and L-Platform information and set accounting condition can be managed using the [Tenants] tab of the ROR console.

This section provides an overview of tenant management.

Tenant management windows

The table below shows a list of the [Tenants] tab

Classification	Window	Explanation
Tenant management	Tenant List	Displays all the tenants managed by this product
	Create Tenant	Creates a new tenant
	Modify Tenant	Modifies the selected tenant information
	Delete Tenant	Deletes the selected tenant (multiple selections possible)
User management	User List	Displays a list of users of the selected tenant
	Register User	Adds a tenant user
	Modify User	Modifies the selected user information
	Delete User	Deletes the selected user (multiple selections possible)
	Move User	Moves the selected user (multiple selections possible) to a different tenant
	Change User Password	Changes the password for the selected user
L-Platform management	L-Platform List	Displays a list of L-Platforms of the selected tenant
	Change Owner	Changes the ownership of the selected L-Platform (multiple selections possible) to a different user
	Move L-Platform	Moves the selected L-Platform (multiple selections possible) to a different tenant

📋 Note

- When performing user management operations, ensure that there are one or more Tenant Administrators in a tenant after modification.

- When performing L-Platform management operations, stop access from the tenant side by isolating the network, or similar, so that inconsistencies do not arise in L-Platform use and cancellation.

- Tenant management does not use e-mail for notifications. When user registration or other operations have been performed, notify the relevant user and the Tenant Administrator of the necessary information.

- Depending on the user list display settings, the Tenant Administrators may be displayed in the user list, and tenant users may not be displayed. The System Administrator sets the user list display settings.

- When using Single Sign-On authentication, 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

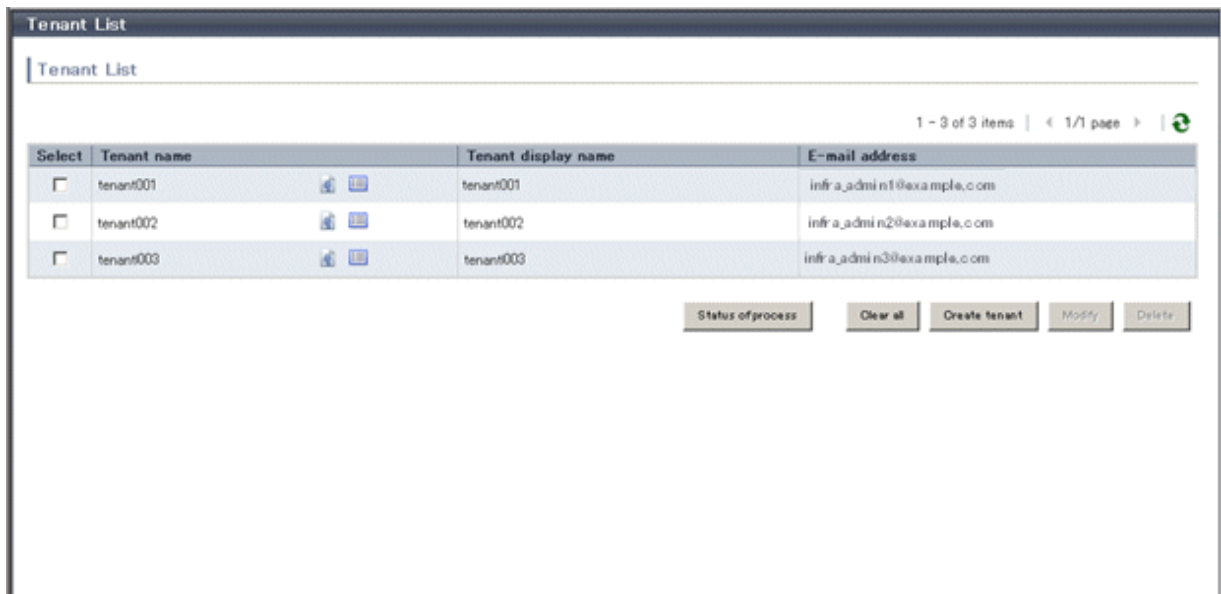Use the following method to display the tenant management windows:

- Select the [Tenants] tab on the ROR console.

11.2 Displaying a Tenant List

A list of the tenants managed by this product can be displayed from the [Tenant List] window.

Perform the following steps to display the tenant list:

1. Select the [Tenants] tab on the ROR console.
   The [Tenant List] window is displayed.

Item	Explanation

Tenant List	The following tenant information is displayed in a list:
	
	  - Tenant name
	
	  - Tenant display name
	
	  - E-mail address
	
	When the following icons are clicked, the window corresponding to the tenant is displayed:
	
	  - : The User List window displays the list of users belonging to the tenant
	
	  - : The L-Platform List window displays the tenant's L-Platforms

[Status of process] button	Displays the Status of process window to check the status of tenant creation, modification, and deletion processes performed during the current login.
[Clear all] button	Removes the selected state from all items in the list.
[Create tenant] button	Displays the Create Tenant window to create a new tenant.
[Modify] button	Displays the Modify Tenant window to modify the information of the selected tenant. This operation is possible only when one tenant is selected.
[Delete] button	Displays the Delete Tenant window to delete the selected tenant. This operation is possible only when one or more tenants are selected. A maximum of 100 tenants can be selected at one time.

2. To display the most recent information, click the ⟳ icon.

When the [Status of process] button is clicked, the [Status of process] window is displayed as a separate window and the status of tenant creation, modification, and deletion processes performed during the current login can be checked.

The items in the [Status of process] window are shown below.

Item	Explanation
Operation	Displays the performed operation. One of the following operations is displayed: - Create - Modify - Delete
Status	Displays the process status. The displayed status is one of the following: - Completed - Running - Failed
Tenant name	Displays the name of the tenant targeted by the process
Start date	Displays the time and date when the process was requested
End date	Displays the time and date when the process was completed
Error message	If the process failed, displays the cause of the failure

11.3 Creating a Tenant

The [Create Tenant] window can be used to create a new tenant.

Perform the following steps to create a tenant:

1. Click the [Create Tenant] button on the [Create Tenant] window.
   The [Create Tenant] window is displayed.

2. In the [Create Tenant] window, specify the information for the tenant being created.

Item		Explanation
Tenant name		Specify the name of the tenant being created. Specify a character string of up to 32 characters consisting of single-byte alphanumerics, hyphens (-), and underscores (_), and starting with a single-byte alphanumeric. Specify a tenant name that is unique within the system. Do not specify "cfmgadm". If a tenant name is not entered, it is generated automatically during registration.
Tenant display name		Specify the display name of the tenant being created. Specify a character string of up to 30 characters. The display name is the name displayed on the use status window and other windows. This specification is mandatory.
E-mail address		Use up to 64 characters to specify the e-mail address or mailing list of the administrator of the tenant being created.
Select Global Pools		Select a global pool that can be used from the tenant being created. Multiple global pools can be selected, and there is no upper limit to the number that can be selected. Note that in the initial window, all global pools are selected. Click the [Clear all] button to remove the selected state from all global pools. Click the [Select all] button to select all global pools.
	Pool name	Displays the resource pool name.
	Pool type	Displays the resource pool type. The resource pool types are as follows: - VM pool - Server pool

Item		Explanation
		- Storage pool
		- Network pool
		- Address pool
		- Image pool
	Priority	Displays the resource pool priority when resources are selected automatically during L-Server creation. An integer from 1 to 10 is displayed, with smaller values indicating a higher priority.
Accounting		Enter information related to tenant charges. The input area is displayed only if usage charge calculation is enabled. Refer to "8.7.4 Usage Charge Calculator Settings" in the "Operation Guide CE" for information on configuring the usage charge calculation function.
	Cut off date	Specify the day for monthly closing processing. Specify between "1" and "31". "31" indicates the day ending the period.
	Accounting E-mail address	Specify the email address to send the usage charges.
Application process		Enter information related to application processes. The input area is displayed only if Application process function is "Enable" setting is used for the global settings.
	Global setting/ Unique setting	Select whether to use the global settings or unique setting. "Global setting" is selected by default. Clicking [Global setting] displays the Global setting dialog box. Refer to "Step 1 Application Process" in the "3.1 Setup Wizard" for information on the global settings.
	L-Platform subscription	Select whether approval is performed by the tenant administrator or assessment is performed by the infrastructure administrator. Approval/assessment settings will be displayed only if "Unique setting" is selected. The same settings as global settings are selected by default.
	L-Platform reconfiguration	
	L-Platform cancellation	

Point

The Email address item in the preceding table is used as the destination to notify the following Tenant Administrator operations:

- User registration

- User modification

- User deletion

- User password change

The operations for tenant users can be monitored by specifying the e-mail address of Infrastructure Administrator or tenant representative.
The changed password is notified in user password change, so specify the reliable email address.
The Destination email address item of the preceding table is used to send usage charges that are calculated from L-Platform usage and accounting information.

> 🔶 **Note**
>
> ....
>
> - When Solaris Zones are being used and when one of the following applies, do not specify strings starting with "SUNW" for the tenant name:
>
>   - When the server ID is to be used in the L-Server name as the method for setting resource names
>
>   - When the host name is to be used in the L-Server name as part of a resource naming convention, and the host name setting for the virtual server is to use the tenant name and a serial number
>
> - When "tenant name + serial number" is used in the host name setting of the virtual server, specify tenant names using alphanumeric characters and hyphens. Tenant names consisting solely of numbers are not allowed.
>
> Refer to "9.4 Setting the Host Names for Virtual Servers" in the "Setup Guide CE" for information on the host name setting for the virtual server. Refer to "9.5 Setting the Method for Setting Resource Names" in the "Setup Guide CE" for information on resource naming conventions.
>
> ....

3. Click the [Confirm] button.
   The confirmation window is displayed.

4. Check the tenant information, and then click the [Create] button.
   The completion window is displayed.

5. Click the [Back to Tenant List] button to return to the [Tenant List] window.

11.4 Modifying a Tenant

The [Modify Tenant] window can be used to modify tenant information.

Perform the following steps to modify tenant information:

1. In the [Tenant List] window, select the tenant to modify, and then click the [Modify] button.
   The [Modify Tenant] window is displayed.

2. In the [Modify Tenant] window, edit the value of the item being changed.

Item		Explanation
Tenant name		Displays the tenant name. The tenant name cannot be changed.
Tenant display name		Specify the tenant display name. Specify a character string of up to 30 characters. This specification is mandatory.
E-mail address		Use up to 64 characters to specify the e-mail address or mailing list of the Tenant Administrator.
Select Global Pools		Selects or deselects the global pools that can be used from the tenant. Multiple global pools can be selected, and there is no upper limit to the number that can be selected. Click the [Select all] button to select all global pools. Click the [Clear all] button to remove the selected state from all global pools.
Accounting		Enter information related to tenant charges. The input area is displayed only if usage charge calculation is enabled. Refer to "8.7.4 Usage Charge Calculator Settings" in the "Operation Guide CE" for information about configuring the usage charge calculation function.
	Cut off date	Specify the day to be used for monthly closing processing from the next time. Specify between "1" and "31". "31" indicates the day ending the period. Changes will take effect the month after the monthly closing processing.
	Next cut off date	Date when the monthly closing processing will next be performed. This cannot be changed.

Item		Explanation
	Accounting E-mail address	Specify the email address to send the usage charges. No email is sent if this is omitted.
Application process		Enter information related to application processes. The input area is displayed only if Application process function is "Enable" setting is used for the global settings.
	Global setting/Unique setting	Select whether to use the global settings or unique settings. "Global setting" is selected by default. Clicking [Global setting] displays the Global setting dialog box.
	L-Platform subscription	Select whether approval is performed by the tenant administrator or assessment is performed by the infrastructure administrator.
	L-Platform reconfiguration	Approval/assessment settings will be displayed only if "Unique setting" is selected. The same settings as global settings are selected by default.
	L-Platform cancellation	

🔔 Note

- Ensure that there are no pending processes for the tenant when reconfiguring an application process. If there are pending processes, check with the tenant administrator if reconfiguration is allowed.
  Pending L-platforms can be checked using the listUnapprovalLplatform command (displays list of L-Platform applications). Refer to "10.11 listUnapprovalLplatform (List of L-Platform Applications)" in the "Reference Guide (Command/XML) CE" for information on the command.

- If the application process settings are changed, the settings prior to reconfiguration will be used for users already logged in.

- When using Converged Fabric virtual fabrics, only the tenant using the default VFAB can be used in a global pool with the pool type "network pool".
  For details on virtual fabrics, refer to "H.1.3 Virtual Fabrics" in the "Design Guide CE".

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 Tenant List] button to return to the [Tenant List] window.

11.5 Deleting a Tenant

The **Delete Tenant** window can be used to delete tenants. Up to 100 tenants can be deleted at once.

🔔 Note

A tenant cannot be deleted if it has users or L-Platforms.
Check in the User List window and the L-Platform List window and either move or delete any users or L-Platforms in the tenant targeted for deletion before performing this operation.

Perform the following steps to delete a tenant:

1. In the [Tenant List] window, select the tenant or tenants to delete, and then click the [Delete] button.
   The [Delete Tenant] window is displayed.

2. Check the tenants 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 icon] **Note**

....

If deletion fails for a tenant, check the cause and perform the operation again.

....
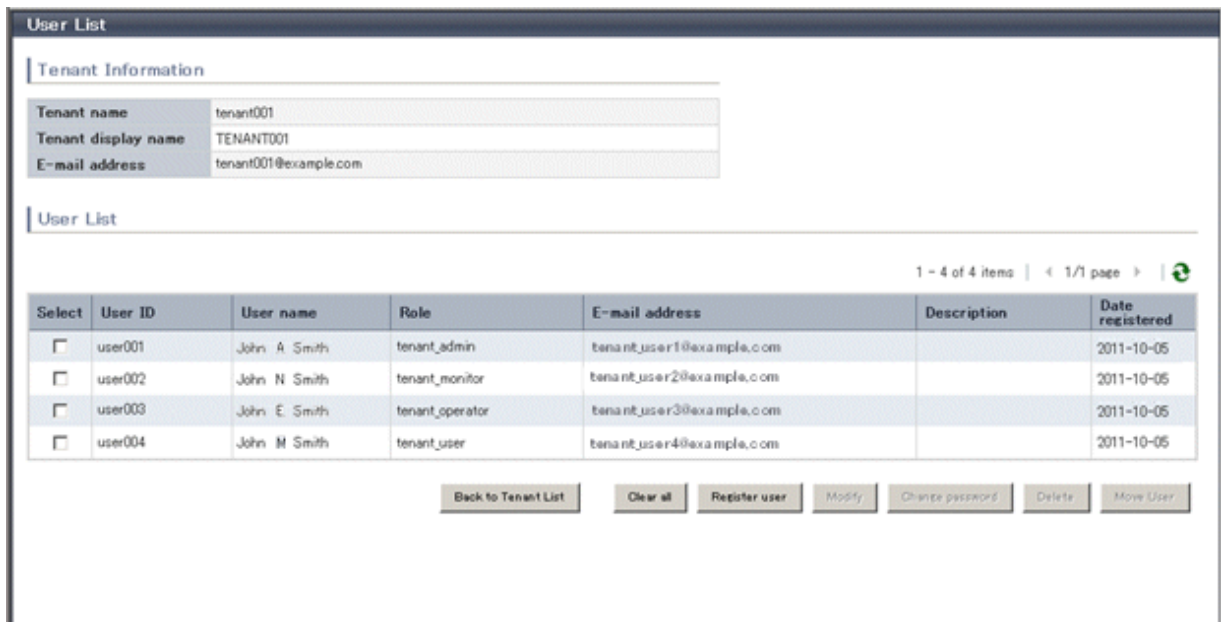
4. Click the [Back to Tenant List] button to return to the [Tenant List] window.

11.6 Displaying a User List

A list of users belonging to a selected tenant can be displayed in the [User List] window.

Perform the following steps to display a list of users:

1. In the [Tenant List] window, click the ![icon] icon of the tenant for which to display the user list.
   The [User List] window is displayed.

Item	Explanation
Tenant Information	The following information is displayed for the tenant to which the user belongs: - Tenant name - Tenant display name - E-mail address
User List	The following information is displayed in a list for the users belonging to the tenants in the tenant information: - User ID - User name - Role (*) - E-mail address - Description - Date registered

Item	Explanation
[Clear all] button	Removes the selected state from all items in the list.
[Register user] button	Displays the Register User window that is used to register a new user.
[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.
[Move User] button	Displays the Move User window that is used to move selected users to a different tenant. This operation is possible only when one or more users are selected. Up to 100 users can be selected at one time.

* Note: One of the following role names is displayed. Tenant_admin (tenant administrator), tenant_operator (tenant operator), tenant_monitor (tenant monitor), tenant_user (tenant user), or a role name created from a copy of one of these.

P 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.
. . . .

2. To display the most recent information, click the ⟳ icon.

11.7 Registering a User

The [Register User] window can be used to register a new user.

Note
. . . .

If the setting is not to register user to the directory service from this product, perform the following before registering the user in the [Register User] window:
Note that whether the user is registered from this product to the directory service is determined in the directory service operation definitions file (ldap_attr.rcxprop).
Refer to "8.6.1 Settings for Tenant Management and Account Management" in the "Operation Guide CE" for information on the directory service operation definitions file.

- Check whether the user information is registered in the directory service. Register the user information if it is not registered.
. . . .

Perform the following steps to register a new user:

1. 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 following window is an example for internal authentication.

Item	Explanation
Tenant Information	The following information is displayed for the tenant that is registering the user: - Tenant name - Tenant display name - E-mail address
User ID	[When using internal authentication, or when using the directory service provided with ServerView Operations Manager using Single Sign-On authentication] Specify the user ID. Specify a character string of 1 to 32 characters consisting of single-byte lower-case alphabetics and numerics, hyphens(-), underscores (_), and periods (.), and starting with lower case alphabet or numbers. Specify a user ID that is unique within the system. This specification is mandatory. [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 alphabetics and numerics, hyphens (-), underscores (_), and periods (.), and starting with lower case alphabet or numbers. Period cannot be used as the last character. Specify a user ID that is unique within the system. This specification is mandatory.
Description	Specify an explanation of the user's user ID.

Item	Explanation
Role	Select the role for the user you are creating. Select tenant_admin (tenant administrator), tenant_operator (tenant operator), tenant_monitor (tenant monitor), tenant_user (tenant user), or a role created from a copy of one of these. Tenant_admin, tenant_operator, tenant_monitor, or tenant_user is not displayed when the corresponding role has been deleted.
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.

📒 **Note**

. . . .

When user registration is completed, notify the user of the necessary information by e-mail or similar.

. . . .

11.8 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.

Item	Explanation
Role	Select the role of the user. Select tenant_admin (tenant administrator), tenant_operator (tenant operator), tenant_monitor (tenant monitor), tenant_user (tenant user), or a role created from a copy of one of these. Tenant_admin, tenant_operator, tenant_monitor, or tenant_user is not displayed when the corresponding role has been deleted.
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.

📖 Note
. . . .

When user modification is completed, notify the user of the necessary information by e-mail or similar.
. . . .

11.9 Deleting a User

The [Delete User] window can be used to delete users. Up to 100 users can be deleted at one time.

📖 Note
. . . .

If the users who have some L-Platforms are deleted, implement Changing an Owner for the L-Platforms.
. . . .

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.

📘 **Note**
. . . .

When user deletion is completed, notify the deleted user by e-mail or similar.
. . . .

11.10 Moving a User

The [Move User] window can be used to move users to a different tenant. Up to 100 users can be moved at one time.

Perform the following steps to move a user:

1. In the [User List] window, select one or more target users, and then click the Move User button.
   The [Move User] window is displayed.

2. In the [Move User] window, select the movement destination tenant.

Item	Explanation
Current tenant	Displays the name of the tenant to which the users currently belong
Destination Tenant	Select the name of the user movement destination tenant.
Moved User	Displays a list of the users targeted for movement

3. Click the [Confirm] button.
   The confirmation window is displayed.

4. Check the movement contents, and then click the [Move] button.
   The movement results are displayed in the completion window.

5. Click the [Back to User List] button to return to the [User List] window.

📘 **Note**
. . . .

If there are L-Platforms owned by the users targeted for movement, after the users are moved, implement Changing an Owner or Moving an L-Platform.
. . . .

11.11 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.

> 📘 **Note**
>
> ....
>
> When the user password has been changed, notify the user of the new password by e-mail or similar.
>
> ....

11.12 Displaying an L-Platform List

The [L-Platform List] window can be used to display a list of the L-Platforms in a selected tenant.

Perform the following steps to display a list of L-Platforms:

1. In the [L-Platform List] window, select the ▤ icon of the tenant for which to display the L-Platform list.
   The [L-Platform List] window is displayed.

Item	Explanation

Tenant Information	The following information is displayed for a tenant where there are L-Platforms:
	
	  - Tenant name
	
	  - Tenant display name
	
	  - Mail address

L-Platform List	The following information is displayed in list form for the L-Platforms at the tenant for which information is displayed:
	
	  - L-Platform ID
	
	  - Subscription name
	
	  - Status
	  The following character strings are used to display the L-Platform status:
	  - Normal
	  - Reconfiguring
	  - Deploying
	  - Setup
	
	  - Owner's user ID

[Status of process] button	Displays the Status of process window to check the status of L-Platform movement processes.
[Clear all] button	Removes the selected state from all items in the list.
[Change owner] button	Displays the Change Owner window that is used to change the owner of selected L-Platforms.

Item	Explanation
	This operation is possible only when one or more L-Platforms are selected. Up to 100 L-Platforms can be selected at one time.
[Move] button	Displays the Move L-Platform window that is used to move selected L-Platforms to a different tenant. This operation is possible only when one or more L-Platforms are selected. Up to 100 L-Platforms can be selected at one time.

ℙ Point

- The list displays 10 L-Platforms at one time. Click the ▶ icon to display the next 10 L-Platforms, or click the ◀ icon to display the previous 10 L-Platforms.

- L-Platforms owned by a different tenant are displayed in red in the L-Platform list.

2. To display the most recent information, click the 🔄 icon.

ℙ Point

Checking movement process status

When the [Status of process] button is clicked, the [Status of process] window is displayed as a separate window and the status of L-Platform movement processes performed can be checked.

The following shows the items in the [Status of process] window:

Item	Explanation
Operation	Displays the fixed value "Move" to indicate the operation performed
Status	Displays the process status. The displayed status is one of the following: • Completed • Running • Failed
L-Platform ID	Displays the ID of the L-Platform to be moved
Departure tenant name	Displays the name of the tenant from which the L-Platform is being moved
Destination tenant name	Displays the name of the tenant to which the L-Platform is being moved
Start date	Displays the time and date when the process was requested
End date	Displays the time and date when the process was completed
Error message	If the process failed, displays the cause of the failure

During movement of an L-Platform, "Reconfiguring" is displayed as the status of the L-Platform in the [L-Platform List] window of the tenant from which the L-Platform is being moved.

11.13 Changing an Owner

The [Change Owner] window can be used to change the owner of an L-Platform. The owner can be changed for up to 100 L-Platforms at one time.

Perform the following steps to change an L-Platform owner:

1. In the [L-Platform List] window, select one or more target L-Platforms, and then click the [Change owner] button.
   The [Change Owner] window is displayed.

2. In the [Change Owner] window, select the new owner.

Item	Explanation
New owner	Select the new owner from amongst the tenant users.
Changing L-Platform List	The L-Platforms for which the owner is being changed are displayed in a list.

3. Click the [Confirm] button.
   The confirmation window is displayed.

4. Check the contents being changed, and then click the [Change] button.
   The modification results are displayed in the completion window.

5. Click the [Back to L-Platform List] button to return to the [L-Platform List] window.

Note

....

- Owner change fails for L-Platforms in the following states:

    - While start or stop is in progress for servers in the L-Platform

    - During states other than normal operation, such as during L-Platform reconfiguration

    - During backup or restore of servers in the L-Platform

    - While an L-Server in the L-Platform is being copied

    - If processing is not yet completed for an application process

    - If there are subscriptions for which the configuration has been saved

  If the error message below is displayed, use the L-Platform ID to check the relevant L-Platform. Use the [L-Platforms] tab or similar to check if the relevant processing has finished, and then perform owner change again.

  ```
  FAILURE : ILLEGAL_STATE ([Details message])
  ```

- The following error message is displayed if owner change is attempted for an L-Platform that is currently undergoing reconfiguration by a tenant user or the Tenant Administrator:

  ```
  FAILURE : SYSTEM_LOCKED (System[%1] is locked by another user[%2:].)
  ```

    %1: L-Platform ID
    %2: Locked user ID

  If this message is displayed, notify the user indicated by the user ID displayed in the message to complete or cancel the current reconfiguration operation using the [L-Platforms] tab.

  If the relevant user does not have the [L-Platforms] tab displayed, the reconfiguration processing may have been interrupted.
  Ask the relevant tenant user or Tenant Administrator to perform the following steps:

    1. Click [L-Platform] in the [L-Platform] menu to display the full list of L-Platform deployed.

    2. Then select the L-Platform being reconfigured from the list.

    3. On the displayed [L-Platform Details] windows, click the [Reconfigure] button.

    4. The message below is displayed. When [Obtain the lock on a mandatory basis] is selected, reconfiguration is cancelled.

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

  After the above actions are taken, perform owner change again.

- When performing L-Platform owner change, stop access from the tenant side by isolating the network, or similar, so that inconsistencies do not arise in L-Platform use and cancellation.

....

11.14 Moving an L-Platform

The [Move L-Platform] window can be used to move L-Platforms to a different tenant. Up to 100 L-Platforms can be moved at one time.

Perform the following steps to move an L-Platform:

1. On the [L-Platform List] window, select one or more target L-Platforms, and then click the [Move] button.
   The [Move L-Platform] window is displayed.

2. In the [Move L-Platform] window, select the movement destination tenant.

Item	Explanation
Current tenant	Displays the tenant where the L-Platform is currently
Destination tenant	Select the tenant that is the movement destination of the L-Platform.
Moving L-Platform List	The L-Platforms being moved are displayed in a list.

3. Click the [Confirm] button.
   The confirmation window is displayed.

4. Check the contents being moved, and then click the [Move] button.
   The movement results are displayed in the completion screen.

5. Click the [Back to L-Platform List] button to return to the [L-Platform List] window.

Note

- Perform one of the following operations if the owner of the moved L-Platform is at a different tenant:

  - Use the Move User window to move the relevant user to the movement destination tenant.

  - Use the Change Owner window to change the L-Platform owner to a user in the movement destination tenant.

- The following L-Platforms cannot be moved:

  - L-Platforms that are using local pool resources

  - L-Platforms that include a firewall

  - L-Platforms that include a server load balancer

  The following error message is displayed if the above L-Platform movement is attempted.

```
FAILURE: RESOURCE_IS_IRREMOVABLE (Can't move the system. [System-ID: System ID][Reason: Reason])
```

- L-Platform movement fails for L-Platforms in the following states:

  - While servers in the L-Platform are not stopped

  - While start or stop is in progress for servers in the L-Platform

  - During states other than normal operation, such as during L-Platform reconfiguration

  - During backup or restore of servers in the L-Platform

  - While an L-Server in the L-Platform is being copied

  - If processing is not yet completed for an application process

  - If there are subscriptions for which the configuration has been saved

  If the error message below is displayed, use the L-Platform ID to check the relevant L-Platform. Use the [L-Platforms] tab or similar to check if the relevant processing has finished, and then perform L-Platform movement again.

```
FAILURE : ILLEGAL_STATE ([Details message])
```

- The following error message is displayed if L-Platform movement is attempted for an L-Platform that is currently undergoing reconfiguration by a tenant user or the Tenant Administrator:

```
FAILURE : SYSTEM_LOCKED (System[%1] is locked by another user[%2:].)
```

%1: L-Platform ID
%2: Locked user ID

If this message is displayed, notify the user indicated by the user ID displayed in the message to complete or cancel the current reconfiguration operation using the [L-Platforms] tab.

If the relevant user does not have the [L-Platforms] tab displayed, the reconfiguration processing may have been interrupted.
Ask the relevant tenant user or Tenant Administrator to perform the following steps:

1. Click [L-Platform] in the [L-Platform] menu to display the full list of L-Platform deployed.

2. Then select the L-Platform being reconfigured from the list.

3. On the displayed [L-Platform Details] window, click the [Reconfigure] button.

4. The message below is displayed. When [Obtain the lock on a mandatory basis] is selected, reconfiguration is cancelled.

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

After the above actions are taken, perform L-Platform movement again.

- When performing L-Platform movement, stop access from the tenant side by isolating the network, or similar, so that inconsistencies do not arise in L-Platform use and cancellation.

Chapter 12 Accounting

This chapter explains how to manipulate usage charge.
Past information about usage charge can be displayed.

12.1 Usage Charge Window

To display usage charge by tenant or by L-Platform, perform the following:

1. In the Usage Charge window, select the tab for the usage charge to be displayed.

    - [Tenants] tab: Search by tenant.

    - [L-Platforms] tab: Search by L-Platform.

2. Specify the search conditions.

    When the [Tenants] tab is selected

Item		Description
Search filter	Browse specification	Use the following procedure to select the relevant [Tenant name]: 1. Click [Browse] to display the [Select Tenant Names] window. 2. Select the tenant name, and then click [OK].
	String specification	Enter part of the tenant name or display 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.

When the [L-Platforms] tab is selected

Item		Description
Search filter	Browse specification	Use the following procedure to select the relevant [L-Platform ID]: 1. Click the Browse button to display the [Select L-Platform IDs] 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.

The L-Platforms displayed in the [Select L-Platform IDs] window and in the search results are those deployed up until the previous day.

3. 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.
[Usage Charge] shows the charges up until the previous day.
Up to 120 items can be displayed in the search results.

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.

12.2 Usage Charge List

The usage charges for the selected month of the L-Platform belonging to the selected tenant are displayed in a list.

1. Select the [Tenants] tab in the [Usage Charge] window.

2. Click [Search] after specifying the search conditions.

3. Click the relevant tenant name in the list of tenants in the list of usage charge.

4. The [Usage Charge List] window is displayed in the lower part of the window and shows the usage charge for each L-Platform.

	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.
	Time period	Displays the year and month of the usage charge search for the selected tenant.
Usage Charge List	Total charge	Displays the total of the [Charge] displayed in the [Usage Charge List].
	L-Platform ID	Displays the L-Platform IDs belonging to the selected tenant.
	L-Platform name	Displays the L-Platform names belonging to the selected tenant.
	Charge	Displays the usage charge of the tenant for L-Platforms.

P Point
· ·

It is possible to sort by item in the list of usage charge by clicking on the column labels (L-Platform ID, L-Platform name, tenant name, charge, etc.).

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 List] window is displayed again after the file output destination is specified.

12.3 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-Platforms] 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.

Operations in the [Usage Charge List] window

To display detailed information for usage charge from the [Usage Charge List] window, perform the following:

Click the relevant [L-Platform ID] in the [Usage Charge List] the [Usage Charge List] window to display the [Usage Charge Detail] window.

Usage Charge Detail information

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.
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 name is displayed enclosed in parentheses. For disk size, following information is displayed enclosed in parentheses according to the kind of disk type. - System disk: system disk (fixed string) - Data disk: disk name For NICs, the total of breakdown amounts for each server is displayed in compact view. When the view is expanded, a detailed breakdown is displayed. For snapshots, the total of breakdown amounts for each virtual server is displayed in compact view. When the view is expanded, a detailed breakdown is displayed for each snapshot ID. 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:
		
		- Template: None
		
		- Virtual server: None
		
		- Physical server: None
		
		- CPU: Number of CPUs, CPU performance (GHz)
		
		- Memory capacity: Capacity (GB)
		
		- Disk capacity: Capacity (GB)
		
		- NIC: Number of NICs
		
		- Snapshot
		
		  - Compact view: None
		
		  - Expanded view: 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.

 Note

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The usage charges for NICs are displayed only when enabled by the system administrator.

. . . .

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 13 Account

This chapter explains account operations.

13.1 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          infra_admin
Role             infra_admin

Personal Information

E-mail address   infra_admin@example.com

                                    Close    Modify account    Change password
```

Item	Explanation
User ID	Displays the user ID of the user
Role	Displays the user's role
Personal Information	
E-mail address	Displays the user's email address
[Modify account] button	When clicked, displays the Modiry account window used to change user information
[Change password] button	When clicked, displays the Change password window used to change a password

Note

When using Single Sign-On, 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.

13.2 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.
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.

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.

13.3 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.
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.

Appendix A Using Commands to Register and Delete L-Platform Templates

This appendix explains the procedures for registering and deleting L-Platform templates using commands.

The only L-Platform templates that can be registered and deleted using commands are the global templates.

A.1 Registering L-Platform Templates

This section explains the procedure for registering L-Platform templates using commands.

Refer to "Chapter 9 L-Platform Template Management Commands" in the "Reference Guide (Command/XML) CE" for information on the different sets of information and the commands.

A.1.1 Procedure for Registering L-Platform Templates

The Infrastructure Administrator registers the information as needed to make it possible to use the L-Platform templates.

The following shows the types of information that need to be registered:

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

🅿 Point

・・・

Do the following to check whether the commands have correctly registered and set the information.

- Check the return value.

  A return value of 0 indicates normal termination.

  A return value of anything other than 0 indicates an error and an error message will be output.

- Use the following commands to display the corresponding information.

Command for registering or setting	Display Command
Software information registration (cfmg_addsoft)	Software information list display (cfmg_listsoft)
Image information registration (cfmg_addimageinfo)	Display a list of image information (cfmg_listimageinfo)
Segment registration (cfmg_addnetinfo)	Segment list display (cfmg_listnetinfo)
Template information registration (cfmg_addtemplate)	Display a list of template information (cfmg_listtemplate)

・・・

Software Information

Use the following procedure to register information for software included in the image used by the L-Platform template.

1. Create a software information file (XML file) that lists the configuration information for the software included in the image.

   It is also possible to use software information that has already been registered. Refer to "Appendix C Registered Software IDs" in the "Reference Guide (Command/XML) CE" for details.

   Refer to "16.18.1 Software Information" in the "Reference Guide (Command/XML) CE" for information on software information.

2. Register software information using the software information registration (cfmg_addsoft) command.

   Register one piece of software information for each type of software (i.e., create different pieces of software information for each type of software being used).

Image Information

Use the following procedure to register information for images included in the image used by the L-Platform template.

1. Use the image list display command (cfmg_listvmimage) to check images that are already registered.

2. Create an image information file (XML file).

   Model files have been prepared for your reference.

   Refer to "16.18.2 Image Information" in the "Reference Guide (Command/XML) CE" for information on the storage location for model files and image information.

3. Register image information with the Image information registration (cfmg_addimageinfo) command.

Segment Information

When restrictions are to be placed on the network resource to be used with this product, use the following procedure to register segment information.

1. Use the network resource list display command (cfmg_listvnet) to check network resources that are already registered.

   Make a note of the resource ID in the <networks> -> <network> -> <id> tag.

2. Create a segment information file (XML file).

   Use the resource ID noted in step 1 for the <id> tag.

   Refer to "16.18.3 Segment Information" in the "Reference Guide (Command/XML) CE" for information on segment information.

3. Register segment information with the Segment registration (cfmg_addnetinfo) command.

📙 Note

- If segment information has not been registered, all registered network resources are targeted for deployment. If "Automatic" is specified for deployment destination network resources, the deployment destination is selected from all network resources.

- If segment information is registered, register segment information for all network resources used by the L-Platform template.

  If "Automatic" is specified for deployment destination network resources, the deployment destination is selected from the network resources for which "Business" is specified.

Template Information

Use the following procedure to register template information.

1. Use the following commands to check the information used in the template information.

   - Segment information: Segment list display (cfmg_listnetinfo) command

   - Image information : Image information list display (cfmg_listimageinfo) command

2. Create a template information file (XML file).

   Model files have been prepared for your reference.

   Refer to "16.18.4 Template Information" in the "Reference Guide (Command/XML) CE" for information on the storage location for model files and template information.

3. Use the Template information registration (cfmg_addtemplate) command to register template information.

4. The default publication setting for L-Platform templates is "Hidden".

   If you want to publish an L-Platform template, the L-Platform template publication setting command (cfmg_showtemplate) must be used to change the publication setting.

   Refer to "9.15 cfmg_showtemplate (Changing L-Platform Access Setting)" in the "Reference Guide (Command/XML) CE" for information on this command.

📝 Note

- There is no effect on deployed L-Platform even if the publication settings of the L-Platform template being used by a deployed L-Platform are changed to "Hidden".

- If it is ever necessary for deployment to be canceled, it is possible to change the setting for the L-Platform template for that deployment to "Hidden".

A.2 Deleting L-Platform Templates

This section explains the procedure for deleting L-Platform templates using commands.

Refer to "Chapter 9 L-Platform Template Management Commands" in the "Reference Guide (Command/XML) CE" for information on the different sets of information and the commands.

A.2.1 Procedure for Deleting L-Platform Templates

The Infrastructure Administrator can delete information as required.

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

📝 Note

- If the following information is associated with multiple template information files, delete all the associated template information files before deleting the other information files.

  - Image information files

  - Segment information

- Before deleting a software information file, delete all of the associated image information files.

- Do not delete template information that are being used in a deployed L-Platform.

📌 Point

Do the following to check whether the commands have correctly deleted the information.

- Check the return value.

  A return value of 0 indicates normal termination.

  A return value of anything other than 0 indicates an error and an error message will be output. Or,

- Use the following commands to display the corresponding information.

Delete command	Display Command
Template information deletion (cfmg_deletetemplate)	Display a list of template information (cfmg_listtemplate)
Segment deletion (cfmg_deletenetinfo)	Segment list display (cfmg_listnetinfo)
Image information deletion (cfmg_deleteimageinfo)	Display a list of image information (cfmg_listimageinfo)
Software information deletion (cfmg_deletesoft)	Software information list display (cfmg_listsoft)

Template Information

Use the following procedure to delete template information.

1. Check the L-Platform template name displayed at [L-Platform Management] - [L-Platform List] in the [L-Platforms] tab screen of the ROR console, and check that the template information to be deleted is not being used by a deployed L-Platform.

   Use the Template information list display (cfmg_listtemplate) command, and take a note of the name of the L-Platform template ID that corresponds to the L-Platform template name in step 1.

2. If the publication settings are "Published", the template information cannot be deleted.

   Use the L-Platform template publication settings (cfmg_showtemplate) command to change the publication settings to "Hidden".

   Refer to "9.15 cfmg_showtemplate (Changing L-Platform Access Setting)" in the "Reference Guide (Command/XML) CE" for information on this command.

3. Use the Template information deletion (cfmg_deletetemplate) command to delete the template information specified with the L-Platform template ID noted in step 1.

Segment Information

Use the following procedure to delete segment information.

1. Use the Template information list display (cfmg_listtemplate -v) command to output a list of template information, and use this to see if the segment configuration information to be deleted is associated with template information in the <template> -> <vnets> -> < vnet> -> <id> tag.

2. Use the Segment deletion (cfmg_deletenetinfo) command to delete the segment information.

Image Information

Use the following procedure to delete image information.

1. Use the Template information list display (cfmg_listtemplate -v) command to output a list of template information, and use this to see if the image information to be deleted is associated with template information in the <template> -> <servers> -> <server> -> <imageId> tag.

2. Use the Delete image information command (cfmg_deleteimageinfo) to delete the image information.

Software Information

Use the following procedure to delete software information.

1. Use the Image information list display (cfmg_listimageinfo -v) command to output a list of image information, and use this to see if the software information to be deleted is associated with image information in the <image> -> <softwares> -> <software> -> <id> tag.

2. Use the Software information deletion (cfmg_deletesoft) command to delete the software information.

Appendix B Applying (Subscribe) for L-Platform Usage by Dual-Role Administrators

This appendix explains L-Platform usage applications by dual-role administrators.

L-Platform usage applications, which normally cannot be made by the Infrastructure Administrator, can be made if the administrator has dual roles.

At that time, a deployment destination tenant must be selected.

Selecting the [Subscription] menu on the [L-Platforms] tab displays the following dialog.
Select the deployment destination tenant, and the click the [OK] button.
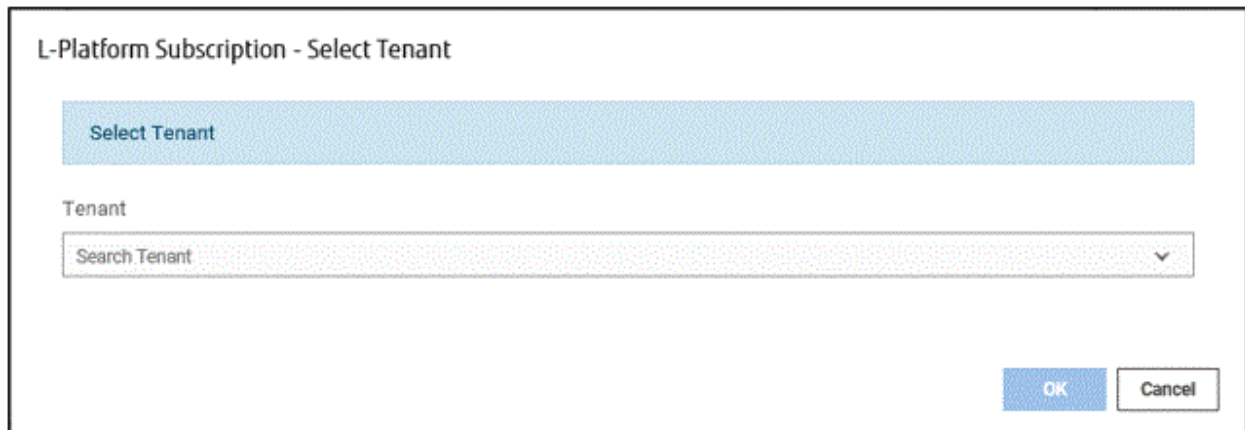
The [Subscription] dialog will be displayed, and it is possible to apply for usage of the L-Platform.
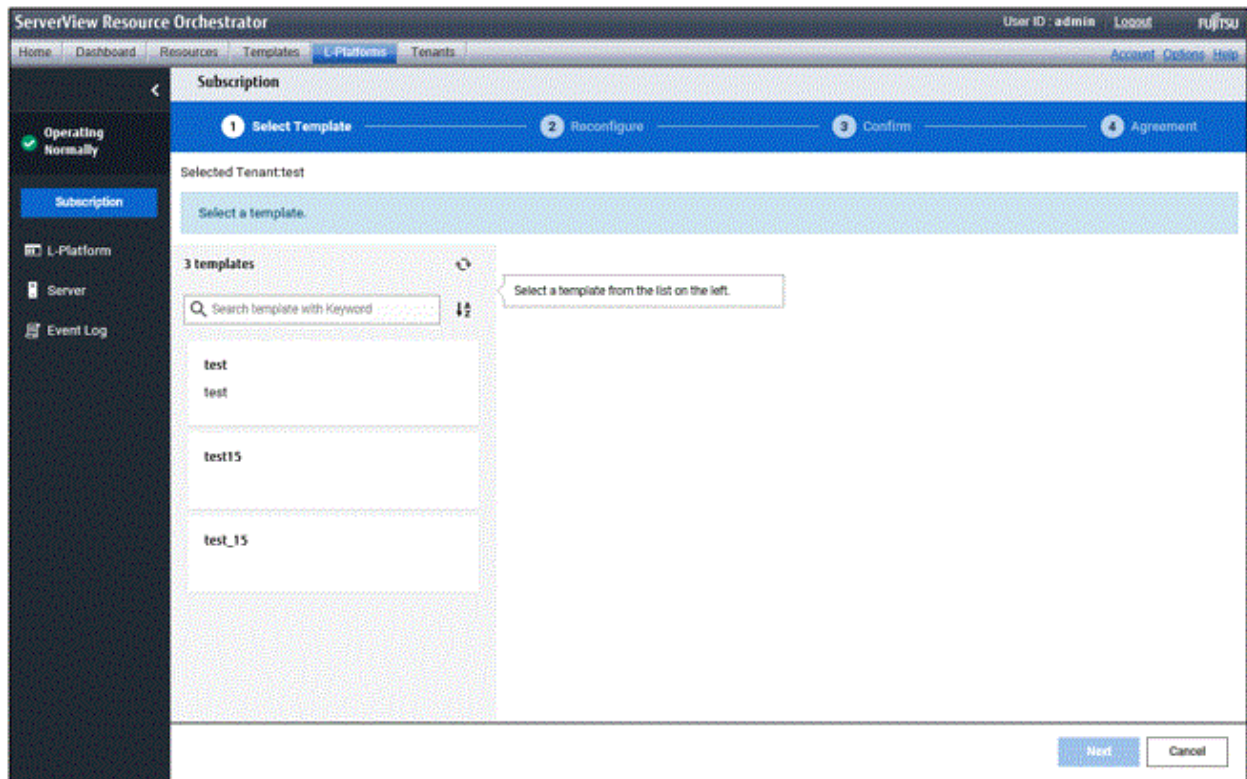
Refer to "8.2 Subscribe to an L-Platform" in the "User's Guide for Tenant Administrators CE" for information on subscribe L-Platform.

Appendix C Tenant Operation by Dual-Role Administrators

This appendix explains tenant operation by dual-role administrators.

Follow the steps below to do tenant operation.

1. Display the [Server List] window.

   Refer to "9.2.1 L-Platform Display Formats" for information on how to display the page.

2. Click the [All Tenants operation] button.

   [All Tenants operation] window will be displayed. Select the checkbox to operate the tenant.

   To specify all tenants, select the checkbox at the left side of [Name] . For multi selection, click a row with ctrl key.
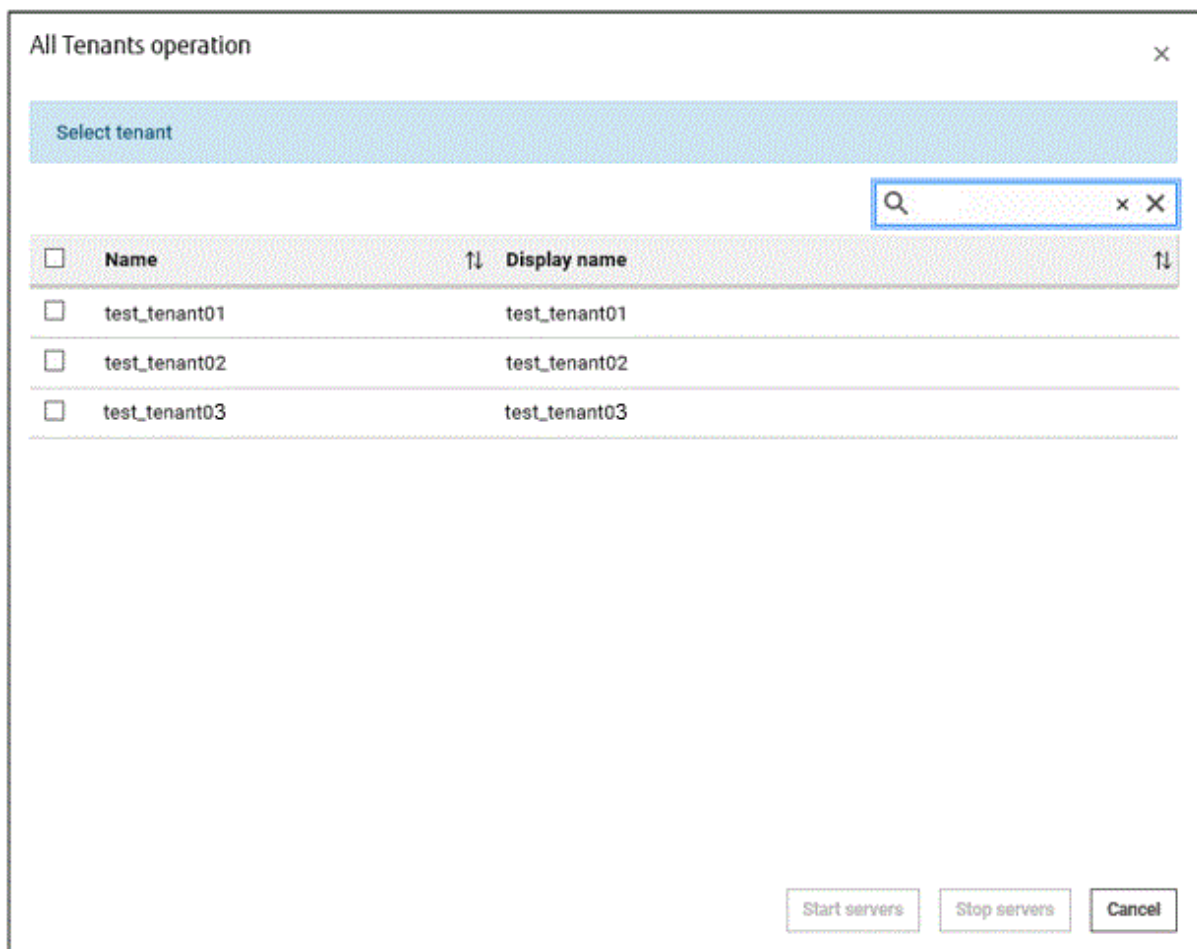
3. Click the [Start servers] button to start all servers in the specified tenant. Click the [Stop servers] button to stop all servers in the tenant.

![Note]

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

restoring
cloning

Appendix D Emails Sent during L-Platform Operations

This appendix describes the flow and content of emails sent during L-Platform operations.

D.1   Emails Sent when Subscribing to an L-Platform

This section explains the flow and content of emails sent when subscribing to an L-Platform.

The following diagram shows the flow of emails sent when a subscription is made to use an L-Platform - the example shows the use of VMware as the virtualization software.

Figure D.1 Flow of emails sent when subscribing to an L-Platform
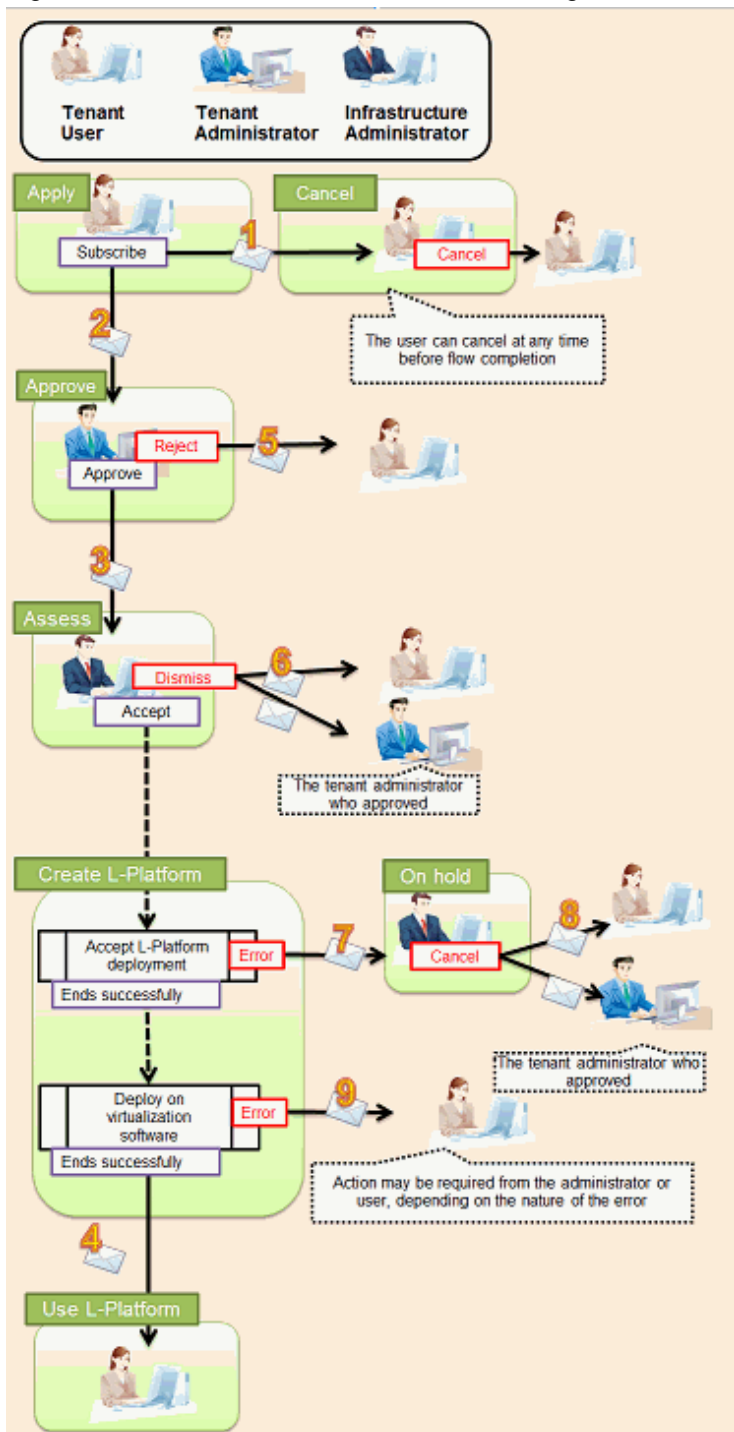
Below is the description of the content of emails sent and the action to take - the numbers refer to the email numbers in the diagram above.

1. Notification of application acceptance

   This email is sent to the subscriber when the application to subscribe to the L-Platform is made.

Item	Description
Recipient	Subscriber
Timing	Sent when application to subscribe is made
Purpose	Notifies acceptance of subscription application
Email content	Process instance name, subscriber name, application type (L-Platform subscription), L-Platform name, reason for application, forward destination. Note that the forward destination is sent when configured to approve subscription applications.
Action	None After this notification is received, the subscription can be canceled.

2. Notification of approval request

   This email is sent to the approver (tenant administrator) when the application to subscribe to the L-Platform is made.

Item	Description
Recipient	Approver (tenant administrator)
Timing	Sent when application is made Sent when configured to approve subscriptions at the time the application is made
Purpose	Request for approval of subscription
Email content	Process instance name, subscriber name, application type (L-Platform subscription), L-Platform name, reason for application, forward destination, approval URL
Action	Select [Request] using the approval URL in the email or the ROR console, and approve or reject the subscription.

3. Notification of assessment request

   This email is sent to the assessor (infrastructure administrator) when the application to subscribe to the L-Platform is made.

Item	Description
Recipient	Assessor (infrastructure administrator)
Timing	Sent when application is made or when approval is given Sent when configured to assess applications at the time they are submitted
Purpose	Request for assessment of subscription
Email content	Process instance name, subscriber name, application type (L-Platform subscription), L-Platform name, reason for application, approver name, approval comment, assessment URL Note that the approver name and approval comments are sent when configured to approve applications at the time they are submitted
Action	Select [Request] using the approval URL in the email or the ROR console, and accept or dismiss the subscription.

4. Notification of completed creation

   This email is sent to the subscriber when creation of the L-Platform is complete.

Item	Description
Recipient	Subscriber
Timing	Sent when L-Platform creation is complete

Item	Description
Purpose	Notifies that creation of L-Platform is complete
Email content	L-Platform name, L-Platform ID, server name, IP address, default password
Action	None

5. Notification of application rejection

This email is sent to the subscriber when a request for approval is rejected.

Item	Description
Recipient	Subscriber
Timing	Sent when the request for approval of the subscription is rejected
Purpose	Notifies of rejection of subscription
Email content	Process instance name, subscriber name, application type (L-Platform subscription), L-Platform name, reason for application, forward destination, approver name, approval comment
Action	None

6. Notification of application dismissal

This email is sent to the subscriber when an assessment is dismissed.

Item	Description
Recipient	Subscriber and approver (tenant administrator)
Timing	Sent when the subscription assessment is dismissed
Purpose	Notifies dismissal of subscription assessment
Email content	Process instance name, subscriber name, application type (L-Platform subscription), L-Platform name, reason for application, forward destination, approver name, approval comment, assessor name, assessor comment
	Note that the approver name and approval comments are sent when configured to approve applications at the time they are submitted
Action	None

7. Notification of application reservation

This email is sent to the infrastructure administrator when an error occurs during accepting L-Platform deployment.

Item	Description
Recipient	Infrastructure administrator
Timing	Sent when an error occurs during accepting L-Platform deployment
Purpose	Error notification
Email content	Process instance name, subscriber name, application type (L-Platform subscription), L-Platform name, reason for application, reservation URL
Action	Select [Request] using the reservation URL in the email or the ROR console. Check the details of the error and cancel.

8. Notification of application cancellation

This email is sent to the subscriber and approver (tenant administrator) if the subscription is canceled at Step 7.

Item	Description
Recipient	Subscriber and approver (tenant administrator)
Timing	Sent when canceled due to the subscription being reserved

Item	Description
Purpose	Notifies cancellation of the subscription
Email content	Process instance name, subscriber name, application type (L-Platform subscription), L-Platform name, reason for application, cancellation comment
Action	Subscribe again if required.

9. Error notification

   This email is sent to the subscriber if an error occurs with deployment on virtualization software.

Item	Description
Recipient	Subscriber
Timing	Sent when an error occurs with deployment on virtualization software
Purpose	Notifies of errors
Email content	L-Platform name, L-Platform ID
Action	Request the infrastructure administrator to investigate.

The following example illustrates an actual email that is sent.

This is the content of the actual notification that is sent when an application is accepted. Other emails are also sent in the same format.

📋 Example
....

```
Subject: [Important announcement] Notification of application acceptance

Dear Mr. Fujitsu,

The following application was accepted:

----------------------------------------------------------------------
[Content of application ]

Process instance name: L-Platform subscription (Task 1)
Subscriber name: Taro Fujitsu
Application type: L-Platform subscription
L-Platform name: L-Platform-20130701-01
Reason for application: For new system development
Forward destination: All administrators

Please refer to the above-mentioned process instance name from the application list of ROR console.
----------------------------------------------------------------------

This E-mail is for information only.
Even if you send reply to this E-mail, you will not receive any reply.
```
....

D.2 Emails Sent when Reconfiguring an L-Platform

This section explains the flow and content of email messages sent when reconfiguring an L-Platform.

The following diagram shows the flow of emails sent when reconfiguring an L-Platform - the example shows the use of VMware as the virtualization software.

Figure D.2 Flow of emails sent when reconfiguring an L-Platform
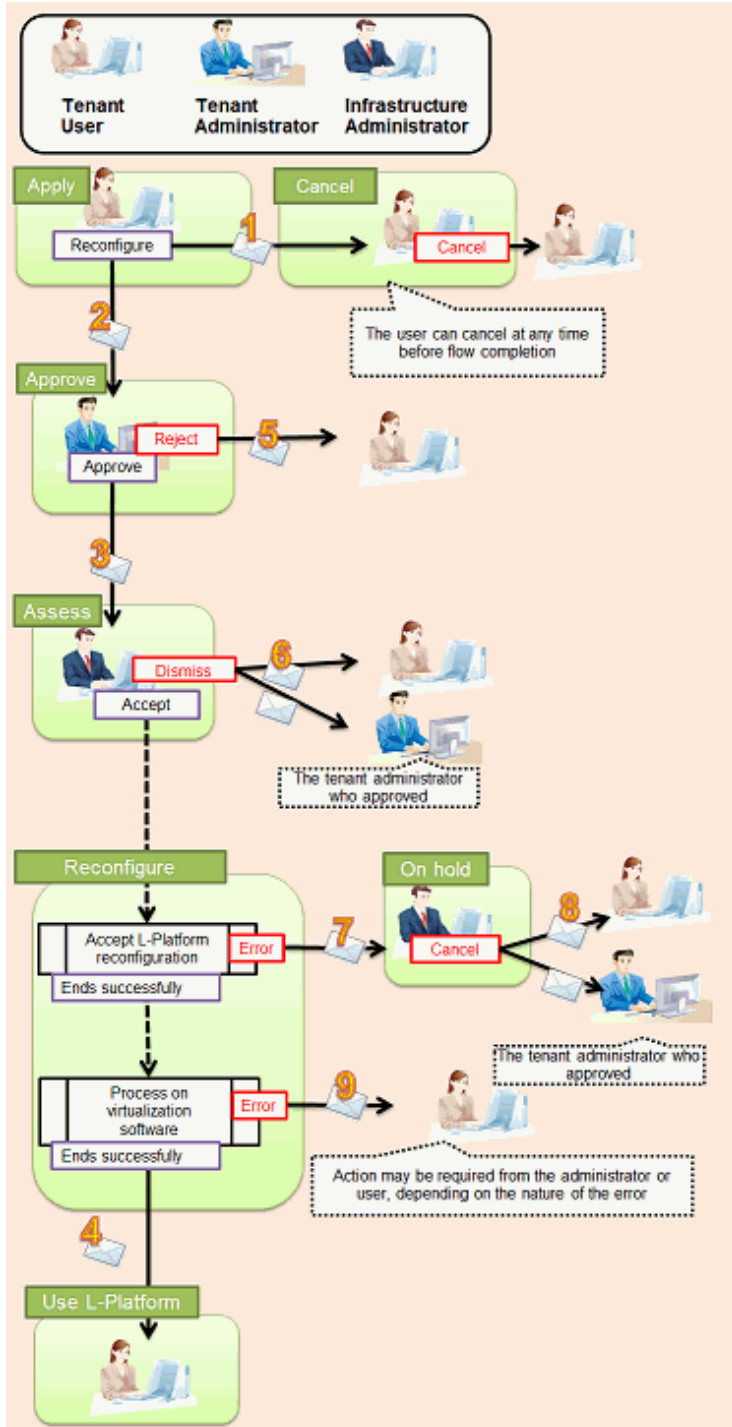
Below is the description of the content of emails sent and the action to take - the numbers refer to the email numbers in the reconfiguration flow diagram.

1. Notification of application acceptance

   This email is sent to the subscriber when applying to reconfigure an L-Platform.

Item	Description
Recipient	Subscriber
Timing	Sent when application to reconfigure is made
Purpose	Notification of reconfiguration application acceptance

Item	Description
Email content	Process instance name, subscriber name, application type (L-Platform reconfiguration), L-Platform name, reason for application, forward destination Note that the forward destination is sent when configured to approve reconfiguration applications.
Action	None After this notification is received, the reconfiguration can be canceled

2. Notification of approval request

This email is sent to the approver (tenant administrator) when the application to reconfigure the L-Platform is made.

Item	Description
Recipient	Approver (tenant administrator)
Timing	Sent when reconfiguration application is made Sent when configured to approve reconfiguration applications
Purpose	Request for approval of reconfiguration
Email content	Process instance name, subscriber name, application type (L-Platform reconfiguration), L-Platform name, reason for application, forward destination, approval URL
Action	Select [Request] using the approval URL in the email or the ROR console, and approve or reject the reconfiguration.

3. Notification of assessment request

This email is sent to the assessor (infrastructure administrator) when the application to reconfigure the L-Platform is made.

Item	Description
Recipient	Assessor (infrastructure administrator)
Timing	Sent when reconfiguration application is made Sent when configured to assess reconfiguration at the time the application is made
Purpose	Request for assessment of reconfiguration
Email content	Process instance name, subscriber name, application type (L-Platform reconfiguration), L-Platform name, reason for application, approver name, approval comment, assessment URL Note that the approver name and approval comments are sent when configured to approve reconfiguration applications
Action	Select [Request] using the assessment URL in the email or the ROR console, and accept or dismiss the reconfiguration.

4. Notification of completed reconfiguration

This email is sent to the subscriber when reconfiguration of the L-Platform is complete.

Item	Description
Recipient	Subscriber
Timing	Sent when reconfiguration of the L-Platform is complete
Purpose	Notifies that reconfiguration of the L-Platform is complete
Email content	L-Platform name, L-Platform ID
Action	None

5. Notification of application rejection

This email is sent to the subscriber when a request for approval is rejected.

Item	Description
Recipient	Subscriber
Timing	Sent when the request for approval of the reconfiguration is rejected
Purpose	Notification of reconfiguration application rejection
Email content	Process instance name, subscriber name, application type (L-Platform reconfiguration), L-Platform name, reason for application, forward destination, approver name, approval comment
Action	None

6. Notification of application dismissal

This email is sent to the subscriber when an assessment is dismissed.

Item	Description
Recipient	Subscriber and approver (tenant administrator)
Timing	Sent when the reconfiguration assessment is dismissed
Purpose	Notifies dismissal of reconfiguration application
Email content	Process instance name, subscriber name, application type (L-Platform reconfiguration), L-Platform name, reason for application, forward destination, approver name, approval comment, assessor name, assessor comment
	Note that the approver name and approval comments are sent when configured to approve reconfiguration applications
Action	None

7. Notification of application reservation

This email is sent to the infrastructure administrator when an error occurs during accepting L-Platform update.

Item	Description
Recipient	Infrastructure administrator
Timing	Sent when an error occurs during accepting L-Platform update
Purpose	Error notification
Email content	Process instance name, subscriber name, application type (L-Platform reconfiguration), L-Platform name, reason for application, reservation URL.
Action	Select [Request] using the reservation URL in the email or the ROR console. Check the details of the error and cancel the application.

8. Notification of application cancellation

This email is sent to the subscriber and approver (tenant administrator) if the reconfiguration application is canceled at Step 7.

Item	Description
Recipient	Subscriber and approver (tenant administrator)
Timing	Sent when canceled due to the reconfiguration being reserved
Purpose	Notifies cancellation of the reconfiguration
Email content	Process instance name, subscriber name, application type (L-Platform reconfiguration), L-Platform name, reason for application, cancellation comment
Action	Reconfigure again if required.

9. Error notification

This email is sent to the subscriber if an error occurs with processing on virtualization software.
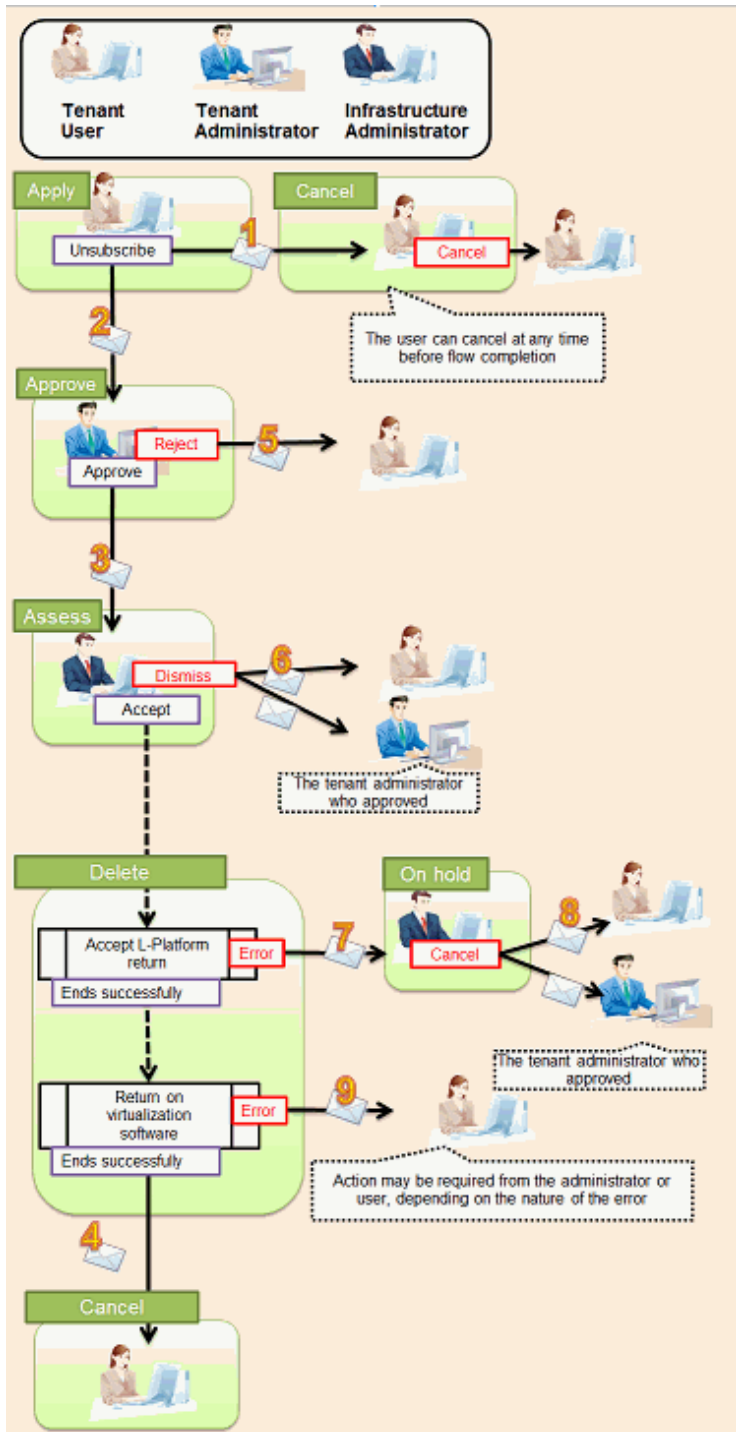
Item	Description
Recipient	Subscriber
Timing	Sent when an error occurs with processing on virtualization software
Purpose	Notifies of errors
Email content	L-Platform name, L-Platform ID
Action	Request the infrastructure administrator to investigate.

D.3 Emails Sent when Canceling an L-Platform

This section describes the flow and content of email messages sent when canceling an L-Platform.

The following diagram shows the flow of emails sent when canceling an L-Platform - the example shows the use of VMware as the virtualization software.

Figure D.3 Flow of emails sent when canceling an L-Platform

Below is the description of the content of emails sent and the action to take - the numbers refer to the email numbers in the diagram above.

1. Notification of application acceptance

   This email is sent to the subscriber when applying to cancel an L-Platform.

Item	Description
Recipient	Subscriber
Timing	Sent when canceling
Purpose	Notification of cancellation application acceptance

Item	Description
Email content	Process instance name, subscriber name, application type (L-Platform cancellation), L-Platform name, reason for application, forward destination Note that the forward destination is sent when configured to approve cancellation applications.
Action	None After this notification is received, the cancellation can be canceled

2. Notification of approval request

This email is sent to the approver (tenant administrator) when the application to cancel the L-Platform is made.

Item	Description
Recipient	Approver (tenant administrator)
Timing	Sent when cancellation application is made Sent when configured to approve cancellation at the time the cancellation application is made
Purpose	Request for approval of cancellation
Email content	Process instance name, subscriber name, application type (L-Platform cancellation), L-Platform name, reason for application, forward destination, approval URL
Action	Select Request using the approval URL in the email or the ROR console, and approve or reject the cancellation.

3. Notification of assessment request

This email is sent to the assessor (infrastructure administrator) when the application to cancel the L-Platform is made.

Item	Description
Recipient	Assessor (infrastructure administrator)
Timing	Sent when cancellation application is made Sent when configured to assess cancellation at the time the application is made
Purpose	Request for approval of cancellation
Email content	Process instance name, subscriber name, application type (L-Platform cancellation), L-Platform name, reason for application, forward destination, approval URL Note that the approver name and approval comments are sent when configured to approve cancellation applications.
Action	Select [Request] using the approval URL in the email or the ROR console, and approve or reject the cancellation.

4. Notification of completed cancellation

This email is sent to the subscriber when cancellation of the L-Platform is complete.

Item	Description
Recipient	Subscriber
Timing	Sent when L-Platform cancellation is complete
Purpose	Notifies that cancellation of L-Platform is complete
Email content	L-Platform name, L-Platform ID
Action	None

5. Notification of application rejection

This email is sent to the subscriber when a request for approval is rejected.

Item	Description
Recipient	Subscriber
Timing	Sent when the request for approval of the cancellation is rejected
Purpose	Notifies of rejection of cancellation
Email content	Process instance name, subscriber name, application type (L-Platform cancellation), L-Platform name, reason for application, forward destination, approver name, approval comment
Action	None

6. Notification of application dismissal

This email is sent to the subscriber when an assessment is dismissed.

Item	Description
Recipient	Subscriber and approver (tenant administrator)
Timing	Sent when the cancellation assessment is dismissed
Purpose	Notifies dismissal of cancellation assessment
Email content	Process instance name, subscriber name, application type (L-Platform cancellation), L-Platform name, reason for application, forward destination, approver name, approval comment, assessor name, assessor comment
	Note that the approver name and approval comments are sent when configured to approve cancellation applications.
Action	None

7. Notification of application reservation

This email is sent to the infrastructure administrator when an error occurs during accepting L-Platform return.

Item	Description
Recipient	Infrastructure administrator
Timing	Sent when an error occurs during accepting L-Platform return
Purpose	Error notification
Email content	Process instance name, subscriber name, application type (L-Platform cancel), L-Platform name, reason for application, reservation URL.
Action	Select [Request] using the reservation URL in the email or the ROR console. Check the details of the error and cancel the application.

8. Notification of application cancellation

This email is sent to the subscriber and approver (tenant administrator) if the cancellation application is canceled at Step 7.

Item	Description
Recipient	Subscriber and approver (tenant administrator)
Timing	Sent when canceled due to the cancellation application being reserved
Purpose	Notifies cancellation of the cancellation application
Email content	Process instance name, subscriber name, application type (L-Platform cancel), L-Platform name, reason for application, cancellation comment
Action	Apply the cancellation again if required.

9. Error notification

This email is sent to the subscriber if an error occurs while returning an L-Platform on virtualization software.

Item	Description
Recipient	Subscriber
Timing	Sent when an error occurs while returning an L-Platform on virtualization software
Purpose	Notifies of errors
Email content	L-Platform name, L-Platform ID
Action	Request the infrastructure administrator to investigate.