FUJITSU

ServerView Resource Orchestrator V2.3.0

Reference Guide

Windows/Linux

J2X1-7531-01ENZ0(02)
July 2011

Preface

Purpose

This manual provides details of the commands configuration file of ServerView Resource Orchestrator (hereinafter Resource Orchestrator).

Target Readers

This manual is written for system administrators who will use Resource Orchestrator to operate the infrastructure in private cloud or data center environments.
When setting up systems, it is assumed that readers have the basic knowledge of ServerView Resource Coordinator VE required to configure the servers, storage, network devices, and server virtualization software to be installed. Additionally, a basic understanding of directory services such as Active Directory and LDAP is necessary.

Organization

This manual consists of five chapters, an appendix, and a glossary.
The contents of each chapter are listed below.

Title	Description
Chapter 1 Command Reference	Provides an overview of the commands available in Resource Orchestrator.
Chapter 2 Resource Configuration Information and User Definition Information (XML Files)	Explains resource configuration information and user definition information (XML files).
Chapter 3 Messages	Explains the messages displayed by Resource Orchestrator.
Chapter 4 Troubleshooting	Explains how to solve problems and gather troubleshooting data for a technical investigation.
Chapter 5 Recording User Operations	Explains how to record Resource Orchestrator operations and state transition of resources.
Appendix A GUI/CLI	Provides references for operation using the GUI/CLI based on functions.
Glossary	Explains the terms used in this manual. Please refer to it when necessary.

Notational Conventions

The notation in this manual conforms to the following conventions.

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

[Windows]	Sections related to Windows (When not using Hyper-V)
[Linux]	Sections related to Linux
[VMware]	Sections related to VMware
[Hyper-V]	Sections related to Hyper-V
[Xen]	Sections related to RHEL5-Xen
[Oracle VM]	Sections related to Oracle VM
[Windows/Hyper-V]	Sections related to Windows and Hyper-V
[Windows/Linux]	Sections related to Windows and Linux

[Linux/VMware]	Sections related to Linux and VMware
[VM host]	Sections related to Windows Server 2008 with VMware or Hyper-V enabled

- Unless specified otherwise, the blade servers mentioned in this manual refer to PRIMERGY BX servers.
- References and character strings or values requiring emphasis are indicated using double quotes (").
- Window names, dialog names, menu names, and tab names are shown enclosed by square brackets ([ ]).
- Button names are shown enclosed by angle 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 "#".

Menus in the RC console

Operations on the RC 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.

Command Examples

The paths used in command examples are abbreviated. When executing commands, do so using the path given in "Name".

Related Manuals

The following manuals are provided with Resource Orchestrator. Please refer to them when necessary:

- ServerView Resource Orchestrator User's Guide

  Provides an outline of ServerView Resource Orchestrator and the operations and settings required for setup.

- ServerView Resource Orchestrator Reference Guide (This manual)

  Explains the commands and messages displayed by Resource Orchestrator, and provides details of configuration files.

Reference Documentation

Functions provided by ServerView Resource Coordinator VE can also be used with Resource Orchestrator. When installing/setting up/operating Resource Orchestrator, please refer to the following manuals included with Resource Orchestrator when necessary:

- ServerView Resource Coordinator VE Installation Guide
- ServerView Resource Coordinator VE Setup Guide
- ServerView Resource Coordinator VE Operation Guide
- ServerView Resource Coordinator VE Command Reference
- ServerView Resource Coordinator VE Messages

Related Documentation

Please refer to the following manuals when necessary:

- Red Hat Enterprise Linux 5 Virtualization Guide

- EMC Solutions Enabler INSTALLATION GUIDE
- EMC CLARiiON Server Support Products for Linux Servers INSTALLATION GUIDE
- EMC CLARiiON Server Support Products for Windows Servers INSTALLATION GUIDE
- EMC Navisphere Command Line Interface (CLI) REFERENCE
- EMC Navisphere Manager ADMINISTRATOR'S GUIDE
- ESN Manager PLANNING AND INSTALLATION GUIDE
- When using VMware
  - vSphere Virtual Machine Administration Guide
  - vSphere Resource Management Guide

Abbreviations

The following abbreviations are used in this manual:

Abbreviation	Products
Windows	Microsoft(R) Windows Server(R) 2008 Standard Microsoft(R) Windows Server(R) 2008 Enterprise Microsoft(R) Windows Server(R) 2008 R2 Standard Microsoft(R) Windows Server(R) 2008 R2 Enterprise Microsoft(R) Windows Server(R) 2008 R2 Datacenter Microsoft(R) Windows Server(R) 2003 R2, Standard Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise Edition Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition Windows(R) 7 Professional Windows(R) 7 Ultimate Windows Vista(R) Business Windows Vista(R) Enterprise Windows Vista(R) Ultimate Microsoft(R) Windows(R) XP Professional operating system
Windows Server 2008	Microsoft(R) Windows Server(R) 2008 Standard Microsoft(R) Windows Server(R) 2008 Enterprise Microsoft(R) Windows Server(R) 2008 R2 Standard Microsoft(R) Windows Server(R) 2008 R2 Enterprise Microsoft(R) Windows Server(R) 2008 R2 Datacenter
Windows 2008 x86 Edition	Microsoft(R) Windows Server(R) 2008 Standard (x86) Microsoft(R) Windows Server(R) 2008 Enterprise (x86)
Windows 2008 x64 Edition	Microsoft(R) Windows Server(R) 2008 Standard (x64) Microsoft(R) Windows Server(R) 2008 Enterprise (x64)
Windows Server 2003	Microsoft(R) Windows Server(R) 2003 R2, Standard Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise Edition Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition
Windows 2003 x64 Edition	Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition
Windows 7	Windows(R) 7 Professional Windows(R) 7 Ultimate

Abbreviation	Products
Windows Vista	Windows Vista(R) Business Windows Vista(R) Enterprise Windows Vista(R) Ultimate
Windows XP	Microsoft(R) Windows(R) XP Professional operating system
Linux	Red Hat(R) Enterprise Linux(R) 5 (for x86) Red Hat(R) Enterprise Linux(R) 5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.1 (for x86) Red Hat(R) Enterprise Linux(R) 5.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.2 (for x86) Red Hat(R) Enterprise Linux(R) 5.2 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.3 (for x86) Red Hat(R) Enterprise Linux(R) 5.3 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.5 (for x86) Red Hat(R) Enterprise Linux(R) 5.5 (for Intel64) SUSE(R) Linux Enterprise Server 11 for x86 SUSE(R) Linux Enterprise Server 11 for EM64T
Red Hat Enterprise Linux	Red Hat(R) Enterprise Linux(R) 5 (for x86) Red Hat(R) Enterprise Linux(R) 5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.1 (for x86) Red Hat(R) Enterprise Linux(R) 5.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.2 (for x86) Red Hat(R) Enterprise Linux(R) 5.2 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.3 (for x86) Red Hat(R) Enterprise Linux(R) 5.3 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.5 (for x86) Red Hat(R) Enterprise Linux(R) 5.5 (for Intel64)
Red Hat Enterprise Linux 5	Red Hat(R) Enterprise Linux(R) 5 (for x86) Red Hat(R) Enterprise Linux(R) 5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.1 (for x86) Red Hat(R) Enterprise Linux(R) 5.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.2 (for x86) Red Hat(R) Enterprise Linux(R) 5.2 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.3 (for x86) Red Hat(R) Enterprise Linux(R) 5.3 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.5 (for x86) Red Hat(R) Enterprise Linux(R) 5.5 (for Intel64)
RHEL5-Xen	Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Linux Virtual Machine Function Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Linux Virtual Machine Function
SUSE Linux Enterprise Server	SUSE(R) Linux Enterprise Server 11 for x86 SUSE(R) Linux Enterprise Server 11 for EM64T
Oracle VM	Oracle VM Server (for x86)
ESC	ETERNUS SF Storage Cruiser
GLS	PRIMECLUSTER GLS
Navisphere	EMC Navisphere Manager
Solutions Enabler	EMC Solutions Enabler

Abbreviation	Products
MSFC	Microsoft Failover Cluster
SCVMM	System Center Virtual Machine Manager 2008 R2
VMware	VMware vSphere(TM) 4 VMware vSphere(TM) 4.1
VMware FT	VMware Fault Tolerance
VMware DRS	VMware Distributed Resource Scheduler
VMware DPM	VMware Distributed Power Management
VMware vDS	VMware vNetwork Distributed Switch
VIOM	ServerView Virtual-IO Manager
ServerView Agent	ServerView SNMP Agents for MS Windows (32bit-64bit) ServerView Agents Linux ServerView Agents VMware for VMware ESX Server
RCVE	ServerView Resource Coordinator VE
Resource Coordinator	Systemwalker Resource Coordinator Systemwalker Resource Coordinator Virtual server Edition

Export Administration Regulation Declaration

Documents produced by FUJITSU may contain technology controlled under the Foreign Exchange and Foreign Trade Control Law of Japan. Documents which contain such technology should not be exported from Japan or transferred to non-residents of Japan without first obtaining authorization from the Ministry of Economy, Trade and Industry of Japan in accordance with the above law.

Trademark Information

- EMC, EMC², CLARiiON, Symmetrix, and Navisphere are trademarks or registered trademarks of EMC Corporation.
- Linux is a trademark or registered trademark of Linus Torvalds in the United States and other countries.
- Microsoft, Windows, Windows XP, Windows Server, Windows Vista, Windows 7, Excel, Active Directory, and Internet Explorer are either registered trademarks or trademarks of Microsoft Corporation in the United States and other countries.
- NetApp is a registered trademark of Network Appliance, Inc. in the US and other countries. Data ONTAP, Network Appliance, and Snapshot are trademarks of Network Appliance, Inc. in the US and other countries.
- Oracle and Java are registered trademarks of Oracle and/or its affiliates in the United States and other countries.
- Red Hat, RPM and all Red Hat-based trademarks and logos are trademarks or registered trademarks of Red Hat, Inc. in the United States and other countries.
- SUSE is a registered trademark of SUSE LINUX AG, a Novell business.
- VMware, the VMware "boxes" logo and design, Virtual SMP, and VMotion are trademarks or registered trademarks of VMware, Inc. in the United States and/or other jurisdictions.
- ServerView and Systemwalker are registered trademarks of FUJITSU LIMITED.
- All other brand and product names are trademarks or registered trademarks of their respective owners.

Notices

- The contents of this manual shall not be reproduced without express written permission from FUJITSU LIMITED.
- The contents of this manual are subject to change without notice.

Month/Year Issued, Edition	Manual Code
July 2011, First Edition	J2X1-7531-01ENZ0(02)

Contents

Chapter 1 Command Reference

This chapter explains the commands available in Resource Orchestrator.

1.1 Overview

This section provides an overview of the commands available in Resource Orchestrator.

The following types of commands are available:

- Login command

  1.2.1 rcxlogin (*1)

- Resource operation commands

  1.3.1 rcxadm lserver

  1.3.2 rcxadm vstorage

  1.3.3 rcxadm storage

  1.3.4 rcxadm disk

  1.3.5 rcxadm network

  1.3.6 rcxadm pool

  1.3.7 rcxadm folder

  1.3.8 rcxadm addrset

  1.3.9 rcxadm chassis (*2)

  1.3.10 rcxadm server (*2)

  1.3.11 rcxadm tenant

- Image operation command

  1.4.1 rcxadm image (*2)

- L-Server template operation command

  1.5.1 rcxadm template

- User operation commands

  1.6.1 rcxadm user

  1.6.2 rcxadm usergroup

- Control and environment setup commands

  1.7.1 rcxadm storagemgr (*2)

  1.7.2 rcxadm imagemgr (*2)

  1.7.3 rcxadm vmmgr

  1.7.4 rcxadm agtctl (*1)

  1.7.5 rcxadm certctl (*1)

  1.7.6 rcxadm deployctl (*1)

  1.7.7 rcxadm lanctl

  1.7.8 rcxadm mgrctl (*1)

  1.7.9 deployment_service_uninstall (*1)

  1.7.10 rcxadm authctl

  1.7.11 rcxadm config

1.7.12 rcxadm iscsictl

1.7.13 rcxstorage

1.7.14 rcxadm logctl

- Configuration definition commands

1.8.1 rcxbackup

1.8.2 rcxrestore

1.8.3 rcxlogtruncate

1.8.4 rcxreserveid

1.8.5 rcxchkmismatch

1.8.6 rcxrepair

*1: These are existing ServerView Resource Coordinator VE commands.
For details, refer to the "ServerView Resource Coordinator VE Command Reference".
*2: This is an extended ServerView Resource Coordinator VE command.

User accounts with administrative privileges within the operating system can execute all commands. Other user accounts can execute the commands within the allowed scope by logging in beforehand using the rcxlogin command.

Executing privileged commands within a script requires the user to be logged in with administrative privileges for the operating system. Otherwise, the rcxlogin command should first be run with the -save option to grant access to privileged commands from scripts.
For details, refer to the "ServerView Resource Coordinator VE Command Reference".

With Resource Orchestrator, you can restrict the privileges of users by setting combinations of resources (roles) that can be accessed and operations that can be performed.
For details on user accounts and roles, refer to "C.2 User Groups" in the "ServerView Resource Orchestrator User's Guide".

Note

Multibyte characters cannot be used for files or storage folders used by the commands available in Resource Orchestrator.

Information

If, in Windows Server 2008, a user account with administrative privileges that does not have the user name "Administrator" starts up a command prompt from the menu, commands executed in that prompt cannot be executed with administrative privileges.
Right-click the command prompt in the menu, select [Run as administrator] from the displayed menu to start up the command prompt, and run the required command from there.

Point

Commands available on the admin server are all located under the following folder:

[Windows]
Installation_folder\Manager\bin

[Linux]
/opt/FJSVrcvmr/bin

1.2 Login Operations

This section explains the command for logging in to Resource Orchestrator.

1.2.1 rcxlogin

rcxlogin is an existing RCVE command.
For details, refer to "2.1 rcxlogin" in the "ServerView Resource Coordinator VE Command Reference".

1.3 Resource Operations

This section explains the commands used to manage resources in Resource Orchestrator.

1.3.1 rcxadm lserver

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm lserver** - L-Server operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm lserver - L-Server operations

Format

```
rcxadm lserver create -file file.xml [-nowait]
rcxadm lserver delete -name name [-allow deldisk] [-nowait]
rcxadm lserver modify -name name -file file.xml [-nowait]
rcxadm lserver list
rcxadm lserver show -name name [-format {text|xml}]
rcxadm lserver start -name name [-nowait]
rcxadm lserver stop -name name [-force] [-nowait]
rcxadm lserver restart -name name [-force] [-nowait]
rcxadm lserver move -name name [-to folder] [-nowait]
rcxadm lserver attach -name name {-size size [-disk disk] [-from {pool|vstorage}]|-disk disk} [-exist]
[-shared] [-index index] [-system] [-nowait]
rcxadm lserver detach -name name -disk disk [-shared] [-online] [-system] [-force] [-allow deldisk]
[-nowait]
rcxadm lserver detach -name name -type server [-nowait]
rcxadm lserver migrate -name name [-to vmhost] [-mode {live|cold}] [-nowait]
rcxadm lserver setup -name name -type network [-dryrun]
rcxadm lserver set -name name -attr boot={default|pxe} [-net network_name]
rcxadm lserver convert [-name name] -with with [-label label] [-comment comment] [-to folder] [-nowait]
rcxadm lserver revert -name name [-nowait]
```

Description

rcxadm lserver is the command used to perform L-Server management and operations.

Subcommands

create

Creates an L-Server.

delete

Deletes an L-Server. The resources allocated to the L-Server are automatically released, and the L-Server definition is also deleted.

modify

Modifies the resources comprising an L-Server.

list

Displays a list of the defined L-Servers.

The following detailed information is displayed:

- For virtual L-Servers

Table 1.1 Virtual L-Server Information

Item Name	Description
NAME	L-Server name
TYPE	Server type
SPEC	CPU performance, number of CPUs, and memory size
DISKS	Disk size When there are multiple disks, they are displayed separated by commas.
IPADDRESSES	IP address When there are multiple IP addresses, they are displayed separated by commas.
STATUS	L-Server operation status
RESOURCES	Resource allocation status

- For physical L-Servers

For rack mount servers, if agents have not been registered, the following items are not displayed:

- CPU performance
- Number of CPUs
- Memory Size

Table 1.2 Physical L-Server Information

Item Name	Description
NAME	L-Server name
TYPE	Server type
DISKS	Disk size
IPADDRESSES	IP address
STATUS	L-Server operation status
RESOURCES	Resource allocation status

show

To display the detailed information for an L-Server.

The following detailed information is displayed:

- For virtual L-Servers

Table 1.3 Detailed Information for Virtual L-Servers

Item Name	Description
Name	L-Server Name
Label	Label
Comment	Comment
Template	L-Server template name
ServerImage	Image name and version

Item Name	Description
	When the L-Server version cannot be distinguished, it will not be displayed.
ServerType	Server type
VMType	VM type
OSType	Type of OS
CPUArch	CPU architecture
CPUPerf	CPU performance When the limit is not set, a hyphen ("-") is output.
CPUReserve (*1)	The minimum number of CPU resources to be allocated
CPUShare (*1)	The relative proportion for allocation of CPU resources
CPUWeight (*2)	The priority for allocation of CPU resources
NumOfCPU	Number of CPUs
MemorySize	Memory Size
MemoryReserve (*1)	The minimum amount of memory resources to be allocated
MemoryShare (*1)	The relative proportion for allocation of memory resources
StartupRAM (*2)	Initial memory capacity to be allocated at startup
MemoryBuffer (*2)	Available memory to be reserved as a buffer
MemoryWeight (*2)	The priority for allocation of memory resources
VmHost	VM host name This is displayed when an L-Server status is one of the following: - Resources have been allocated (allocated)
VmGuest	VM name for an L-Server This is displayed when an L-Server status is one of the following: - Resources have been allocated (allocated)
OriginalServer	VM host or resource pool to create a virtual machine to allocate to L-Servers
LastServer	VM host that started the last L-Server virtual machine This is displayed when an L-Server status is one of the following: - Servers have been released (preserved)
Status	L-Server operation status
PowerStatus	L-Server power status
Resources	Resource allocation status
ControlledResources	Scope of controlled resources Combinations of Server and Storage are displayed. This is displayed for L-Servers linked to configured virtual machines.
NumOfDisk	The number of disks
Disk[*num*]	The disk name to allocate to L-Servers The index number of the disk element is configured in *num*. The number is 0 or larger. This is displayed when an L-Server status is one of the following: - Resources have been allocated (allocated) - Servers have been released (preserved)

Item Name	Description
DiskSize[*num*]	The disk size to allocate to L-Servers The index number of the disk element is configured in *num*. The number is 0 or larger.
DiskType[*num*]	Virtual disk type of the disk to be allocated to the L-Server The index number of the disk element is configured in *num*. The number is 0 or larger.
OriginalStorage	Virtual storage or resource pool to create the disk to allocate to L-Servers
NumOfNIC	Number of NICs
NIC[*num*]	The network resource name assigned to L-Servers The network element of index number is configured in *num*. The number is 0 or larger.
NIC[*num*][IPAddress]	IP address to allocate to L-Servers The network element of index number is configured in *num*. The number is 0 or larger.
NIC[*num*][MACAddress]	MAC address to allocate to the L-Server The network element of index number is configured in *num*. The number is 0 or larger.
Redundancy	Server redundancy to assign to L-Servers The following are displayed: - HA - None - VMware FT
Positioning	Physical location of the server to allocate to L-Servers
Exclusion	Exclusion When an operation, in which a resource set to be operated exclusively is outside the range of their user access, is performed, only the resource name is displayed.
Priority	Priority order for L-Server creation or startup
ReserveResources	Retaining server resources
OverCommit	Setting for overcommit Only displayed when overcommit settings are enabled.
Snapshot[*num*]	Snapshot collected from L-Servers Displays the version, collected date, and comments.
DevicePath[*num*]	Device path of the disk to be allocated to the L-Server The index number of the disk element is configured in *num*. The number is 0 or larger.
SecondaryServer	VM host name on which a VMware FT secondary virtual machine operates If access to the VM host failed, a hyphen ("-") is displayed.

*1: When values are set for VMware, it is displayed.
*2: When values are set for Hyper-V, it is displayed. The values cannot be set using Resource Orchestrator.

- For physical L-Servers

  For rack mount servers, if agents have not been registered, the following items are not displayed:

  - CPU performance
  - Number of CPUs
  - Memory Size

Table 1.4 Detailed Information for Physical L-Servers

Item Name	Description
Name	L-Server Name
Label	Label
Comment	Comment
ServerType	Server type
OSType	Type of OS
CPUArch	CPU architecture
CPUPerf	CPU performance
NumOfCPU	Number of CPUs
MemorySize	Memory Size
Model	Model name of the server to allocate to L-Server This is displayed when an L-Server status is one of the following: - Resources have been allocated (allocated)
PhysicalServer	Physical server name This is displayed when an L-Server status is one of the following: - Resources have been allocated (allocated)
OriginalServer	The physical server or resource pool to allocate to L-Servers
LastServer	The physical server that last started the L-Server This is displayed when a physical L-Server status is one of the following: - Servers have been released (preserved)
Status	L-Server operation status
PowerStatus	L-Server power status
Resources	Resource allocation status
ControlledResources	Scope of controlled resources Combinations of Server and Storage are displayed. This is displayed for L-Servers linked to configured physical servers.
NumOfDisk	The number of disks
Disk[*num*]	The disk name to allocate to L-Servers The index number of the disk element is configured in *num*. The number is 0 or larger. This is displayed when an L-Server status is one of the following: - Resources have been allocated (allocated) - Servers have been released (preserved)
DiskType[*num*]	The connection method of the disk to allocate to the L-Server The index number of the disk element is configured in *num*. The number is 0 or larger.
DiskSize[*num*]	The disk size to allocate to L-Servers The index number of the disk element is configured in *num*. The number is 0 or larger.
DiskType[*num*]	Virtual disk type of the disk to be allocated to the L-Server

Item Name	Description
	The index number of the disk element is configured in *num*. The number is 0 or larger.
Shared[*num*]	Shared attributes of disks The index number of the disk element is configured in *num*. The number is 1 or larger.
OriginalStorage	Virtual storage or resource pool to create the disk to allocate to L-Servers
NumOfNIC	Number of NICs
NIC[*num*]	The network resource name assigned to L-Servers The network element of index number is configured in *num*. The number is 0 or larger.
NIC[*num*][IPAddress]	IP address to allocate to L-Servers The network element of index number is configured in *num*. The number is 0 or larger.
NIC[*num*][*netlinknum*][IpAddress]	IP address
NIC[*num*][*netlinknum*][VlanMode]	VLAN mode
NIC[*num*][*netlinknum*][DNSServer]	DNS server address
NIC[*num*][*netlinknum*][DefaultGateway]	Default gateway address
NICGroup[*num*][*netlinknum*][IpAddress]	IP address
NICGroup[*num*][*netlinknum*][VlanMode]	VLAN mode
NICGroup[*num*][*netlinknum*][DNSServer]	DNS server address
NICGroup[*num*][*netlinknum*][DefaultGateway]	Default gateway address
NICGroup[*num*][*netlinknum*][NicLinks]	NIC number to be bound
Redundancy	Server redundancy to assign to L-Servers
Positioning	Physical location of the server to allocate to L-Servers
WWNN[*num*]	WWNN to assign to an L-Server The index number of the disk element is configured in *num*. The number is 0 or larger.
WWPN[*num*]	WWPN to assign to an L-Server The index number of the disk element is configured in *num*. The number is 0 or larger.
Priority	Priority order for L-Server creation or startup
ReserveResources	Retaining server resources
iSCSI	Name of the disk resource to allocate to the L-Server
iSCSI DISK Index	Index number of the disk to allocate to the L-Server
iSCSI IQN[*num*][IQN]	IQN name used for the disk connected to the L-Server using iSCSI The index number of the disk element is configured in *num*. The number is 1 or larger.
iSCSI IpAddress	IP address used for the disk connected to the L-Server using iSCSI The index number of the disk element is configured in *num*. The number is 1 or larger.
iSCSI port	iSCSI communication port number used for the disk connected to the L-Server using iSCSI

Item Name	Description
	The index number of the disk element is configured in *num*. The number is 1 or larger.

start

Starts an L-Server.

stop

Stops an L-Server.

restart

Restart the L-Server.

move

Moves an L-Server to the specified resource folder.

attach

Connects a disk resource to an L-Server and enables it to be accessed.

Note

- When an L-Server is powered on, the disk to be attached to must be recognized by the L-Server. Follow the procedure provided by the OS.
- When using physical L-Servers, disks cannot be attached to L-Servers that use iSCSI boot.

detach

Releases a disk resource from an L-Server and disables it from being accessed.

When specifying the -type option, if the "Boot Location" of the physical L-Server is set as "Relocate at startup", the physical server can be released from the L-Server.

Note

When deleting the disk while the physical L-Server is powered on, it is necessary to detach the disk to be deleted in advance.

migrate

Changes the location of an L-Server to a specified host.
Specify either to perform a live migration, which changes the location of the L-Server without stopping it, or a cold migration, which changes the location of the L-Server after temporarily stopping it.
For physical L-Servers, specification is not possible.

setup

When using a physical L-Server, the network information is sent to a specified L-Server.

The information is stored as a file in the destination server.

The storage location and file are as follows:

- File name

  net_info.conf

- Storage location of the file

  [Windows]
  Agent_installation_folder\Resource Orchestrator\Agent\etc\net

  [Linux]
  /etc/opt/FJSVrcxat/net

set

Configure specific parameters, for a physical L-Server.

When the -attr option is specified, the boot mode can be set.

convert

Links an L-Server with a configured virtual machine or physical server.

revert

Cancels the link between an L-Server and a configured physical server or virtual machine.

When the disk resource is a LUN that has been created in advance, the data on the disk will not be deleted.
When using delete or detach on a LUN that has been created in advance, it is recommended to delete the data on the disk.
For details on the method for deleting the data on a disk, refer to cautionary notes in "5.3.3 Storage Resources" of the "ServerView Resource Orchestrator User's Guide".

Options

-file *file.xml*

In *file.xml*, specify the path of the XML file that defines the resources that comprise the L-Server. For details on the XML file definition, refer to "2.3 L-Servers".

[Xen]
When the VM type is "RHEL-Xen", the image name cannot be specified.

-format text|xml

Specify the display format. You can specify text or xml format.

When -format is omitted, it is displayed in text format.

When performing the following operation, specify the XML and obtain the information.

For XML, refer to "2.2 L-Server Template" or "2.3 L-Servers".

- When changing an L-Server using a command
- When creating an L-Server template from an existing L-Server
- When creating an L-Server with the same configuration as an existing L-Server using a command

When outputting the XML for a virtual L-Server with Hyper-V specified for the VM type, units are displayed for the values of Startup RAM and Memory Buffer. However this has no effect on operation.

-nowait

Use this option to return directly to the command prompt without waiting for the operation of the L-Server specified in the subcommand to complete its execution.

-name *name*

In *name*, specify the name of the target L-Server to perform an operation with. To specify an L-Server that is located in a tenant folder or a resource folder, it is necessary to also specify the tenant folder name or the resource folder name connected with a slash ("/").

When specifying the convert subcommand, specify the name for the L-Server. For the characters that can be used for L-Server names, refer to the list of items specified in XML Definitions in "2.3.1 For Physical L-Servers" and "2.3.2 For Virtual L-Servers".

When specifying the convert subcommand and omitting the -name option, the L-Server name is set as follows.

- When linking a physical server to an L-Server

  If the physical server name of the configured physical server is a possible value for the L-Server name described in "Table 2.3 List of Items Specified in XML Definitions for Physical L-Servers" in "2.3.1 For Physical L-Servers", the physical server name will be set as the L-Server name. If not, an error will occur and the operation will be aborted.

- When linking a configured virtual machine to an L-Server

  If the VM name of the configured virtual machine is a possible value for the L-Server name described in "Table 2.5 List of Items Specified in XML Definitions for Virtual L-Servers" in "2.3.2 For Virtual L-Servers", the VM name will be set as the L-Server name. If not, an error will occur and the operation will be aborted.

-to *vmhost*

For virtual L-Servers, specify the name of the destination VM host in *vmhost*. The VM host must be registered in a VM pool. If this option is not specified, a VM host is automatically selected from the VM pools.

Specify a destination VM host with available CPU capacity and memory. If there is insufficient CPU capacity or memory, migration between servers or starting of L-Servers may fail.

-mode live|cold

For virtual L-Servers, specify the migration method Specify "live" to perform a live migration. Specify "cold" to perform a cold migration. This may not be able to be specified, depending on the power state of the VM guest. When omitted, the appropriate type will be chosen depending on the state of the VM guest.

-force

For stop/restart, use this option to forcibly stop or restart an L-Server without shutting down the operating system it is running on.

For detach, also use this option to release disk resources, ignoring any errors which occur when releasing disk resources for physical L-Servers. Specify this option only for physical L-Servers.

-to *folder*

Specify a resource folder to place an L-Server in for *folder*. For the hierarchized resource folder, specify the resource folder name using slashes ("/"). When omitted, the L-Server is placed in the home folder.

When executed by a user who has multiple access scopes specified, it cannot be omitted. Specify a resource folder.

-size *size*

In *size*, specify the disk capacity, in units of GB. Up to one decimal place can be specified.

-from *pool*|*vstorage*

Specify the name of the resource pool or virtual storage resource from which to take the disk capacity to allocate to the L-Server.

For a resource pool or a virtual storage resource located in the resource folder, specify the resource folder name using slashes ("/").

When omitted, resource selection is performed automatically with priority given to storage pools.

-disk *disk*

Specify the name of the disk resource to allocate to the L-Server or release from the L-Server.

-index *index*

Specify the disk number of the disk resource. By default, the number of the last disk allocated plus one is used. The maximum value differs according to the server type.

-online

Use this option to remove the disk from the L-Server while the server is running. Setting is only possible when the server type is "VM". If you remove a disk in use while the server is running, inconsistencies may occur in the data or the OS management information. Use this option after checking the status of the OS and applications.

[Oracle VM]
The disk cannot be removed while the L-Server is running.

-exist

For physical L-Servers, specify an already created LUN for connection.

Specify this option only for physical L-Servers.

-shared

For physical L-Servers, specify a disk resource to share with other L-Servers.

Specify this option only for physical L-Servers.

-system

When attach/detach is specified, the system disk will be the target. If omitted, the system disk is not the target.

Specify this option only for physical L-Servers.

-dryrun

The network information file is output.

```
NIC0_MacAddress="xx:xx:xx:xx:xx:xx"

# Single NIC Information
SingleNics="0"
NIC0_NetworkLinks="0"

NIC0_0_VlanMode="untagged"
NIC0_0_IpAddress="192.168.24.124"
NIC0_0_Vlanid=1
NIC0_0_Netmask="255.255.255.0"
NIC0_0_DefaultGateway="192.168.24.254"
```

-attr boot={default|pxe}

When using a physical L-Server, configure the boot mode by specifying default or pxe.

When setting the boot mode to PXE, specify "pxe". When returning the boot mode to the default mode, specify "default".

-net *network_name*

In *network_name*, specify the network resource name to perform PXE boot.

When PXE is set for the boot mode, perform PXE boot from the network of the specified network resource.

-allow deldisk

This option can only be specified for deldisk.

Specify this option when there are no problems even if disk contents are deleted by the following operations.

Omitting this option will cause an operational failure when there is the possibility that disk contents will be deleted by these operations.

- Deleting an L-Server
- Releasing disk resources from an L-Server

-type server

For physical L-Servers, specify in order to release a physical server from an L-Server.

-type network

For physical L-Servers, specify in order to send network information to the L-Server that is specified for the -name option.

-label *label*

In *label*, specify the label for the L-Server.

-comment *comment*

In *comment*, specify the comments for the L-Server.

-with *with*

In *with*, specify the virtual machine or physical server linked to an L-Server.

Specify the resource folder name or the resource pool name connected with slashes ("/").

```
/Resource_folder_name/Resource_pool_name/VM_host_name/Virtual_machine_name
/Resource_folder_name/Resource_pool_name/Physical_server name
/Resource_pool_name/VM_host_name/Virtual_machine_name
/Resource_pool_name/Physical_server_name
```

Examples

- To display the list of defined L-Servers:

```
>rcxadm lserver list <RETURN>
NAME       TYPE      SPEC             DISKS           IPADDRESSES              STATUS RESOURCES
----       ----      --------------   --------------  -----------              ------ ---------
L-Server1  Virtual   1.0GHz,1,2.0GB   30.0GB,100.0GB  10.20.30.40,10.20.40.50 normal allocated
L-Server2  Virtual   1.0GHz,1,2.0GB   30.0GB,100.0GB  10.20.30.41              stop   preserved
L-Server3  Virtual   1.0GHz,1,2.0GB   30.0GB,100.0GB  -                        stop   defined
L-Server11 Physical  2.3GHz,2,72.0GB  30.0GB          10.30.40.2               normal allocated
L-Server12 Physical  2.3GHz,2,72.0GB  30.0GB          10.30.40.3               stop   preserved
L-Server13 Physical  2.3GHz,2,72.0GB  30.0GB          -                        stop   defined
```

- To display the detailed information for an L-Server:

```
>rcxadm lserver show -name /TenantA/test4 <RETURN>
Name: test4
ServerType: Virtual
VMType: VMware
OSType: Microsoft Windows Server 2008 (32-bit)
CPUArch: IA
CPUPerf: 1GHz
CPUReserve: 0.7GHz
CPUShare: 1000
NumOfCPU: 1
MemorySize: 1GB
MemoryReserve: 0.7GB
MemoryShare: 1000
VmHost: vmhost
VmGuest: test4-62
Status: stop
PowerStatus: off
Resources: allocated
NumOfDisk: 1
Disk[0]: test4-0-disk0
DiskSize[0]: 4GB
NumOfNIC: 1
NIC[0]: vnet1
NIC[0][IPAddress]: 192.168.1.2
NIC[0][MACAddress]: 00:50:56:91:09:21
Redundancy: None
Positioning: Fixed
Priority: 128
Repurpose: true
OverCommit: true
```

1.3.2 rcxadm vstorage

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm vstorage** - virtual storage resource operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm vstorage - virtual storage resource operations

Format

```
rcxadm vstorage list [-verbose]
rcxadm vstorage show -name name
rcxadm vstorage move -name name -to pool [-nowait]
rcxadm vstorage modify -name name [-label label] [-comment comment]
```

Description

rcxadm vstorage is the command used to perform operations on the virtual storage resources provided by storage management software and VM management software. Virtual storage is a storage resource that can be allocated part of a disk resource by specifying a size.

Virtual storage resources enable you to create disk resources to connect to L-Servers.

Subcommands

list

Displays a list of virtual storage resource information.

The following detailed information is displayed:

Table 1.5 Virtual Storage Resource Information

Item Name	Description
NAME	Virtual storage resource name
LABEL	Virtual storage resource label
COMMENT (*1)	Virtual storage resource comment
TOTAL	Total virtual storage resource size [Oracle VM] If the virtual storage resource is a storage repository of Oracle VM, it is not displayed.
FREE	Virtual storage resource free space [Oracle VM] For the displayed value, refer to "G.4.7 Advisory Notes for Oracle VM Usage" of the "ServerView Resource Orchestrator User's Guide".
USED (*1)	Virtual storage resource used space [Oracle VM] If the virtual storage resource is a storage repository of Oracle VM, it is not displayed.
STATUS	Virtual storage resource status

*1: When specifying -verbose for the option, it is displayed.

show

To display the detailed information for a virtual storage resource.

The following detailed information is displayed:

Table 1.6 Detailed Information for Virtual Storage Resources

Item Name	Description
NAME	Virtual storage resource name
LABEL	Virtual storage resource label

Item Name	Description
COMMENT	Virtual storage resource comment
TOTAL SIZE	Total virtual storage resource size [Oracle VM] If the virtual storage resource is a storage repository of Oracle VM, it is not displayed.
FREE SIZE	Virtual storage resource free space [Oracle VM] For the displayed value, refer to "G.4.7 Advisory Notes for Oracle VM Usage" of the "ServerView Resource Orchestrator User's Guide".
USED SIZE	Virtual storage resource used space [Oracle VM] If the virtual storage resource is a storage repository of Oracle VM, it is not displayed.
STATUS	Virtual storage resource status

move

Moves a virtual storage resource to the specified resource pool.

modify

Changes labels and comments of virtual storage resources.

Options

-name *name*

In *name*, specify the name of the target virtual storage resource to perform an operation with.

-to *pool*

Specify the destination resource pool in *pool*.

For the resource pool allocated in the resource folder, specify the resource folder name using slashes ("/").

-nowait

Use this option to return directly to the command prompt without waiting for the operation of the virtual storage resource specified in the subcommand to complete its execution.

-label *label*

In *label*, specify the new label.

-verbose

Use this option to increase the items displayed in the list of information.

-comment *comment*

In *comment*, specify the new comments.

Examples

- To display the list of the virtual storage resource information:

```
>rcxadm vstorage list <RETURN>
NAME                    LABEL    TOTAL        FREE         STATUS
----                    -----    -----        ----         ------
vCenterServer_Storage1  -        100.0GB      80.0GB       normal
vCenterServer_data02    -        100.0GB      40.0GB       normal
```

```
vCenterServer_data03      -        100.0GB      40.0GB        normal
vCenterServer_data04      -        100.0GB      20.0GB        normal
```

- To display the details of the virtual storage resource information:

```
>rcxadm vstorage list -verbose <RETURN>
NAME                    LABEL  COMMENT  TOTAL    FREE    USED    STATUS
----                    -----  -------  -----    ----    ----    ------
vCenterServer_Storage1  -      -        100.0GB  80.0GB  20.0GB  normal
vCenterServer_data02    -      -        100.0GB  40.0GB  60.0GB  normal
vCenterServer_data03    -      -        100.0GB  40.0GB  60.0GB  normal
vCenterServer_data04    -      -        100.0GB  20.0GB  80.0GB  normal
```

- To display the detailed information for a virtual storage resource:

```
>rcxadm vstorage show -name vCenterServer_Storage1 <RETURN>
Name: vCenterServer_Storage1
Label:
Comment:
Total Size: 100.0GB
Free Size: 80.0GB
Used Size: 20.0GB
Status: normal
```

1.3.3 rcxadm storage

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm storage** - physical storage unit resource operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm storage - physical storage unit resource operations

Format

```
rcxadm storage list [-verbose]
rcxadm storage show -name name
rcxadm storage modify -name name [-label label] [-comment comment]
```

Description

rcxadm storage is the command used to perform operations on the physical storage unit resources managed by storage management software.

Subcommands

list

Displays a list of physical storage unit resource information.

The following detailed information is displayed:

Table 1.7 Physical Storage Unit Resource Information

Item Name	Description
NAME	Physical storage unit resource name
LABEL	Physical storage unit resource label

Item Name	Description
COMMENT (*1)	Physical storage unit resource comment
IP ADDRESS	Physical storage unit resource IP address
STATUS	Physical storage unit resource status
MODEL (*1)	Physical storage unit resource model name
DEVICE ID (*1)	Physical storage unit resource unit identifier

*1: When specifying -verbose for the option, it is displayed.

show

To display details of physical storage unit resource information.

The following detailed information is displayed:

Table 1.8 Detailed Information for Physical Storage Unit Resources

Item Name	Description
NAME	Physical storage unit resource name
LABEL	Physical storage unit resource label
COMMENT	Physical storage unit resource comment
MODEL	Physical storage unit resource model name
SERIAL NUMBER	Physical storage unit resource serial number
IP ADDRESS	Physical storage unit resource IP address
STATUS	Physical storage unit resource status
PORT NUMBER	Physical storage unit resource port number
MANAGEMENT SOFTWARE	Storage management software name
DEVICE ID	Physical storage unit resource unit identifier

modify

Changes labels and comments of physical storage unit resources.

Options

-name *name*

In *name*, specify the name of the target physical storage unit resource to perform an operation with.

-verbose

Use this option to increase the items displayed in the list of information.

-label *label*

In *label*, specify the new label.

-comment *comment*

In *comment*, specify the new comments.

Examples

- To display a list of physical storage unit resource information:

```
>rcxadm storage list <RETURN>
NAME                    LABEL    IP ADDRESS       STATUS
```

```
----                    -----    ----------       ------
DX90-1                  -        192.168.0.201    normal
```

- To display the details of physical storage unit resource information:

```
>rcxadm storage list -verbose <RETURN>
NAME          LABEL    COMMENT  IP ADDRESS       STATUS   MODEL                 DEVICE ID
----          -----    -------  ----------       ------   -----                 ---------
DX90-1        -        -        192.168.0.201    normal   ETERNUSDXL(ET09E24A)  192.168.0.201
```

- To display the detailed information for a virtual storage resource:

```
>rcxadm storage show -name DX90-1 <RETURN>
Name: DX90-1
Label:
Comment:
Model: ETERNUSDXL(ET09E24A)
Serial number: 1234567890
IP address: 192.168.0.201
Status: normal
Port number: 6
Management software: ETERNUS SF Storage Cruiser
Device ID: 192.168.0.201
```

1.3.4 rcxadm disk

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm disk** - disk resource operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm disk - disk resource operations

Format

rcxadm disk list [-verbose]
rcxadm disk show -name *name*
rcxadm disk move -name *name* **-to** *pool* **[-nowait]**
rcxadm disk modify -name *name* **[-label** *label***] [-comment** *comment***]**

Description

rcxadm disk is the command used to perform operations on disk resources. A disk resource is allocated to an L-Server, and corresponds to the virtual disk of the VM guest, a LUN of ETERNUS/EMC CLARiiON/EMC Symmetrix DMX, and FlexVol of NetApp.

Disk resources provide virtual disks to L-Servers.

Subcommands

list

Displays a list of disk resource information.

The following detailed information is displayed:

Table 1.9 Disk Resource Information

Item Name	Description
NAME	Disk Resource Name
LABEL	Disk resource label
COMMENT (*1)	Disk resource comment
TOTAL	Total disk resource size
STATUS	Disk resource status
VSTORAGE NAME (*1)	Virtual storage resource name that is the source for disk resource creation
SHARED (*1)	Shared attributes of disks When disk shared attributes are specified for the XML definition "Yes" is displayed, when not specified "No" is displayed. Even if only one L-Server is using the disk, "Yes" is displayed when disk shared attributes are specified for the XML definition.
UNIT_NAME (*1)	Identifier of the physical storage unit resource where disk resources exist
VOLUME_ID (*1)	Volume identifier of the physical storage unit corresponding to disk resources
PRE_CREATED (*1)	When the disk was created in advance using storage management software, "Yes" is displayed. When it was created using resource Orchestrator, "No" is displayed.

*1: When specifying -verbose for the option, it is displayed.

show

To display the detailed information for a disk resource.

The following detailed information is displayed:

Table 1.10 Detailed Information for Disk Resources

Item Name	Description
NAME	Disk Resource Name
LABEL	Disk resource label
COMMENT	Disk resource comment
TOTAL	Total disk resource size
STATUS	Disk resource status
VSTORAGE NAME	Virtual storage resource name that is the source for disk resource creation
SHARED	Shared attributes of disks When disk shared attributes are specified for the XML definition "Yes" is displayed, when not specified "No" is displayed. Even if only one L-Server is using the disk, "Yes" is displayed when disk shared attributes are specified for the XML definition.
POOL_NAME	Name of the storage pool where disk resources have been registered
UNIT_NAME	Identifier of the physical storage unit resource where disk resources exist
VOLUME_ID	Volume identifier of the physical storage unit corresponding to disk resources
L-SERVER[*num*]	Name of the L-Server to which disk resources are being connected (*diskindex*) In *diskindex*, the index number corresponding to the disk element of the L-Server to which disk resources are being connected is set. When the disk resource is being shared among multiple L-Servers, the index number of the L-Server is set in *num*. The number is 0 or larger.

Item Name	Description
PRE_CREATED	When the disk was created in advance using storage management software, "Yes" is displayed. When it was created using resource Orchestrator, "No" is displayed.
iSCSI[*num*] [STORAGE IQN]	IQN name of the storage port used by disk resources with which iSCSI connection is made The index number of the disk element is configured in *num*. The number is 1 or larger.
iSCSI[*num*] [STORAGE IPAddress]	IP address of the storage port used by disk resources with which iSCSI connection is made The index number of the disk element is configured in *num*. The number is 1 or larger.
iSCSI[*num*] [SERVER IQN]	IQN name of the server used by disk resources with which iSCSI connection is made The index number of the disk element is configured in *num*. The number is 1 or larger.
iSCSI[*num*] [SERVER IPAddress]	IP address of the server used by disk resources with which iSCSI connection is made The index number of the disk element is configured in *num*. The number is 1 or larger.
iSCSI[*num*] [port]	iSCSI communication port number used by disk resources with which iSCSI connection is made The index number of the disk element is configured in *num*. The number is 1 or larger.
iSCSI[*num*] [Authentication Method]	Authentication mode adapted to iSCSI communication used by disk resources with which iSCSI connection is made When not using authentication for iSCSI communication, "NONE" is displayed. When using CHAP or mutual authentication, "CHAP" and "MutualCHAP" are displayed respectively. The index number of the disk element is configured in *num*. The number is 1 or larger.

move

Moves disk resources to the specified resource pool. Only the resources created in advance on a disk can be moved.

modify

Changes labels and comments of disk resources.

Options

-verbose

Use this option to increase the items displayed in the list of information.

-name *name*

In *name*, specify the name of the target disk resource to perform an operation with.

-to *pool*

Specify the destination resource pool in *pool*.
For the resource pool allocated in the resource folder, specify the resource folder name using slashes ("/").

-nowait

Use this option to return directly to the command prompt without waiting for the operation of the disk resource specified in the subcommand to complete its execution.

-label *label*

In *label*, specify the new label.

-comment *comment*

In *comment*, specify the new comments.

Examples

- To display the list of disk resource information:

```
>rcxadm disk list <RETURN>
NAME            LABEL TOTAL  STATUS
----            ----- -----  ------
R0x0000_V0x0004 -     15.0GB normal
R0x0000_V0x0006 -      6.0GB normal
```

- To display a list of detailed disk resource information:

```
>rcxadm disk list -verbose <RETURN>
NAME            LABEL COMMENT TOTAL  STATUS VSTORAGE_NAME          SHARED UNIT_NAME
VOLUME_ID PRE_CREATED
----            ----- ------- -----  ------ -------------          ------ ---------
--------- -----------
R0x0000_V0x0004 -     -       15.0GB normal P192-168-0-201_R0x0000 No     192.168.0.201
0x0004    Yes
R0x0000_V0x0006 -     -       6.0GB  normal P192-168-0-201_R0x0000 No     192.168.0.201
0x0006    Yes
```

- To display the detailed information for a disk resource:

```
>rcxadm disk show -name Physical-L-Server-0-disk0 <RETURN>
Name: Physical-L-Server-0-disk0
Label:
Comment:
Total Size: 10.0GB
Status: normal
Vstorage Name: P192-168-0-201_R0x0003
Shared: No
Pool Name: /StoragePool
Unit Name: DX90-1(192.168.0.201)
Volume Id: 0x0065
L-Server: /Physical-L-Server(0)
Pre Created: No
```

- To display the detailed information for a disk resource with which has an iSCSI connection:

```
>rcxadm disk show -name iSCSI-Disk-0 <RETURN>
Name: iSCSI-Disk-0
Label:
Comment:
Total Size: 10.0GB
Status: normal
Vstorage Name: iSCSI-vstorage
Shared: No
Pool Name: /StoragePool
Unit Name: iSCSI-storagemgr
Volume Id:
L-Server:
Pre Created: Yes
iSCSI[0] [STORAGE IQN]: iqn.2011-03.com.fujitsu:iscsi:storage-0
iSCSI[0] [STORAGE IPAddress]: 192.168.0.1
iSCSI[0] [SERVER IQN]: iqn.2011-03.com.fujitsu:iscsi:server-01
iSCSI[0] [SERVER IPAddress]: 192.168.0.10
iSCSI[0] [port]: 3260
iSCSI[0] [Authentication Method]: CHAP
iSCSI[1] [STORAGE IQN]: iqn.2011-03.com.fujitsu:iscsi:storage-1
```

```
iSCSI[1] [STORAGE IPAddress]: 192.168.0.2
iSCSI[1] [SERVER IQN]: iqn.2011-03.com.fujitsu:iscsi:server-01
iSCSI[1] [SERVER IPAddress]: 192.168.0.11
iSCSI[1] [port]: 3260
iSCSI[1] [Authentication Method]: CHAP
```

1.3.5 rcxadm network

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm network** - network resource operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm network - network resource operations

Format

rcxadm network create -file *file.xml* **[-nowait]**
rcxadm network list
rcxadm network show -name *name* **[-format {text|xml}]**
rcxadm network move -name *name* **-to** *pool* **[-nowait]**
rcxadm network delete -name *name* **[-nowait]**
rcxadm network modify -name *name* **-file** *file.xml* **[-nowait]**

Description

rcxadm network is the command used to manage network resources. The command can be used to define network resources for the internal or external network, and manage the IP address range and subnet mask to allocate.

Subcommands

create

Creates a network resource.

modify

Changes a network resource.

list

Displays a list of network resource information.

The following detailed information is displayed:

Table 1.11 Network Resource Information

Item Name	Description
NAME	Network resource name
SUBNET	Network resource subnet
VLAN ID	Network resource VLAN ID
LABEL	Network resource label
TYPE	Network resource type - admin: admin LAN - blank: other LANs

show

To display the detailed information for a network resource.

The following detailed information is displayed:

Table 1.12 Detailed Information for Network Resources

Item Name	Description
NAME	Network resource name
TYPE	Network resource type - admin: admin LAN - blank: other LANs
LABEL	Network resource label
AUTO	Automatic configuration for network resources - true A network environment configured automatically is used. - false A network environment configured manually is used.
COMMENT	Network resource comment
VLAN ID	Network resource VLAN ID
SUBNET	Network resource subnet
MASK	Network resource subnet mask
START - END	IP address range auto-configuration
EXCLUDE ADDRESS RANGE	IP address exclusion range
DEFAULT_GATEWAY	Default gateway If no default gateway is set, this is not displayed.
EXTERNAL PORT CHASSIS	External port chassis name
EXTERNAL PORT SWITCH	External port switch name
EXTERNAL PORT NUMBER	External port port number
L_SERVER	Name of the L-Server connected to the network resource, and the IP address being used

move

Moves a network resource to the specified resource pool.

delete

Deletes a network resource.

Options

-file *file.xml*

In *file.xml*, specify the XML file that defines the network resource.
For details on the XML file definition, refer to "2.4 Network Resources".

-format text|xml

Specify the display format. You can specify text or xml format.

When -format is omitted, it is displayed in text format.

-nowait

Use this option to return directly to the command prompt without waiting for the operation of the network resource specified in the subcommand to complete its execution.

-name *name*

In *name*, specify the name of the target network resource to perform an operation with.

-to *pool*

Specify the destination resource folder in *pool*.

For the hierarchized resource folder, specify the resource folder name using slashes ("/").

Examples

- To display the list of network resource information:

```
>rcxadm network list <RETURN>
NAME           VLAN_ID SUBNET             LABEL       TYPE
----           ------- ------             -----       ----
net_aa1        -       20.10.10.0         net_label   admin
net_aa2        -       20.10.11.0         -
```

- To display the detailed information for a network resource:

```
>rcxadm network show -name net_aa1 <RETURN>
name: net_aa1
type: admin
label: net_label
auto: true
comment: net_comment
vlan_id: 1234
subnet: 20.10.10.0
mask: 255.255.255.0
start - end: 20.10.10.1 - 20.10.255.1
exclude_address_range[0]: 20.10.10.1 - 20.10.20.1
exclude_address_range[1]: 20.10.21.1 - 20.10.31.11
default_gateway: 20.10.10.1
external_port_chassis[0]: chassis
external_port_switch[0]: switch_aa
external_port_number[0]: 10
external_port_chassis[1]:
external_port_switch[1]:
external_port_number[1]: 11
l_server[0]: a (20.10.10.2)
```

1.3.6 rcxadm pool

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm pool** - resource pool operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm pool - resource pool operations

Format

```
rcxadm pool create -name name -type type [-priority priority] [-label label] [-comment comment] [-nowait]
rcxadm pool list [-name name [-template template_name] [-resource] [-info lserver]] [-reserve]
rcxadm pool show -name name
rcxadm pool register -name name {-resource resource_name|-from vstorage} -type resource_type [-force] [-nowait]
rcxadm pool unregister -name name {-resource resource_name|-from vstorage} -type resource_type [-nowait]
rcxadm pool modify -name name {[-new_name new_name] [-priority priority] [-label label] [-comment comment]} [-nowait]
rcxadm pool move -name name [-to folder] [-nowait]
rcxadm pool delete -name name [-force] [-nowait]
```

Description

rcxadm pool is the command used to manage resource pools. A resource pool is a type of resource folder in the orchestration tree, which stores the resources to select when creating or adding an L-Server. A resource pool type is specified when creating a resource pool, and only resources of a specific type are stored in each type of resource pool.

Resource pools enable you to manage all the resources allocated when creating an L-Server.

Note

- When using a LUN that has been created in advance as a disk resource, if the L-Server is deleted or disks are deleted from L-Servers, the content of disks will remain (is not deleted).
  When using disk resources that are registered in global pools, perform operation carefully, as the disk resources will be allocated to other users.
- When using a LUN that has been created in advance as a disk resource, it is recommended to operate the LUN in a local pool, and delete data on the disk during deletion of L-Servers or detachment of disks.
  For details on the method for deleting the data on a disk, refer to cautionary notes in "5.3.3 Storage Resources" of the "ServerView Resource Orchestrator User's Guide".
- To operate disk resources used for iSCSI boot, use the iSCSI boot information operation command (rcxadm iscsictl).
  When deleting disk resources using this command, they are unregistered from the resource pools, but the disk resource information will remain.
  To delete the disk resource information, register the disk resources to resource pools again, and then delete them by executing the rcxadm iscsictl command.

Subcommands

create

Creates a resource pool.

list

Displays a list of resource pools.
If you specify -name for the option, the specified resource pool and a list of the resources included in the resource pool are displayed.
If you do not specify -name for the option, the information for all the resource pools that can be accessed is displayed.

The following detailed information is displayed:

- When not specifying -name for the option
  - For VM pools

    When a calculation for the available space for the VM pool used for overcommit is set with a reservation value, it will be reflected on the information output in the following item names:

- CPU(*max*)

- MEMORY(*max*)

Table 1.13 VM Pool Information

Item Name	Description
NAME	VM pool name
TYPE	Resource Pool Types
PRIORITY	Priority
CPU(*max*)	The free size and the total size of the VM host CPUs In *max*, the maximum number of CPUs which can be allocated to a VM guest is displayed in "*Performance*GHz * *Cores*" format.
RESERVE-CPU (*1)	The CPU reservation size of the VM host For VM hosts for which the HA function provided by server virtualization software is available, the reserved capacity for a failover is displayed. For VM hosts for which the HA function is unavailable, or for operations with no reservation for failover, a hyphen ("-") is displayed.
MEMORY(*max*)	The free size and the total size of the VM host memory In *max*, the maximum memory which can be allocated to a VM host is displayed in "*Space*GB" format.
RESERVE-MEMORY (*1)	The memory reservation capacity of the VM host For VM hosts for which the HA function provided by server virtualization software is available, the reserved capacity for a failover is displayed. For VM hosts for which the HA function is unavailable, or for operations with no reservation for failover, a hyphen ("-") is displayed.

*1: When specifying -reserve for the option, this is displayed.

- For server pools

Table 1.14 Server Pool Information

Item Name	Description
NAME	Server pool name
TYPE	Resource Pool Types
PRIORITY	Priority
SERVER	The total and unused number of physical servers

- For storage pools

Table 1.15 Storage Pool Information

Item Name	Description
NAME	Storage pool name
TYPE	Resource Pool Types
PRIORITY	Priority
CAPACITY(*max*)	The total size and the free size of the virtual storage memory [Oracle VM] For the free size of virtual storage resources, refer to "G.4.7 Advisory Notes for Oracle VM Usage" of the "ServerView Resource Orchestrator User's Guide".

Item Name	Description
	The total size of virtual storage resources will not be displayed when the virtual storage resource is an Oracle VM storage repository. In *max*, the maximum disk space which can be allocated to a VM host is displayed in "*Space*GB" format. [Oracle VM] For the maximum disk space which can be allocated to a VM host, refer to "Virtual storage resource free space" in "G.4.7 Advisory Notes for Oracle VM Usage" of the "ServerView Resource Orchestrator User's Guide".

- For network pools

Table 1.16 Network Pool Information

Item Name	Description
NAME	Network pool name
TYPE	Resource Pool Types
PRIORITY	Priority
VLAN ID	Total number and unused number of VLAN IDs

- For address pools

Table 1.17 Address Pool Information

Item Name	Description
NAME	Address pool name
TYPE	Resource Pool Types
PRIORITY	Priority
ADDRESS	Total number and unused number of addresses

- For image pools

Table 1.18 Image Pool Information

Item Name	Description
NAME	Image pool name
TYPE	Resource Pool Types
PRIORITY	Priority
IMAGE	Image number

- When specifying -name for the option

  - For VM pools

    When a calculation for the available space for the VM pool used for overcommit is set with a reservation value, it will be reflected on the information output in the following item names:

    - CPU(*max*)

    - MEMORY(*max*)

    - CPU(*FREE*)

    - MEMORY(*FREE*)

Table 1.19 VM Pool Information

Item Name	Description
NAME	VM pool name

Item Name	Description
TYPE	Resource Pool Types
PRIORITY	Priority
CPU(*max*)	The free size and the total size of the VM host CPUs In *max*, the maximum number of CPUs which can be allocated to a VM guest is displayed in "*Performance*GHz * *Cores*" format.
RESERVE-CPU (*1)	The CPU reservation size of the VM host For VM hosts for which the HA function provided by server virtualization software is available, the reserved capacity for a failover is displayed. For VM hosts for which the HA function is unavailable, or for operations with no reservation for failover, a hyphen ("-") is displayed.
MEMORY(*max*)	The free size and the total size of the VM host memory In *max*, the maximum memory which can be allocated to a VM host is displayed in "*Space*GB" format.
RESERVE-MEMORY (*1)	The memory reservation capacity of the VM host For VM hosts for which the HA function provided by server virtualization software is available, the reserved capacity for a failover is displayed. For VM hosts for which the HA function is unavailable, or for operations with no reservation for failover, a hyphen ("-") is displayed.
PER-TEMPLATE (*2)	Number of L-Servers which can be created in the specified L-Server template definition

*1: When specifying -reserve for the option, this is displayed.
*2: When specifying -template for the option, this is displayed.

Table 1.20 Resource Information Included in VM Pools

Item Name	Description
NAME	Resource name included in the resource pool
TYPE	Type of resources included in the resource pools
CPU(*FREE*)	The free size and the total size of the VM host CPUs Free space is displayed in *FREE*:
RESERVE-CPU (*1)	The CPU reservation size of the VM host For VM hosts for which the HA function provided by server virtualization software is available, the reserved capacity for a failover is displayed. For VM hosts for which the HA function is unavailable, or for operations with no reservation for failover, a hyphen ("-") is displayed.
MEMORY(*FREE*)	The free size and the total size of the VM host memory Free space is displayed in *FREE*:
RESERVE-MEMORY (*1)	The memory reservation capacity of the VM host For VM hosts for which the HA function provided by server virtualization software is available, the reserved capacity for a failover is displayed. For VM hosts for which the HA function is unavailable, or for operations with no reservation for failover, a hyphen ("-") is displayed.
STATUS	Resource status
CLUSTER (*1)	The name of a cluster that the VM host belongs to

Item Name	Description
	For the VM hosts not belonging to a cluster, a hyphen ("-") is displayed.
MAINTENANCE	Maintenance mode
PER-TEMPLATE (*2)	Number of L-Servers which can be created in the specified L-Server template definition

*1: When specifying -reserve for the option, this is displayed.
*2: When specifying -template for the option, this is displayed.

The following information is output when -resource is specified for the option.

Table 1.21 Resource Information Included in VM Hosts

Item Name	Description
NAME	Virtual machine name
TYPE	Resource types
VM_HOST	VM host
L-SERVER (*1)	The linked L-Server name

*1: When specifying -info lserver for the option, this is displayed.

Note

When calculating the number of L-Servers using reservation values, if an L-Server template for which the CPU reservation performance and the memory reservation capacity of 0 is specified, O will be displayed for the number of possible L-Servers for creation.

- For server pools

Table 1.22 Server Pool Information

Item Name	Description
NAME	Server pool name
TYPE	Resource Pool Types
PRIORITY	Priority
SERVER	The total and unused number of physical servers
PER-TEMPLATE (*1)	Number of L-Servers which can be created in the specified L-Server template definition

*1: When specifying -info lserver for the option, this is displayed.

Table 1.23 Resource Information Included in Server Pools

Item Name	Description
NAME	Resource name included in the resource pool
TYPE	Type of resources included in the resource pools
MODEL	Physical server model name
CPU	Physical server CPU size
MEMORY	Memory size of a physical server
STATUS	Resource status
MAINTENANCE	Maintenance mode
L-SERVER (*1)	The linked L-Server name

Item Name	Description
PER-TEMPLATE (*2)	Number of L-Servers which can be created in the specified L-Server template definition

*1: When specifying -info lserver for the option, this is displayed.
*2: When specifying -template for the option, this is displayed.

- For storage pools

Table 1.24 Storage Pool Information

Item Name	Description
NAME	Storage pool name
TYPE	Resource Pool Types
PRIORITY	Priority
CAPACITY(*max*)	The total size and the free size of the virtual storage memory [Oracle VM] For the free size of virtual storage resources, refer to "G.4.7 Advisory Notes for Oracle VM Usage" of the "ServerView Resource Orchestrator User's Guide". The total size of virtual storage resources will not be displayed when the virtual storage resource is an Oracle VM storage repository. In *max*, the maximum disk space which can be allocated to a VM host is displayed in "*Space*GB" format. [Oracle VM] For the maximum disk space which can be allocated to a VM host, refer to "Virtual storage resource free space" in "G.4.7 Advisory Notes for Oracle VM Usage" of the "ServerView Resource Orchestrator User's Guide".
PER-TEMPLATE (*1)	Number of L-Servers which can be created in the specified L-Server template definition

*1: When specifying -template for the option, this is displayed.

Table 1.25 Resource Information Included in Storage Pools

Item Name	Description
NAME	Resource name included in the resource pool
TYPE	Type of resources included in the resource pools
CAPACITY(*FREE*)	The total size and the free size of the virtual storage memory [Oracle VM] For the free size of virtual storage resources, refer to "G.4.7 Advisory Notes for Oracle VM Usage" of the "ServerView Resource Orchestrator User's Guide". The total size of virtual storage resources will not be displayed when the virtual storage resource is an Oracle VM storage repository. Free space is displayed in *FREE*: [Oracle VM] For the free size of virtual storage resources, refer to "G.4.7 Advisory Notes for Oracle VM Usage" of the "ServerView Resource Orchestrator User's Guide".
STATUS	Resource status
PER-TEMPLATE (*1)	Number of L-Servers which can be created in the specified L-Server template definition

*1: When specifying -template for the option, this is displayed.

- For network pools

Table 1.26 Network Pool Information

Item Name	Description
NAME	Network pool name
TYPE	Resource Pool Types
PRIORITY	Priority
VLANID	Total number and unused number of VLAN IDs

Table 1.27 Resource Information Included in Network Pools

Item Name	Description
NAME	Resource name included in the resource pool
TYPE	Type of resources included in the resource pools
VLANID(*FREE*)	Total and unused number of VLAN IDs Unused numbers are displayed in *FREE*:
ADDRESS(*FREE*)	Total number and unused number of addresses Unused numbers are displayed in *FREE*:

- For address pools

Table 1.28 Address Pool Information

Item Name	Description
NAME	Address pool name
TYPE	Resource Pool Types
PRIORITY	Priority
ADDRESS	Total number and unused number of addresses

Table 1.29 Resource Information Included in Address Pools

NAME	Resource name included in the resource pool
TYPE	Type of resources included in the resource pools
ADDRESS(*FREE*)	Total number and unused number of addresses Unused numbers are displayed in *FREE*:

- For image pools

Table 1.30 Image Pool Information

Item Name	Description
NAME	Image pool name
TYPE	Resource Pool Types
PRIORITY	Priority
IMAGE	Image number

Table 1.31 Resource Information Included in Image Pools

NAME	Resource name included in the resource pool
VERSION	Version of the image
TYPE	Type of resources included in the resource pools

IMAGE_TYPE	Type of image
VM_TYPE	Virtual image VM type
OS	OS type of the image

show

To display the detailed information for a resource pool.

The following detailed information is displayed:

- For VM pools

  When a calculation for the available space for the VM pool used for overcommit is set with a reservation value, it will be reflected on the information output in the following item names:

  - FreeCPU

  - FreeMemorySize

Table 1.32 Detailed Information for VM Pools

Item Name	Description
Name	VM pool name
Type	Resource Pool Types
Priority	Priority
Label	Label
Comment	Comment
CPU(*max*)	The total size of the VM host CPUs In *max*, the maximum number of CPUs which can be allocated to a machine is displayed in "*Performance*GHz * *Cores*" format.
FreeCPU	The free size of VM host CPUs
ReserveCPU	The CPU reservation size of the VM host For VM hosts for which the HA function provided by server virtualization software is available, the reserved capacity for a failover is displayed. For VM hosts for which the HA function is unavailable, or for operations with no reservation for failover, a hyphen ("-") is displayed.
MemorySize(*max*)	The total size of the VM host memory In *max*, the maximum memory which can be allocated to a VM host is displayed in "*Space*GB" format.
FreeMemorySize	The free size of the VM host memory
ReserveMemorySize	The memory reservation capacity of the VM host For VM hosts for which the HA function provided by server virtualization software is available, the reserved capacity for a failover is displayed. For VM hosts for which the HA function is unavailable, or for operations with no reservation for failover, a hyphen ("-") is displayed.

- For server pools

Table 1.33 Detailed Information for Server Pools

Item Name	Description
Name	Server pool name
Type	Resource Pool Types
Priority	Priority

Item Name	Description
Label	Label
Comment	Comment
Server	Total number of physical servers
FreeServer	Number of unused physical servers

- For storage pools

Table 1.34 Detailed Information for Storage Pools

Item Name	Description
Name	Storage pool name
Type	Resource Pool Types
Priority	Priority
Label	Label
Comment	Comment
DiskSize(*max*)	Total virtual storage size [Oracle VM] If the virtual storage resource is a storage repository of Oracle VM, it is not displayed. In *max*, the maximum disk space which can be allocated to a VM host is displayed in "*Space*GB" format. [Oracle VM] For the maximum disk space which can be allocated to a VM host, refer to "Virtual storage resource free space" in "G.4.7 Advisory Notes for Oracle VM Usage" of the "ServerView Resource Orchestrator User's Guide".
FreeDiskSize	Virtual storage free space [Oracle VM] For the free size of virtual storage resources, refer to "G.4.7 Advisory Notes for Oracle VM Usage" of the "ServerView Resource Orchestrator User's Guide".

- For network pools

Table 1.35 Detailed Information for Network Pools

Item Name	Description
Name	Network pool name
Type	Resource Pool Types
Priority	Priority
Label	Label
Comment	Comment
VLANId	Total number of VLANIDs
FreeVLANId	Number of unused VLAN IDs

- For address pools

Table 1.36 Detailed Information for Address Pools

Item Name	Description
Name	Address pool name
Type	Resource Pool Types

Item Name	Description
Priority	Priority
Label	Label
Comment	Comment
Address	Total number of addresses
FreeAddress	Number of unused addresses

- For image pools

Table 1.37 Detailed Information for Image Pools

Item Name	Description
Name	Image pool name
Type	Resource Pool Types
Priority	Priority
Label	Label
Comment	Comment
ImageCount	Image number

register

Registers a resource to a resource pool.

unregister

Deletes a resource from a resource pool.

modify

Modifies the name, label, comment, and priority of a resource pool.

move

Moves a resource pool to the specified resource folder.
If the destination resource folder is not specified, the pool is moved to the home folder.

delete

Deletes a resource pool.

Options

-name *name*

In *name*, specify the name of the target resource pool to perform an operation with.

For the resource pool allocated in the resource folder, specify the resource folder name using slashes ("/").

-type *type*

In *type*, specify the resource pool type.

The following values can be specified:

Table 1.38 List of Resource Pool Types

type	Resource Pool Types
vm	VM pool
server	Server pool
storage	Storage pool
network	Network pool

type	Resource Pool Types
address	Address pool
image	Image pool

-priority *priority*

In *priority*, specify a priority between 1 and 10. If omitted, "5" is set. You can specify the same priority as another pool, but it is not recommended, as the order for retrieving resources will not be guaranteed.

For the priority order, 1 is the highest and 10 is the lowest.

-label *label*

In *label*, specify the label for the resource pool.

-comment *comment*

In *comment*, specify any comments for the resource pool.

-nowait

Use this option to return directly to the command prompt without waiting for the operation of the resource pool specified in the subcommand to complete its execution.

-template *template_name*

In *template_name*, specify the name of an L-Server template that can be created.

-resource *resource_name*

In *resource_name*, specify the resource name.

-from *vstorage*

In *vstorage*, specify the resource name of a virtual storage.

Specify when adding the all disk resources in the specified virtual storage resource, to a resource pool.

-type *resource_type*

In *resource_type*, specify a type for the resource.

The following values can be specified:

Table 1.39 List of Resource Types

resource_type	Resource Types
vm_host	VM host
physical_server	Physical server
storage	Virtual storage
disk	LUN (disk) created in advance
network	Network
address_set	MAC address, WWN
cloning_image	Cloning images (physical)
vm_image	Cloning images (virtual)

-new_name *new_name*

In *new_name*, specify a new name for the target resource pool.

-to *folder*

Specify the destination resource folder in *folder*.
If the destination resource folder is not specified, the pool is moved to the home folder.

When executed by a user who has multiple access scopes specified, it cannot be omitted. Specify a resource folder.

For the hierarchized resource folder, specify the resource folder name using slashes ("/").

-force

Use this option to forcibly delete a resource pool that includes resources. When the resource pool is deleted, the resources that belong to the resource pool are unregistered.

Specify when registering a physical server with an operating system installed to a server pool.

In other cases, do not specify.

-resource

Specify this option to display the elements of the resources registered in a resource pool.

This is valid when a VM pool is specified for the -name option.

-info lserver

Use this option to display the link between an L-Server and the resources or the elements of the resources registered in a resource pool.

This is valid when a VM pool or a server pool specified for the -name option.

-reserve

Specify this option to display the CPU and memory reservation capacities when the HA function is enabled on the VM host in a VM pool.

This is valid for VM pools when the -name option is specified with this option.

Examples

- To display the list of resource pools:

```
>rcxadm pool list <RETURN>
NAME              TYPE    PRIORITY CPU(max.)             MEMORY(max.)
----              ----    -------- ---------             ------------
/VMHostPool       VM      5        37.6/39.9(1.8GHz x 8) 23.3/26.6(8.0GB)

NAME              TYPE    PRIORITY SERVER
----              ----    -------- --------------
/ServerPool       Server  5        0/3

NAME              TYPE    PRIORITY CAPACITY(max.)
----              ----    -------- --------------
/StoragePool      Storage 5        449.7/3061.8(351.7GB)

NAME              TYPE    PRIORITY VLANID
----              ----    -------- ------
/NetworkPool      Network 5        0/0

NAME              TYPE    PRIORITY ADDRESS
----              ----    -------- -------
/AddressPool      Address 5        249/257

NAME              TYPE    PRIORITY IMAGE
----              ----    -------- -----
/ImagePool        Image   5        10
```

- To display the specified resource pool and a list of the resources included in the resource pool:

```
>rcxadm pool list -name /VMHostPool <RETURN>
NAME         TYPE    PRIORITY CPU(max.)               MEMORY(max.)
----         ----    -------- ---------               ------------
/VMHostPool  VM      5        37.6/39.9(1.8GHz x 8)   23.3/26.6(8.0GB)
```

```
NAME        TYPE    CPU(FREE)           MEMORY(FREE)   STATUS  MAINTENANCE
----        ----    ---------           ------------   ------  -----------
vmhost1     VMHost  1.9GHz x 4 (7.9GHz)  6.4GB (6.4GB)  normal  OFF
vmhost2     VMHost  1.9GHz x 8 (14.6GHz) 10.0GB (8.7GB) normal  OFF
vmhost3     VMHost  1.9GHz x 8 (14.9GHz) 10.0GB (8.0GB) normal  OFF
```

- To display the detailed information for a resource pool:

```
>rcxadm pool show -name /VMHostPool <RETURN>
Name: VMHostPool
Type: VM
Priority: 5
CPU: 3.2GHz(1.1GHz x 2)
FreeCPU: 2.2GHz
MemorySize: 7.7GB(6.7GB)
FreeMemorySize: 6.7GB
```

- To display the specified VM pool, and the CPU and memory reservation capacities of the VM hosts in the pool:
  - Cluster configuration and admission control are enabled (policy: share (10%))

```
>rcxadm pool list -name VMHostPool -reserve <RETURN>
NAME                TYPE    PRIORITY CPU(max.)             RESERVE-CPU MEMORY(max.)
RESERVE-MEMORY
----                ----    -------- ---------             ----------- ------------
--------------
/VMHostPool         VM      5        5.4/11.1(1.2GHz x 2)  0.9GHz      19.2/27.4(8.4GB)
2.6GB

NAME          TYPE      CPU(FREE)             RESERVE-CPU MEMORY(FREE)   RESERVE-MEMORY
STATUS  CLUSTER     MAINTENANCE
----          ----      ---------             ----------- ------------   --------------
------  -------     -----------
vmhost1       VMHost    1.8GHz x 2 (1.2GHz)  0.3GHz      6.6GB (3.7GB)  0.6GB
normal  Cluster2    OFF
vmhost2       VMHost    1.8GHz x 2 (2.4GHz)  0.3GHz      10.4GB (8.4GB) 1.0GB
normal  Cluster2    OFF
vmhost3       VMHost    1.8GHz x 2 (1.8GHz)  0.3GHz      10.4GB (7.1GB) 1.0GB
normal  Cluster2    OFF
```

  - Cluster configuration and admission control are enabled (policy: spare server (vmhost1))

```
>rcxadm pool list -name VMHostPool -reserve <RETURN>
NAME                TYPE    PRIORITY CPU(max.)             RESERVE-CPU MEMORY(max.)
RESERVE-MEMORY
----                ----    -------- ---------             ----------- ------------
--------------
/VMHostPool         VM      5        5.0/11.1(1.4GHz x 2)  3.7GHz      17.5/27.4(9.4GB)
6.6GB

NAME            TYPE      CPU(FREE)             RESERVE-CPU MEMORY(FREE)   RESERVE-MEMORY
STATUS  CLUSTER     MAINTENANCE
----            ----      ---------             ----------- ------------   --------------
------  -------     -----------
vmhost1         VMHost    1.8GHz x 2 (0.0GHz)  3.7GHz      6.6GB (0.0GB)  6.6GB
normal  Cluster2    OFF
vmhost2         VMHost    1.8GHz x 2 (2.8GHz)  0.0GHz      10.4GB (9.4GB) 0.0GB
normal  Cluster2    OFF
vmhost3         VMHost    1.8GHz x 2 (2.2GHz)  0.0GHz      10.4GB (8.1GB) 0.0GB
normal  Cluster2    OFF
```

- Cluster configuration and admission control are enabled (policy: slot)

```
>rcxadm pool list -name VMHostPool -reserve <RETURN>
NAME               TYPE    PRIORITY CPU(max.)            RESERVE-CPU MEMORY(max.)
RESERVE-MEMORY
----               ----    -------- ---------            ----------- ------------
--------------
/VMHostPool        VM      5        6.6/11.1(1.4GHz x 2)  0.0GHz      21.8/27.4(9.4GB)
0.0GB

NAME           TYPE     CPU(FREE)            RESERVE-CPU MEMORY(FREE)   RESERVE-MEMORY
STATUS  CLUSTER     MAINTENANCE
----           ----     ---------            ----------- ------------   --------------
------  -------     -----------
vmhost1        VMHost   1.8GHz x 2 (1.6GHz)  0.0GHz      6.6GB (4.3GB)  0.0GB
normal  Cluster2    OFF
vmhost2        VMHost   1.8GHz x 2 (2.8GHz)  0.0GHz      10.4GB (9.4GB) 0.0GB
normal  Cluster2    OFF
vmhost3        VMHost   1.8GHz x 2 (2.2GHz)  0.0GHz      10.4GB (8.1GB) 0.0GB
normal  Cluster2    OFF
```

- Cluster configuration and admission control are disabled

```
>rcxadm pool list -name VMHostPool -reserve <RETURN>
NAME               TYPE    PRIORITY CPU(max.)             RESERVE-CPU MEMORY(max.)
RESERVE-MEMORY
----               ----    -------- ---------             ----------- ------------
--------------
/VMHostPool        VM      5        6.6/11.1(1.4GHz x 2)  -           21.8/27.4(9.4GB)  -

NAME           TYPE     CPU(FREE)            RESERVE-CPU MEMORY(FREE)   RESERVE-MEMORY
STATUS  CLUSTER     MAINTENANCE
----           ----     ---------            ----------- ------------   --------------
------  -------     -----------
vmhost1        VMHost   1.8GHz x 2 (1.6GHz)  -           6.6GB (4.3GB)  -
normal  Cluster2    OFF
vmhost2        VMHost   1.8GHz x 2 (2.8GHz)  -           10.4GB (9.4GB) -
normal  Cluster2    OFF
vmhost3        VMHost   1.8GHz x 2 (2.2GHz)  -           10.4GB (8.1GB) -
normal  Cluster2    OFF
```

- To display the specified VM pool, and a list of the VM hosts and virtual machines included in the pool:

```
>rcxadm pool list -name /VMHostPool -resource -info lserver <RETURN>
NAME               TYPE    PRIORITY CPU(max.)             MEMORY(max.)
----               ----    -------- ---------             ------------
/VMHostPool        VM      5        5.4/7.4(1.4GHz x 2)   5.3/9.5(4.6GB)

NAME           TYPE     CPU(FREE)            MEMORY(FREE)   STATUS  MAINTENANCE
----           ----     ---------            ------------   ------  -----------
VMHost1        VMHost   1.8GHz x 2 (2.5GHz)  2.9GB (0.7GB)  normal  OFF
VMHost2        VMHost   1.8GHz x 2 (2.9GHz)  6.6GB (4.6GB)  normal  OFF

NAME                   TYPE            VM_HOST              L-SERVER
----                   ----            -------              --------
Guest1                 VirtualMachine  VMHost1              /L-Server1
Guest2                 VirtualMachine  VMHost1              /folder/L-Server2
Guest3                 VirtualMachine  VMHost1              -
Guest4                 VirtualMachine  VMHost2              -
Guest5                 VirtualMachine  VMHost2              -
```

1.3.7 rcxadm folder

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm folder** - resource folder operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm folder - resource folder operations

Format

```
rcxadm folder create -file file.xml  [-nowait]
rcxadm folder create -name name [-type type] [-label label] [-comment comment] [-nowait]
rcxadm folder list [-name name] [-type type] [-detail]
rcxadm folder show -name name [-type type]
rcxadm folder modify -name name [-type type] {[-new_name name] [-label label] [-comment comment]} [-
nowait]
rcxadm folder move -name name [-type type] [-to folder] [-nowait]
rcxadm folder delete -name name [-type type] [-nowait]
rcxadm folder start -name name [-nowait]
rcxadm folder stop -name name
rcxadm folder restart -name name [-nowait]
```

Description

rcxadm folder is the command used to manage resource folders. Use resource folder management to group resources when the number of resources managed by Resource Orchestrator becomes large or when you want to manage resources in work units. Since the resource folders can be arranged in a hierarchy, you can perform detailed categorization for resources.

Resources can be grouped using the resource folder management functions. Grouping resources enables users to perform operations of multiple resources together and improve operability.
Resource folders can be used with user/role management to ensure folder level security.

Resource folders are categorized into the following two types, depending on the resources to register:

- Orchestration

  Registers L-Servers, network resources, disk resources, and resource pools.

- Servers

  Registers server tree blade chassis and rack mount servers.

Subcommands

create

Creates a new resource folder. Use the -file option to create the specified resource folder with resources included. If the resource folder specified in the XML file already exists, only the specified resources are created.

list

Displays the list of resource folders and the resources and subfolders included in the resource folders.
If you specify -name for the option, the specified resource folder and a list of the resources and subfolders included in the folder are displayed. If you do not specify -name for the option, the list of top-level resource folders is displayed.

The following detailed information is displayed:

Table 1.40 Resource Folder Information

Item Name	Description
TYPE	Type of resource folder, resource pool, or each resource
NAME	Name of the resource folder, resource pool, or each resource
FOLDER_TYPE (*1)	Type of the folder For tenant folders, "TENANT" is displayed.
LABEL	Label of the resource folder, resource pool, or each resource

*1: When specifying -detail for the option, it is displayed.

show

To display the detailed information for a resource folder.

The following detailed information is displayed:

Table 1.41 Detailed Information for Resource Folders

Item Name	Description
NAME	Resource folder name
LABEL	Resource folder label
COMMENT	Comment for the resource folder

modify

Modifies the name, label, comment, and priority of the specified resource folder.

move

Moves a resource folder to the specified resource folder. If the destination resource folder is not specified, the folder is moved to the home folder.

delete

Deletes a resource folder.

start

Starts an L-Server in a resource folder.

stop

Stops an L-Server in a resource folder.

restart

Restarts an L-Server in a resource folder.

Options

-file *file.xml*

In *file.xml*, specify the XML file that specifies the resource folder to create and the resources to include in the resource folder. For details on the XML file definition, refer to "2.5 Resource Folders".

-detail

To display the detailed information for the resource folder to be referred to.

-nowait

Use this option to return directly to the command prompt without waiting for the operation of the resource folder specified in the subcommand to complete its execution.

This option also executes subsequent operations for L-Servers to which resources are not allocated without waiting for resource allocation.

-name *name*

In *name*, specify the resource folder name. If the resource folders are arranged in a hierarchy, specify the resource folder name connected with slashes ("/").

Example

To specify SecondFolder directly below TopFolder:

/TopFolder/SecondFolder

-type *type*

In *type*, specify a resource folder type for the resource folder. Specify either "server" or "lserver" for the resource folder type. If omitted, "lserver" is set.

-label *label*

In *label*, specify the label for the resource folder.

-comment *comment*

In *comment*, specify any comments for the resource folder.

-new_name *name*

In *name*, specify a new name for the target resource folder to perform an operation with.

-to *folder*

Specify the destination resource folder in *folder*. For the hierarchized resource folder, specify the resource folder name using slashes ("/").When omitted, the folder is moved to the home folder.

When executed by a user who has multiple access scopes specified, it cannot be omitted. Specify a resource folder.

Examples

- To display the list of resource folders and the resources and subfolders included in the resource folders:

```
>rcxadm folder list <RETURN>
TYPE                NAME                            LABEL
----                ----                            -----
Folder              TenantA                         -
Folder              TenantB                         -
Pool                ImagePool                       -
Pool                ImgPool                         -
Pool                NetworkPool                     -
Pool                StoragePool                     -
Pool                VMHostPool                      -
```

- To display a list of resource folders and the resources and subfolders included in those resource folders (with the -detail option):

```
>rcxadm folder list -detail <RETURN>
TYPE              NAME                          FOLDER_TYPE LABEL
----              ----                          ----------- -----
Folder            TenantA                       TENANT      -
Folder            TenantB                       TENANT      -
Pool              ImagePool                     -           -
Pool              NetworkPool                   -           -
Pool              StoragePool                   -           -
Pool              VMHostPool                    -           -
```

- To display the list of the resources and subfolders included in the specified resource folder:

```
>rcxadm folder list -name TenantA <RETURN>
TYPE                NAME                              LABEL
----                ----                              -----
Folder              testA                             -
LServer             test4                             -
```

- To display the detailed information for a resource folder:

```
>rcxadm folder show -name TenantA <RETURN>
name    : TenantA
label   :
comment :
```

1.3.8 rcxadm addrset

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm addrset** - address set resource operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm addrset - address set resource operations

Format

rcxadm addrset create -name *name* **-type {MAC|WWN} -file** *file* **-pool** *pool* **[-exclude** *address*[,*address*]...**] [-label** *label*] **[-comment** *comment*] **[-nowait]**
rcxadm addrset list [-verbose]
rcxadm addrset show -name *name*
rcxadm addrset move -name *name* **[-to** *folder*] **[-nowait]**
rcxadm addrset delete -name *name* **[-nowait]**

Description

rcxadm addrset is the command used to manage WWNs and MAC addresses.

Subcommands

create

Creates and registers an address set resource in the address pool.

list

Displays a list of address set resources.

The following detailed information is displayed:

Table 1.42 Address Set Resource Information

Item Name	Description
ADDRESSSET NAME	Address set resource name (for WWNs and MAC addresses)
LABEL	Address set resource label (for WWNs and MAC addresses)

show

To display details of address set resources.

The following detailed information is displayed:

Table 1.43 Detailed Information for Address Set Resources

Item Name	Description
NAME	Address set resource name (for WWNs and MAC addresses)
LABEL	Address set resource label (for WWNs and MAC addresses)
SUBNET	Not displayed
MASK	Not displayed
START - END	- START Start WWNs and start MAC addresses given in the list file on the CD-ROM enclosed with the I/O Virtualization Option - END End WWNs and end MAC addresses given in the list file on the CD-ROM enclosed with the I/O Virtualization Option
COMMENT	Address set resource comment (for WWNs and MAC addresses)
EXCLUDE	An address that has been allocated using RCVE or VIOM, and is not used by Resource Orchestrator in management of the WWNs and MAC addresses given in the list on the CD-ROM enclosed with the I/O Virtualization Option
RESERVE	Address set resource (in use or for MAC addresses)

move

Moves an address pool to the specified resource folder.

delete

Deletes an address pool. Address set resources contained in the address pool will also be deleted.

Options

-name *name*

In *name*, specify the name of the target address set resource to perform an operation with.

For the address set resource allocated in the resource folder, specify the resource folder name using slashes ("/").

-verbose

Use this option to increase the items displayed in the list of information.

-type

Specify WWN or MAC address.

-file *file*

Specify the WWN in the CD-ROM enclosed in the I/O Virtualization Option, or the list file of the MAC address.

[Xen]

- Specify the MAC addresses in hexadecimal form, separated by blank spaces (" ").
- The first line is the starting point and the last line is the end point of the MAC addresses managed by Resource Orchestrator.
- An example of the list file, in which 65536 MAC addresses ("02 17 42 2f 00 00" to "02 17 42 2f ff ff") are specified, is as follows:

Example

```
02 17 42 2f 00 00
...
02 17 42 2f ff ff
```

-exclude

Of the WWNs and MAC addresses given in the list file on the CD-ROM enclosed with the I/O Virtualization Option, specify an address that has been allocated using RCVE or VIOM and is not used in management by Resource Orchestrator.

-pool

Specify the name of the resource pool to register an address set resource in.

For the resource pool allocated in the resource folder, specify the resource folder name using slashes ("/").

-nowait

Use this option to return directly to the command prompt without waiting for the operation of the address set resource specified in the subcommand to complete its execution.

-label *label*

In *label*, specify the new label.

-comment *comment*

In *comment*, specify the new comments.

-to *folder*

Specify the destination resource folder. When omitted, the server is moved to the home folder.

Examples

- To display the list of address set resource information:

```
>rcxadm addrset list <RETURN>
<?xml version="1.0" encoding="utf-8"?>

<AddressSets>
  <AddressSet name="macdata1" id="543" label="mac1" />
  <AddressSet name="wwndata1" id="540" label="wwn1" />
</AddressSets>
```

- To display the detailed information of address set resources (WWNs):

```
>rcxadm addrset show -name wwndata1 <RETURN>
<?xml version="1.0" encoding="utf-8"?>

<AddressSet name="wwndata1" id="540" label="wwn1" subnet="" mask=""
start="20:01:00:17:42:50:00:00" end="20:01:00:17:42:50:00:0f">
  <Comment>wwn-test-data-1</Comment>
  <Exclude>
  </Exclude>
  <Reserve>
  </Reserve>
</AddressSet>
```

- To display the detailed information of address set resources (MAC addresses):

```
>rcxadm addrset show -name macdata1 <RETURN>
<?xml version="1.0" encoding="utf-8"?>

<AddressSet name="macdata1" id="543" label="mac1" subnet="" mask="" start="00:17:42:4f:
```

```
00:00" end="00:17:42:4f:00:f0">
  <Comment>mac-test-data-1</Comment>
  <Exclude>
  </Exclude>
  <Reserve>
  </Reserve>
</AddressSet>
```

1.3.9 rcxadm chassis

rcxadm chassis is an existing RCVE command.
For details, refer to "3.1 rcxadm chassis" in the "ServerView Resource Coordinator VE Command Reference".

This section explains the additional functions.

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm chassis** - display of chassis information

[Linux]
/opt/FJSVrcvmr/bin/rcxadm chassis - display of chassis information

Format

rcxadm chassis show -name *name*

Description

rcxadm chassis is the command for managing chassis.

Subcommands

show

To display the detailed information for chassis.

The following detailed information is displayed:

Table 1.44 Detailed Information for Chassis

Item Name	Description
Name	Chassis name
Model	Model
IPAddress	IP address
Status	Status
ServerBlades	The number of server blades
LANSwitchBlades	The number of LAN switch blades
Server[*n*]	Server name The slot number is displayed in *n*.
L-Server[*n*]	L-Server name The slot number is displayed in *n*.
L-Server[*n*][Status]	L-Server status The slot number is displayed in *n*.

Options

-name *name*

In *name*, specify the chassis name to display the detailed information for.

Examples

To display the details of chassis information:

```
>rcxadm chassis show -name Chassis01 <RETURN>
Name: Chassis01
Model: SQ715M00205
IPAddress: 192.168.10.100
Status: normal
ServerBlades: 2
LANSwitchBlades: 2
Server[1]: BX600-1
L-Server[1]: -
L-Server[1][Status]: -
Server[2]: BX600-2
L-Server[2]: Lserver01
L-Server[2][Status]: normal
```

1.3.10 rcxadm server

rcxadm server is an existing RCVE command.
This can be used for servers not managed as L-Servers.
For details, refer to "3.2 rcxadm server" in the "ServerView Resource Coordinator VE Command Reference".

Only the additional functions can be used for a server that has been allocated to an L-Server.

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm server** - Managed server operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm server - Managed server operations

Format

rcxadm server set -name *resource* **-mode {active|maintenance}**

Description

The additional functions of rcxadm server are indicated below.

- Set or release server maintenance mode.

  rcxadm server set -name *resource* **-mode {active|maintenance}**

Options

-name *resource*

Specify a server name to place into or release from maintenance mode.

-mode active|maintenance

Specify whether the server is to be placed into or released from maintenance mode.

active

Release maintenance mode.

maintenance

Place into maintenance mode.

1.3.11 rcxadm tenant

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm tenant** - Tenant operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm tenant - Tenant operations

Format

```
rcxadm tenant list [-name name]
rcxadm tenant show -name name
rcxadm tenant create -file file.xml [-nowait]
rcxadm tenant modify -name name {[-new_name new_name] [-label label] [-comment comment] [-global
pool,...]} [-nowait]
rcxadm tenant delete -name name [-nowait]
rcxadm tenant move -name name [-to folder] [-nowait]
```

Description

rcxadm tenant is the command used to perform tenant management and operations.

Subcommands

list

Displays a list of tenant folders.

The following detailed information is displayed:

- When not specifying -name for the option

Table 1.45 Tenant Information (when omitting the -name option)

Item Name	Description
NAME	Tenant folder name
LABEL	Tenant folder label

- When specifying -name for the option

Table 1.46 Tenant Information (when specifying the -name option)

Item Name	Description
TYPE	Type of resource folder, resource pool, or each resource
NAME	Name of the resource folder, resource pool, or each resource
LABEL	Label of the resource folder, resource pool, or each resource

show

To display the detailed information for a tenant folder.

The following detailed information is displayed:

Table 1.47 Detailed Information for Tenants

Item Name	Description
NAME	Tenant folder name
LABEL	Tenant folder label
COMMENT	Comment for a tenant folder
GLOBAL POOL	Global pool name

create

Creates a tenant.

modify

Modifies the name, label, comment information, and global pool definition of a tenant. Specify at least one of the items above.

delete

Deletes a tenant.

Note

When an L-Server is created in a tenant folder, deleting the tenant will also delete the L-Server.
For details on how to delete an L-Server, refer to the advisory notes of "1.3.1 rcxadm lserver".

move

Moves a tenant folder to the specified resource folder. If the destination resource folder is not specified, the folder is moved to the home folder.

It cannot be moved into a tenant folder.

Options

-file *file.xml*

In *file.xml*, specify the XML file that defines the information related to a tenant.

For details on the XML file definition, refer to "2.8 Tenant Folders".

When using directory services to manage users, the user and user group specified with XML files is not created.

After creating tenants, create users and user groups using the ldif file, and then configure roles.

For details on user management and role settings using directory services, refer to "C.4 User Management Using Directory Service" in the "ServerView Resource Orchestrator User's Guide".

-nowait

Use this option to return directly to the command prompt without waiting for the operation specified in the subcommand to complete its execution.

-name *name*

In *name*, specify the name of the target tenant to perform an operation with. If a tenant folder created in a resource folder is specified, specify the resource folder name using slashes ("/").

-global *pool*

In *pool*, specify the resource pool name to be defined in a global pool of a tenant. If specifying a resource pool in a resource folder, specify the resource folder name using slashes ("/"). When specifying multiple resource pools, separate them using commas.

-new_name *new_name*

In *new_name*, specify the changed tenant folder name.

-label *label*

In *label*, specify the new label.

-comment *comment*

In comment, specify the *comment* for a tenant folder.

-to *folder*

In folder, specify the destination resource *folder*. For the hierarchized resource folder, specify the resource folder name using slashes ("/"). It cannot be moved to a tenant folder or a resource folder in a tenant folder.

When omitted, the server is moved to the home folder.

When executed by a user who has multiple access scopes specified, it cannot be omitted. Specify a resource folder.

Examples

- When displaying a list of tenant folder information

```
>rcxadm tenant list <RETURN>
NAME          LABEL
----          -----
Tenant01      -
Tenant02      -

>rcxadm tenant list -name Tenant01<RETURN>
TYPE          NAME                  LABEL
----          ----                  -----
Pool          AddressPool02         -
Pool          ImagePool02           -
Pool          NetworkPool02         -
Pool          ServerPool02          -
Pool          StoragePool02         -
Pool          VMHostPool02          -
LServer       lserver02             l_server 2
```

- When displaying details of tenant folder information

```
>rcxadm tenant show -name TenantA <RETURN>
name        : tenantA
label       : tenant folder A
comment     : comment_A
global pool : /VMHostPool
global pool : /NetworkPool
global pool : /AddressPool
```

1.4 Image Operations

This section explains the commands used to operate images managed in Resource Orchestrator.

1.4.1 rcxadm image

rcxadm image is an existing RCVE command.
For details, refer to "4.1 rcxadm image" in the "ServerView Resource Coordinator VE Command Reference".

This section explains the additional functions.

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm image** - image operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm image - image operations

Format

```
rcxadm image create -server resource -name image [-comment comment] [-to pool] [-storage storagename]
[-nowait]
rcxadm image delete -server resource -version version
rcxadm image delete -name image -version version
rcxadm image restore -server resource [-version version] [-nowait]
rcxadm image list -type cloning [-name image] [-detail]
rcxadm image list -type snapshot [-server resource] [-detail]
rcxadm image snapshot -server resource [-comment comment] [-online] [-nowait]
rcxadm image move -name image -to pool [-nowait]
```

Description

The additional functions of rcxadm image are indicated below.

- A resource pool where images are stored can be specified with the -to option when creating an image. The virtual storage location for an image can be specified with the -storage option.

  rcxadm image create -server *resource* **-name** *image* **[-comment** *comment***] [-to** *pool***] [-storage** *vstorage***] [-nowait]**

- An L-Server snapshot can be created with the snapshot subcommand.

  rcxadm image snapshot -server *resource* **[-comment** *comment***] [-nowait]**

- An L-Server snapshot can be deleted with the delete subcommand.

  rcxadm image delete -server *resource* **-version** *version*

- Cloning images can be deleted using the delete subcommand.

  rcxadm image delete -name *name* **-version** *version*

- An L-Server snapshot can be restored with the restore subcommand.

  rcxadm image restore -server *resource* **[-version** *version***] [-nowait]**

- Cloning can be specified with the -type option when using the list command. Detailed information can also be output with the -detail option.

  rcxadm image list -type cloning [-name *image***] [-detail]**

- A snapshot can be specified with the -type option when using the list command. Detailed information can also be output with the -detail option.

  rcxadm image list -type snapshot [-server *resource***] [-detail]**

- Images registered in the orchestration tree can be moved between resource pools. The destination resource pool name can be specified with the -to option.

  rcxadm image move -name *image* **-to** *pool* **[-nowait]**

Note

Cloning images with the same name can be stored up to the maximum of the versions.

When collecting cloning images using the create subcommand will cause a number exceeding the maximum to be collected, an error will occur.

Check the version of the cloning image name to be collected using the list subcommand, delete any unnecessary cloning image versions using the delete subcommand, and then perform collection of cloning images.

The maximum number of versions of the cloning images is 3 in default.

For details on how to change the number of cloning images versions, refer to "1.7.2 rcxadm imagemgr".

Subcommands

create

Collects a cloning image of the specified L-Server.

list

Displays the cloning images and snapshot images of the specified L-Server.

The following detailed information is displayed:

- For cloning images

  Table 1.48 Cloning Image Information

Item Name	Description
NAME	Name of cloning images
VERSION	Version of cloning images
CREATIONDATE	Date and time of cloning image collection
COMMENT	Comments for cloning images

- For snapshots

  Table 1.49 Snapshot Information

Item Name	Description
SERVERNAME	Name of the server (physical server/VM host) used to back up snapshot images
VERSION	Version of snapshot image
BACKUPDATE	Date and time of snapshot image collection
COMMENT	Comment for snapshot image

When the -detail option is specified, in addition to the information displayed by the list subcommand, the TYPE of the image or snapshot is displayed.

- For cloning images

  Table 1.50 Detailed Information of Cloning Images

Item Name	Description
NAME	Name of cloning images

Item Name	Description
VERSION	Version of cloning images
CREATIONDATE	Date and time of cloning image collection
TYPE	VM type of a cloning image [VMware] VMware [Hyper-V] Hyper-V [Oracle VM] Oracle VM [Xen] Xen
COMMENT	Comments for cloning images

- For snapshots

Table 1.51 Detailed Information of Snapshots

Item Name	Description
SERVERNAME	Name of the server (physical server/VM host) used to back up snapshot images
VERSION	Version of snapshot image
BACKUPDATE	Date and time of snapshot image collection
TYPE	VM type of a snapshot [VMware] VMware [Hyper-V] Hyper-V [Oracle VM] Oracle VM [Xen] Xen
COMMENT	Comment for snapshot image

delete

In addition to the RCVE functions, an L-Server snapshot can be deleted with the delete subcommand.

restore

In addition to the RCVE functions, an L-Server snapshot can be restored with the restore subcommand.

snapshot

Collects a snapshot of the specified L-Server.
Setting is only possible for virtual L-Servers.

move

Images registered in the orchestration tree are moved between resource pools.

Options

-server *resource*

Specify the name of the target L-Server to operate in resource.

For the L-Server allocated in the resource folder, specify the resource folder name using slashes ("/").

 Example

When specifying the L-Server directly under the TopFolder:

```
/TopFolder/L-Server_name
```

-nowait

Use this option to return directly to the command prompt without waiting for the operation specified in the subcommand to complete its execution.

-to *pool*

Specify the name of the resource pool for storing the cloning image or the name of the destination resource pool.
If omitted, it is assumed that the resource pool with the highest priority from the resource pools with update rights has been specified.

For the resource pool located in the resource folder, specify the resource folder name using slashes ("/").

 Example

When specifying the resource pool directly under the TopFolder:

```
/TopFolder/Resource_pool_name
```

-storage *storagename*

Enter the name of the virtual storage or the library shared folder for storing the collected cloning image.
If omitted, it is assumed that the virtual storage resource containing the L-Server for collecting cloning images has been specified.

[Hyper-V]
It is assumed that the name of the regulated shared library folder on the SCVMM server is specified.

[Xen]
If omitted when using RHEL5-Xen, virtual storage is automatically selected from the same storage pool as the virtual storage used by the target L-Server to collect from.

-type cloning|snapshot

Specify the type of image. If you specify snapshot, a snapshot image is displayed.

-detail

To display the detailed information for the type of image.

-comment *comment*

In *comment*, enter a comment that identifies the snapshot.
Enter up to 128 alphanumeric characters or symbols.
However, use of percent signs ("%"), back slashes ("\"), and double quotes (") is not allowed in *comment*.

 Note

If blank spaces are included in *comment*, enclose the *comment* character string using double quotes (").

-online

Specify when executing a snapshot, regardless of the status of the L-Server.

-name *image*

In *image*, enter a name to identify the collected cloning image.

When the subcommand is list, delete, or move, if cloning images are registered in resource pools, specify images including the resource folder in the path name. When the subcommand is not registered in resource pools, specify it using the cloning image name.

-version *version*

In *version*, specify the version of the cloning image or snapshot.

Note

- When creating an image, a template is created in the server virtualization software with the following name:

  Table 1.52 Name in Server Virtualization Software

Server Virtualization Software	Name in Server Virtualization Software
VMware Hyper-V Oracle VM	*Cloning_image_name[_index]@version_number*

  When creating a template in the server virtualization software, do not use a name with the above format.

- When creating a template from a VM guest in the server virtualization software, set the system disk of the VM guest as indicated below.

  Table 1.53 Settings for System Disks

Server Virtualization Software	System Disk
VMware	Disk with SCSI controller: 0, ID:0
Hyper-V	Device, Primary channel (0)
Oracle VM	When the L-Server is an HVM(Hardware Virtualized Machine): hda When the L-Server is a PVM(Para-Virtualized Machine): xvda

- Make sure the name *image* specified when creating an image does not conflict with the name of the cloning image for the physical server. For details on the cloning image of the physical server, refer to "Chapter 8 Cloning [Windows/Linux]" in the "ServerView Resource Coordinator VE Setup Guide".

  [VMware] [Hyper-V]
  For a cloning image name, enter a character string beginning with an alphabetic character and containing up to 32 alphanumeric characters and underscores ("_").

  [Xen]
  For a cloning image name, enter a character string beginning with an alphabetic character and containing up to 22 alphanumeric characters and underscores ("_").

Examples

- To display the list of cloning images:

```
>rcxadm image list -type cloning <RETURN>
NAME                    VERSION CREATIONDATE        COMMENT
----                    ------- ------------        -------
/ImagePool/test2k3R2    1       2011/04/19-21:30:37 -
```

- To display the detailed information of a cloning image:

```
>rcxadm image list -type cloning -detail <RETURN>
NAME                    VERSION CREATIONDATE        TYPE     COMMENT
----                    ------- ------------        ----     -------
/ImagePool/test2k3R2    1       2011/04/19-21:30:37 VMware   -
```

- To display the list of snapshots:

```
>rcxadm image list -type snapshot <RETURN>
SERVERNAME              VERSION BACKUPDATE          COMMENT
----------              ------- ------------        -------
/test/TEST              1       2011/04/20-06:45:14 -
```

- To display the detailed information of a snapshot:

```
>rcxadm image list -type snapshot -detail <RETURN>
SERVERNAME              VERSION BACKUPDATE          TYPE     COMMENT
----------              ------- ------------        ----     -------
/test/TEST              1       2011/04/20-06:45:14 VMware   -
```

1.5 L-Server Template Operations

This section explains the commands used for L-Server template operations.

1.5.1 rcxadm template

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm template** - L-Server template operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm template - L-Server template operations

Format

```
rcxadm template import -file file [-force] [-nowait]
rcxadm template list [-verbose]
rcxadm template show -name name
rcxadm template export -file file [-name name]
rcxadm template modify -name name {[-new_name name] [-label label] [-comment comment]} [-nowait]
rcxadm template delete -name name [-force] [-nowait]
```

Description

rcxadm template is the command used to perform operations on L-Server templates. L-Server templates define the values such as the number of CPUs, memory capacity, and disk capacity that comprise an L-Server. Using an L-Server template enables easy creation of L-Servers.

Subcommands

import

Imports the L-Server template defined in an XML file.

list

Displays a list of the L-Server templates that can be accessed. Using the -verbose option also displays information regarding the redundancy configuration and operation location.

The following detailed information is displayed:

- For virtual L-Servers

Table 1.54 Information for L-Server Templates of Virtual L-Servers

Item Name	Description
NAME	L-Server template name
TYPE	Server type
SPEC/MODEL	CPU clock frequency, CPU number, and memory size used to comprise the L-Server
DISKS	Disk size When there are multiple disks, they are displayed separated by commas.
NICS	Number of NICs
REDUNDANCY (*1)	Server redundancy
POSITIONING (*1)	Positioning

*1: When specifying -verbose for the option, it is displayed.

- For physical L-Servers

Table 1.55 Information for L-Server Templates of Physical L-Servers

Item Name	Description
NAME	L-Server template name
TYPE	Server type
SPEC/MODEL	Model
DISKS	Disk size When there are multiple disks, they are displayed separated by commas.
NICS	Number of NICs (a hyphen "-" is displayed, as this parameter is not supported)
REDUNDANCY (*1)	Server redundancy
POSITIONING (*1)	Positioning (a hyphen "-" is displayed, as this parameter is not supported)

*1: When specifying -verbose for the option, it is displayed.

show

To display the detailed information for the specified L-Server template.

The following detailed information is displayed:

- For virtual L-Servers

Table 1.56 Detailed Information for L-Server Templates of Virtual L-Servers

Item Name	Description
Name	L-Server template name
Label	Label
Comment	Comment
ServerType	Server type
VMType	VM type

Item Name	Description
CPUArch	CPU architecture
CPUPerf	CPU performance
NumOfCPU	Number of CPUs
CPUReserve	The minimum number of CPU resources to be allocated
CPUShare	The relative proportion for allocation of CPU resources
MemorySize	Memory Size
MemoryReserve	The minimum amount of memory resources to be allocated
MemoryShare	The relative proportion for allocation of memory resources
DiskSize[*num*]	The disk size to allocate to L-Servers The index number of the disk element is configured in *num*. The number is 0 or larger.
Shared[*num*]	Shared attributes of disks The index number of disk element is configured in *num*. The number is 0 or larger.
NumOfNIC	Number of NICs used for an L-Server
Redundancy	Server redundancy to assign to L-Servers
Positioning	Physical location of the server to allocate to L-Servers
ReserveResources	Retention of resources
LServer	L-Servers created using this L-Server template
OverCommit	Setting for overcommit Only displayed when overcommit settings are enabled.

- For physical L-Servers

Table 1.57 Detailed Information for L-Server Templates of Physical L-Servers

Item Name	Description
Name	L-Server template name
Label	Label
Comment	Comment
ServerType	Server type
Model	Server model name
DiskType[*num*]	Disk type name The index number of the disk element is configured in *num*. The number is 0 or larger.
DiskSize[*num*]	The disk size to allocate to L-Servers The index number of the disk element is configured in *num*. The number is 0 or larger.
NumOfNIC	Number of NICs used for an L-Server
NIC[*num*][NumOfNetworkLinks]	Number of networks that use VLAN In *num*, the NIC number is set. The number is 0 or larger.
NICGroup[*num*][NumOfNetworkLinks]	Number of networks to be redundant In *num*, specify the NIC redundancy group number. The number is 0 or larger.

Item Name	Description
NICGroup[*num*][NICLinks]	NIC number for redundancy In *num*, specify the NIC redundancy group number. The number is 0 or larger.
Redundancy	Server redundancy to assign to L-Servers
ReserveResources	Retention of resources
SpareSelection	Selection method for spare servers
LServer	L-Servers created using this L-Server template
NICGroup[*num*][NICLinks]	NIC number for redundancy In *num*, specify the NIC redundancy group number. The number is 0 or larger.

export

Exports the specified L-Server template information in the XML format. If you do not specify an L-Server template with the -name option, all L-Server templates are exported.

modify

Modifies the label, comment, and name of the specified L-Server template.

delete

Deletes the specified L-Server template. Use the -force option to forcibly delete the specified L-Server template even if there are L-Servers created from the template.

Options

-file *file*

In *file*, specify the L-Server template XML file to import or export.

-nowait

Use this option to return directly to the command prompt without waiting for the operation of the L-Server template specified in the subcommand to complete its execution.

-name *name*

In *name*, specify the L-Server template name.

-verbose

Use this option to display the redundancy configuration and the operation location.

-new_name *name*

In *name*, specify the new L-Server template name.

-label *label*

In *label*, specify the new label.

-comment *comment*

In *comment*, specify the new comments.

-force

Use the -force option to import to overwrite the L-Server template even if there are existing L-Server templates.

Use the -force option to forcibly delete the specified L-Server template even if there are L-Servers created from the template.

Examples

- To display a list of the L-Server templates that can be accessed:

  - For virtual L-Servers

```
>rcxadm template list <RETURN>
NAME               TYPE       SPEC               DISKS              NICS
----               ----       ----               -----              ----
no-nic             Virtual    1.0GHz,1,2.0GB     10.0GB,12.0GB      -
small              Virtual    1.0GHz,1,1.0GB     10.0GB             -
```

  - For physical L-Servers

```
>rcxadm template list <RETURN>
NAME                TYPE        SPEC/MODEL          DISKS          NICS
----                ----        ----------          -----          ----
sample_physical     Physical    "PRIMERGY BX922 S2" 40.0GB         -


>/opt/FJSVrcvmr/bin/rcxadm template list -verbose <RETURN>
NAME               TYPE        SPEC/MODEL          DISKS        NICS REDUNDANCY POSITIONING
----               ----        ----------          -----        ---- ---------- -----------
sample_physical    Physical    "PRIMERGY BX922 S2" 40.0GB       -    None       -
```

- To also display information regarding the redundancy configuration and the positioning:

```
>rcxadm template list -verbose <RETURN>
NAME               TYPE       SPEC               DISKS              NICS REDUNDANCY POSITIONING
----               ----       ----               -----              ---- ---------- -----------
no-nic             Virtual    1.0GHz,1,2.0GB     10.0GB,12.0GB      -    None       Fixed
small              Virtual    1.0GHz,1,1.0GB     10.0GB             -    None       Fixed
```

- To display the detailed information for the specified L-Server template:

  - For virtual L-Servers

```
>rcxadm template show -name small <RETURN>
Name: small
Label: label of the small
ServerType: Virtual
VMType: VMware
CPUArch: IA
CPUPerf: 1.0GHz
NumOfCPU: 1
MemorySize: 1.0GB
DiskSize[0]: 10.0GB
Redundancy: None
Positioning: Fixed
```

  - For physical L-Servers

```
>rcxadm template show -name sample_physical <RETURN>
Name: sample_physical
Label: sample of physical template
Comment: sample for physical server
ServerType: Physical
Model: PRIMERGY BX922 S2
DiskSize[0]: 40.0GB
Redundancy: None
LServer: sample1
```

1.6 User Operations

This section explains the commands used to operate users and access privileges.

1.6.1 rcxadm user

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm user** - User operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm user - User operations

Format

```
rcxadm user create -file file.xml
rcxadm user create -name name {-passwd password|-passwd_file password_file} [-label label] [-comment
comment] [-usergroup usergroup] [-role scope=role[,scope=role,...]]
rcxadm user list [-format text|xml|ldif]
rcxadm user show -name name
rcxadm user modify -name name -file file.xml
rcxadm user modify -name name {[-new_name newname] [-label label] [-comment comment] [-usergroup
usergroup] {-passwd password |-passwd_file password_file} [-role scope=role[,scope=role,...]}
rcxadm user delete -name name
```

Description

rcxadm user is the command used for registering users, changing passwords, changing privilege levels, deleting users, and restricting the access scope of operations for each user.

Subcommands

create

Creates a user.

list

Displays a list of user information in the text format, XML format, or LDIF. For the text format or XML format, the following information is displayed.

Table 1.58 User Information

Item Name	Description
NAME	User name
USERGROUP	Name of the user group the user belongs to
LABEL	Label for the user
ROLE	Scope and role of access of the user Displayed as "*access_scope=role*", and when there are multiple roles, they are displayed separated by commas.

LDIF is necessary when migrating user information from the internal authentication function to the directory service. When LDIF is specified, user names, access scopes, and roles are output. For the LDIF of user group information, use the rcxadm usergroup command to output.

show

To display the detailed information for the specified user in the text format.

The following detailed information is displayed:

Table 1.59 Detailed Information for Users

Item Name	Description
NAME	User name
USERGROUP	Name of the user group the user belongs to
LABEL	Label for the user
COMMENT	Comment for the user
ROLE[*num*]	Scope and role of access of the user A number starting from 0 is displayed for *num*, and when there are multiple roles, they are displayed separated by commas.

modify

Modifies the name, label, comment, user group, password, and operation/access scope of the specified user.

delete

Deletes the specified user.

Options

-file *file.xml*

In *file.xml*, specify the XML file that defines the attributes of the user to register or change.
It is not possible to perform batch registration or changes of multiple users using the output results of list -format xml.
For details on the XML file definition, refer to "2.6 User".

-name *name*

In *name*, specify the user name.

-label *label*

In *label*, specify the label for the user.

-comment *comment*

In *comment*, specify the comments for the user.

-usergroup *usergroup*

In *usergroup*, specify the user group to use for setting users in batches.

-passwd *password*

In *password*, specify the password for the user.

-passwd_file *password_file*

In *password_file*, specify the password file for the user. When users other than administrators use an admin server, it is dangerous to specify the password using an argument such as -passwd because the arguments of commands issued by other users can be viewed. Use the -passwd_file option.
In the file that defines the passwords, enter a user name and password on each line, separated by a comma (","). The password entered in the line including the user name specified with the -name option will be registered.

-role *scope=role*,...

In *scope*, specify the names of the resource folders, resource pools, and resources in the orchestration tree to include in the access scope. Specify resources inside resource folders by entering a slash ("/") and the resource name after the resource folder name. Specify resource folder names or resource names for the access scope. If you do not want to restrict the access scope, omit the access scope,

or specify "all". In *role*, specify the most appropriate role of the standard roles. Multiple access scopes and roles can be specified, separated by a comma (",").

- supervisor (special administrator)
- administrator (administrator)
- operator (operator)
- monitor (monitor)
- service_admin (service administrator)
- lserver_operator (L-Server operator)
- lserver_monitor (L-Server monitor)
- infra_admin (infrastructure administrator)
- infra_operator (infrastructure operator)

-format text|xml|ldif

Specify the display format. You can specify text, xml, or ldif format.

When -format is omitted, it is displayed in text format.

-new_name *newname*

In *newname*, specify the new user name.

Examples

- To display a list of user information in the text format:

```
>rcxadm user list <RETURN>
NAME         USERGROUP        LABEL     ROLE
----         ---------        -----     ----
aaa          -                -         all=administrator
admin_user   administrator    -         -
bbb          -                -         /folder001=administrator
folder_user  folder_group     -         -
manage       -                -         -
```

- To display the detailed information for the specified user in the text format:

```
>rcxadm user show -name aaa <RETURN>
Name      : aaa
UserGroup :
Label     :
Comment   :
Role[0]   : all=administrator
```

1.6.2 rcxadm usergroup

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm usergroup** - user group operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm usergroup - user group operations

Format

```
rcxadm usergroup create -file file.xml
rcxadm usergroup create -name usergroup [-label label] [-comment comment] [-role scope=role[,...]
rcxadm usergroup list [-format {text|xml|ldif}]
rcxadm usergroup show -name usergroup
rcxadm usergroup modify -name usergroup -file file.xml
rcxadm usergroup modify -name usergroup {[-new_name usergroup] [-label label] [-comment comment] [-
role scope=role[,...]}
rcxadm usergroup delete -name usergroup
```

Description

rcxadm usergroup is the command used to perform operations on multiple users and batch restriction of access scopes. By performing operations on and restricting the access scope for a user group, the settings are applied on all users registered in that user group. When different settings are specified for a user and its user group, the settings for the user are prioritized.

Subcommands

create

Create a user group.

list

Displays a list of user group information in the text format, XML format, or LDIF. For the text format or XML format, the following information is displayed.

Table 1.60 User Group Information

Item Name	Description
NAME	User group name
LABEL	Label for the user group
ROLE	Scope and role of access of the user group Displayed as "*access_scope*=*role*", and when there are multiple roles, they are displayed separated by commas.

LDIF is necessary when migrating user group information from the internal authentication function to the directory service. When LDIF is specified, names, access scopes, and user names of the user group are output.

show

To display the detailed information for the specified user in the text format.

The following detailed information is displayed:

Table 1.61 Detailed Information for User Groups

Item Name	Description
NAME	User group name
LABEL	Label for the user group
COMMENT	Comment for the user group
USER[*num*]	User names of belonging users A number starting from 0 is displayed for *num*, and when there are multiple roles, they are displayed separated by commas.
ROLE[*num*]	Scope and role of access of the user group

Item Name	Description
	A number starting from 0 is displayed for *num*, and when there are multiple roles, they are displayed separated by commas.

modify

Modifies the name, label, comment, and operation/access scope of the specified user group.

delete

Deletes the specified user group. You cannot delete a user group if it includes users.

Options

-file *file.xml*

In *file.xml*, specify the XML file that defines the attributes of the user group to register or change.
It is not possible to perform batch registration or changes of multiple user groups using the output results of list -format xml.
For details on the XML file definition, refer to "2.7 User Groups".

-name *usergroup*

In *usergroup*, specify the user group name.

-label *label*

In *label*, specify the label for the user group.

-comment *comment*

In *comment*, specify the comments for the user group.

-role *scope=role*,...

In *scope*, specify the names of the resource folders, resource pools, or resources in the orchestration tree to include in the access scope. Specify resources inside resource folders by entering a slash ("/") and the resource name after the resource folder name. Specify resource folder names or resource names for the access scope. If you do not want to restrict the access scope, omit the access scope, or specify "all".

In *role*, specify the most appropriate role of the standard roles. Multiple access scopes and roles can be specified, separated by a comma (",").

- supervisor (special administrator)
- administrator (administrator)
- operator (operator)
- monitor (monitor)
- service_admin (service administrator)
- lserver_operator (L-Server operator)
- lserver_monitor (L-Server monitor)
- infra_admin (infrastructure administrator)
- infra_operator (infrastructure operator)

-format text|xml|ldif

Specify the display format. You can specify text, xml, or ldif format.

When -format is omitted, it is displayed in text format.

-new_name *usergroup*

In *usergroup*, specify the new user group name.

Examples

- To display a list of user group information in text format:

```
>rcxadm usergroup list <RETURN>
NAME          LABEL      ROLE
----          -----      ----
admin         -          all=administrator
folder_group  -          /folder001=administrator
```

- To display the detailed information for the specified user group in text format:

```
>rcxadm usergroup show -name admin <RETURN>
Name      : admin
Label     :
Comment   :
User[0]   : admin_user
Role[0]   : all=administrator
```

1.7 Control and Environment Setup

This section explains the commands used for control and environment setup of the manager and agents that comprise Resource Orchestrator.

1.7.1 rcxadm storagemgr

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm storagemgr** - storage management software operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm storagemgr - storage management software operations

Format

rcxadm storagemgr register -name *name* **-soft_name** *soft_name* **[-label** *label***] [-comment** *comment***] [-soft_url** *url***] [-ip** *ipaddress***] [-port** *number***] [-user_name** *user_name***] [-passwd** *password***|-passwd_file** *password_file***]**
rcxadm storagemgr list [-verbose]
rcxadm storagemgr show -name *name*
rcxadm storagemgr unregister -name *name*
rcxadm storagemgr modify -name *name* **[-label** *label***] [-comment** *comment***] [-soft_url** *url***] [-ip** *ipaddress***] [-port** *number***] [-user_name** *user_name***] [-passwd** *password***|-passwd_file** *password_file***]**

Description

rcxadm storagemgr is the command used to perform operations of storage management software.

Subcommands

register

Registers storage management software.

list

Displays a list of storage management software information.

The following detailed information is displayed:

Table 1.62 Storage Management Software Information

Item Name	Description
NAME	Storage management software name
LABEL	Storage management software label
COMMENT (*1)	Storage management software comment
SOFT NAME	Name of storage management software
STATUS	Storage management software status
IP ADDRESS (*1)	IP address to use to access the storage management software
PORT (*1)	Port number to use to access the storage management software

*1: When specifying -verbose for the option, it is displayed.

show

To display the detailed information for storage management software.

The following detailed information is displayed:

Table 1.63 Detailed Information for Storage Management Software

Item Name	Description
NAME	Storage management software name
LABEL	Storage management software label
COMMENT	Storage management software comment
SOFT NAME	Name of storage management software
VERSION	Version of storage management software
URL	URL to use to access the storage management software
IP ADDRESS	IP address to use to access the storage management software
PORT NUMBER	Port number to use to access the storage management software
STATUS	Storage management software status
USER NAME	Storage management software user ID
PASSWORD	Password for storage management software user ID

unregister

Unregisters storage management software.

modify

Changes labels, comments, IP address, port numbers, user names, and passwords of storage management software.
When the storage management software is ESC, an error occurs if -ip, -port, -user_name, -passwd, -passwd_file are specified.
When the storage management software is Navisphere, an error occurs if -ip, -port, -user_name, -passwd, -passwd_file are specified.
When the storage management software is Solutions Enabler, an error occurs if -ip, -port, -user_name, -passwd, -passwd_file are specified.
If the storage management software is the one of the following, an error occurs because this command cannot be used to make changes.

- VMware vCenter Server
- SCVMM
- Oracle VM Manager
- iSCSI controller for Resource Orchestrator

Options

-name *name*

In *name*, specify the resource name of the target storage management software to perform an operation with.

-soft_name *soft_name*

In *soft_name*, specify the storage management software. The names that can be specified are as follow:

- When using ETERNUS SF Storage Cruiser, specify "esc".

  An error occurs if -ip, -port, -user_name, -passwd, or -passwd_file are specified in addition to "esc".

- When using Data ONTAP, specify "ontap".

  An error occurs if -ip, -user_name, -passwd, or -passwd_file are not specified when specifying "ontap".

- For PRIMECLUSTER GDS, specify "gds".

  An error occurs if -ip, -user_name, -passwd, or -passwd_file are not specified when specifying "gds".

- When using Navisphere, specify "emcns".

  An error will occur if -ip is not specified when specifying "emcns".

  An error will occur if -port, -user_name, -passwd, or -passwd_file are specified when specifying "emcns".

- When using Solutions Enabler, specify "emcse".

  An error will occur if -ip, -port, -user_name, -passwd, or -passwd_file are specified when specifying "emcse".

-soft_url *url*

In *url*, specify the URL to use to access the storage management software.

When specifying -soft_name esc and managing only an ETERNUS, specify the URL of ETERNUSmgr for the ETERNUS.

When managing multiple ETERNUSs, do not specify -soft_url.

-ip *ipaddress*

In *ipaddress*, specify an IP address to use to access the storage management software.

-port *number*

In *number*, specify a port number to use to access the storage management software.

-user_name *user_name*

In *user_name*, specify the user ID for the storage management software.

When specifying -soft_name ontap, specify root.

-passwd *password*

In *password*, specify the password for the storage management software.

-passwd_file *password_file*

In *password_file*, specify the password file for the storage management software. When users other than administrators use an admin server, it is dangerous to specify the password using an argument such as -passwd because the arguments of commands issued by other users can be viewed. Use the -passwd_file option.
In the file that defines the passwords, enter a user name and password on each line, separated by a comma (","). The password entered in the line including the user name specified with the -user_name option will be registered.

-verbose

Use this option to increase the items displayed in the list of information.

-label *label*

In *label*, specify the new label.

-comment *comment*

In *comment*, specify the new comments.

Examples

- To display the list of the storage management software information:

```
>rcxadm storagemgr list <RETURN>
NAME      LABEL    SOFT NAME                      STATUS
----      -----    ---------                      ------
esc00     -        ETERNUS SF Storage Cruiser     normal
```

- To display the details of the storage management software information:

```
>rcxadm storagemgr list -verbose <RETURN>
NAME    LABEL   COMMENT  SOFT NAME                  STATUS  IP ADDRESS PORT
----    -----   -------  ---------                  ------  ---------- ----
esc00   -       -        ETERNUS SF Storage Cruiser normal  -          -
```

- To display the detailed information for storage management software:

```
>rcxadm storagemgr show -name esc00 <RETURN>
Name: esc00
Label:
Comment:
Soft name: ETERNUS SF Storage Cruiser
Version: 14.2
URL:
IP address:
Port number:
Status: normal
User name:
Password:
```

1.7.2 rcxadm imagemgr

rcxadm imagemgr is an existing RCVE command.
For details, refer to "5.5 rcxadm imagemgr" in the "ServerView Resource Coordinator VE Command Reference".

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm imagemgr** - modifying image management information

[Linux]
/opt/FJSVrcvmr/bin/rcxadm imagemgr - modifying image management information

Format

rcxadm imagemgr set -attr {vm.clone|vm.snapshot}.maxversion=*value*

Description

The additional functions of rcxadm imagemgr are indicated below.

You can specify vm.clone and vm.snapshot in attributes used for controlling the number of image versions.

rcxadm imagemgr set -attr {vm.clone|vm.snapshot}.maxversion=*max_version*

Options

-attr {vm.clone|vm.snapshot}.maxversion=*max_version*

Specify the maximum number of image file versions.
Specify vm.clone for the number of cloning image versions.
Specify vm.snapshot for the number of snapshot versions.
In *max_version*, specify the maximum number of image file versions to change. The values that can be specified for *max_version* are any value between 1 and 10.

1.7.3 rcxadm vmmgr

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm vmmgr** - VM management software operations

[Linux]
/opt/FJSVrcvmr/bin/rcxadm vmmgr - VM management software operations

Format

```
rcxadm vmmgr list
rcxadm vmmgr show -name name
rcxadm vmmgr refresh
```

Description

rcxadm vmmgr is the command used to manage VM management software. The information of VM management software is displayed.

Subcommands

list

Displays a list of VM management software information.

The following detailed information is displayed:

Table 1.64 VM Management Software Information

Item Name	Description
NAME	Name of the target VM management software
TYPE	Types of VM management software
IPADDRESS	IP address to use to access the VM management software
STATUS	VM management software status

show

To display the detailed information for VM management software.

The following detailed information is displayed:

Table 1.65 Detailed Information for VM Management Software

Item Name	Description
NAME	Name of the target VM management software
TYPE	Types of VM management software
IPADDRESS	IP address to use to access the VM management software

Item Name	Description
STATUS	VM management software status
MANAGERSOFTWAREURL	URL to use to access the VM management software

refresh

When using the Disaster Recovery feature, the regular update of VM management software is forcibly implemented in order to recover a physical L-Server.

Options

-name *name*

In *name*, specify the name of the target VM management software to perform operations with.

Examples

- To display a list of VM management software information:

```
>rcxadm vmmgr list <RETURN>
NAME                            TYPE           IPADDRESS       STATUS
----                            ----           ---------       ------
SCVMM1                          SCVMM          192.168.10.20   normal
vCenterServer1                  vCenter Server 192.168.100.20  normal
```

- To display the detailed information for VM management software:

```
>rcxadm vmmgr show -name SCVMM1 <RETURN>
Name: SCVMM1
Type: SCVMM
IpAddress: 192.168.10.20
Status: normal
ManagementSoftwareURL: https://192.168.10.20/sdk
LibraryShare[0]: \\rcxvmmshv-dc.rcxvmmshv.local
\MSSCVMMLibrary
LibraryShare[1]: \\rcxclusterfs.rcxvmmshv.local\SCVMM-LIB

>rcxadm vmmgr show -name vCenterServer1 <RETURN>
Name: vCenterServer1
Type: vCenter Server
IpAddress: 192.168.100.20
Status: normal
ManagementSoftwareURL: https://192.168.100.20/sdk
```

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

1.7.4 rcxadm agtctl

rcxadm agtctl is an existing RCVE command.
For details, refer to "5.1 rcxadm agtctl" in the "ServerView Resource Coordinator VE Command Reference".

1.7.5 rcxadm certctl

rcxadm certctl is an existing RCVE command.
For details, refer to "5.2 rcxadm certctl" in the "ServerView Resource Coordinator VE Command Reference".

1.7.6 rcxadm deployctl

rcxadm deployctl is an existing RCVE command.
For details, refer to "5.4 rcxadm deployctl" in the "ServerView Resource Coordinator VE Command Reference".

1.7.7 rcxadm lanctl

rcxadm lanctl is an existing RCVE command.
For details, refer to "5.6 rcxadm lanctl" in the "ServerView Resource Coordinator VE Command Reference".

1.7.8 rcxadm mgrctl

rcxadm mgrctl is an existing RCVE command.
For details, refer to "5.7 rcxadm mgrctl" in the "ServerView Resource Coordinator VE Command Reference".

1.7.9 deployment_service_uninstall

deployment_service_uninstall is an existing RCVE command.
For details, refer to "5.11 deployment_service_uninstall" in the "ServerView Resource Coordinator VE Command Reference".

1.7.10 rcxadm authctl

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm authctl** - user management using directory service

[Linux]
/opt/FJSVrcvmr/bin/rcxadm authctl - user management using directory service

Format

```
rcxadm authctl register -ip ip_address [-port port] -base base_dn -bind bind_dn [-method {SSL|PLAIN}]
{-passwd password|-passwd_file password_file} [-auth {serverview|ldap}]
rcxadm authctl unregister
rcxadm authctl show
rcxadm authctl modify -ip ip_address [-port port] -base base_dn -bind bind_dn [-method {SSL|PLAIN}]
{-passwd password|-passwd_file password_file} [-auth {serverview|ldap}]
rcxadm authctl sync
```

Description

rcxadm authctl is the command to operate the directory server holding user and user group information.

Subcommands

register

Register a directory server with Resource Orchestrator.

unregister

Unregister a directory server registered with Resource Orchestrator. User and user group information registered in the directory server are not deleted, the information is only deleted from Resource Orchestrator.

modify

Modify settings of the directory service registered with Resource Orchestrator.

show

The registered directory server information is displayed in the following format.

```
ip address: IP_address
port: Port_number
base: base_dn
bind: Administrator_user_DN
method: Encryption_communication_method
```

sync

Reflect the resource information managed by Resource Orchestrator on the resource information in the directory server.

Options

-ip *ip*

Specify the IP address of the directory server to register.

-port *port* (optional)

Specify the port number of the directory server to register. When omitted, the following port numbers are regarded as having been specified using the -method value.

```
SSL : 636
PLAIN : 389
```

-base *base_dn*

Specify the search base of the directory server to register in DN format.

-bind *bind_dn*

Specify the administrative privilege user name of the directory server to register in DN format.

-method {SSL|PLAIN} (optional)

Specify the encryption communication method to use with the directory server to register. Specify one of following.

If this option is omitted, SSL is specified automatically. If PLAIN is specified, encryption is not performed.

- SSL
- PLAIN

-passwd *password*

Specify the password for the administrative privilege user of the directory server to register.

-passwd_file *password_file*

Specify the administrative privilege user name of the directory server to register.

-auth (optional)

Specify the method for user authentication. Specify one of following items.

If omitted, serverview is set.

- serverview

  Operation using ServerView Operations Manager and Single Sign-On is performed.

- ldap

  Only user authentication using directory service is performed. Operation is not performed using Single Sign-On.

Examples

- To display the registered directory service information:

```
>rcxadm authctl show <RETURN>
ip address: 127.0.0.1
port: 389
base: dc=fujitsu,dc=com
bind: cn=manager,dc=fujitsu,dc=com
method: PLAIN
auth: ldap
```

1.7.11 rcxadm config

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm config** - import and export of configuration information

[Linux]
/opt/FJSVrcvmr/bin/rcxadm config - import and export of configuration information

Format

```
rcxadm config import -dir dir
rcxadm config export -dir dir
rcxadm config map -file resource_map_file  -dir dir
rcxadm config filter {-tenant tenant_name|-global|-type vm|-exclude vm -convert} -indir indir -outdir
outdir
```

Description

rcxadm config is the command to import or export configuration information, when executing DR (Disaster Recovery).

Subcommands

import

Imports the configuration information.

In *dir*, specify the storage folder for the configuration information of the resource to be imported.

export

Exports the configuration information.

After executing the command, the following XML files are created in the folder specified using *dir*.

For details on XML files, refer to "Chapter 2 Resource Configuration Information and User Definition Information (XML Files)".

dir\l_server_templates.xml

dir\l_servers.xml

dir\image.xml

dir\network_resources.xml

dir\address_resource.xml

dir\resource_folders.xml

dir\users.xml

dir\user_groups.xml

dir\pools.xml

map

Configure the exported Resource Orchestrator, and associate resources of the backup site.

filter

Filter the configuration information to divide and import the exported settings for Resource Orchestrator.

Options

-dir *dir*

Specify the directory in which the configuration information for associating resources is stored.

-file *resource_map_file*

Specify the XML file that describes the association of storage.

-tenant *tenant_name*

Specify the tenant name to filter.

-global

Specify to filter the resources shared with other tenants.

-type vm

Specify to filter the resources related to the virtual L-Server.

-exclude vm

Specify to filter the resources other than those related to the virtual L-Server.

-indir *indir*

Specify the directory to store the configuration information of the filtering target.

-outdir *outdir*

Specify the directory in which to store the configuration information that was filtered.

If -convert is specified, the information that links a configured physical server with an L-Server will be created in *outdir*.

Example

convert.txt

```
[command]
rcxadm lserver convert -with BX900_1 -name physical_lserver_1
rcxadm lserver convert -with BX900_3 -name physical_lserver_2 -to /tenant_1
rcxadm lserver convert -with BX900_6 -name physical_lserver_3 -label test_label3 -comment test_comment3 -to /folder_1
[user]
user_1, physical_lserver_1
user_1, /tenant_1/physical_lserver_2
user_2, /folder_1/physical_lserver_2
```

```
[usergroup]
usergroup_1, physical_lserver_1
usergroup_2, /folder_1/physical_lserver_3
```

1.7.12 rcxadm iscsictl

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm iscsictl** - operation of iSCSI boot information

[Linux]
/opt/FJSVrcvmr/bin/rcxadm iscsictl - operation of iSCSI boot information

Format

```
rcxadm iscsictl register -file file.xml
rcxadm iscsictl unregister -pool pool -disk disk
```

Description

rcxadm iscsictl is the command to operate iSCSI boot information.

Subcommands

register

Register iSCSI boot information.

If iSCSI boot information already registered is specified, the registered information continues to exist.

If the registered information is changed, delete the iSCSI boot information using the unregister subcommand, and then register the iSCSI boot information by using the register subcommand again.

unregister

Unregister iSCSI boot information.

Options

-file *file.xml*

In *file.xml*, specify the XML file that defines the iSCSI boot information.

For details on the XML file definition, refer to "2.9 iSCSI Boot Information".

-pool *pool*

Specify the target resource pool name by level.

Folder/pool

-disk *disk*

Specify the disk resource to delete.

Note

When deleting disk resources used for iSCSI boot that have been unregistered from a resource pool, register the disk resource to a resource pool, then execute the rcxadm iscsictl unregister command to delete it.

1.7.13 rcxstorage

Name

[Windows]
*Installation_folder***Manager\bin\rcxstorage** - Switchover script for operating or standby storage, or creation of disk resource comparison tables for Disaster Recovery

[Linux]
/opt/FJSVrcvmr/bin/rcxstorage - Switchover script for operating or standby storage, or creation of disk resource comparison tables for Disaster Recovery

Format

```
rcxstorage [-failover|-failback] -storageunit unit_name -file file -outfile outfile
rcxstorage -recovery -mode [prepare|mapping] -file file -outfile outfile
```

Description

rcxstorage -failover|-failback are the commands to create scripts for switching storage between the operating and standby states, and to create scripts for power operations for physical L-Servers.

rcxstorage -recovery is the command to create a disk resource comparison table for Disaster Recovery.

Options

-failover|-failback

- Use the -failover option to create the following scripts:
  - A script for switching from operating to standby (failover script)
  - A script for stopping a target physical L-Server
  - A script for starting a target physical L-Server
- Use the -failback option to create the following scripts:
  - A script for switching from standby to operating (failback script)
  - A script for stopping a target physical L-Server
  - A script for starting a target physical L-Server

-recovery

When specified with -mode, the Disaster recovery function is executed.

-storageunit *unit_name*

Specify the operating storage units.

When a storage unit is ETERNUS or EMC CLARiiON, specify the IP address of the storage unit for *unit_name*.

When a storage unit is EMC Symmetrix DMX, specify the SymmID of the storage unit for *unit_name*.

-mode [prepare|mapping]

Use the prepare option to extract the disk resource information from the configuration information of the manager of the operating storage.

Use the mapping option to create a comparison table for the disk resource, comparing the configuration information of the operating and standby storage.

-file *file*

For -failover or -failback, specify the replication definition file using a full pathname.

For -mode prepare, specify the replication definition file using a full pathname.

When -mode mapping is set, specify the file for the configuration information of the operating storage using its full path.

-outfile *outfile*

When -failover is set, specify the full pathname of the failover script file.

When -failback is set, specify the full pathname of the failback script file.

When -mode prepare is set, specify the file for the configuration information of the operating storage using its full path name.

When -mode mapping is set, specify the full path name for the disk resource comparison table.

For the file name of a failover or a failback script, the file name specified for *outfile* is used. The script for stopping physical L-Servers is created with a file name composed of the file name specified in *outfile* (the extension is omitted), followed by the string "_power_off". The script for stopping physical L-Servers is created with a file name composed of the file name specified in *outfile* (the extension is omitted), followed by the string "_power_on".

Example

- When C:\temp\command.bat is specified for *outfile*

Type of Script File	File Name of the Script Created
A failover or a failback script	C:\temp\command.bat
A script for stopping physical L-Servers	C:\temp\command_power_off.bat
A script for starting physical L-Servers	C:\temp\command_power_on.bat

If there is already a file with the same name, the script cannot be created. Specify the name of the new file to create.

When operating this command in Windows environments, the script file to be output is a batch file, in Linux environments it is a shell script. When specifying the name of a script file, reflect the extensions of batch files and shell scripts.

1.7.14 rcxadm logctl

This section explains the command for operation logs of Resource Orchestrator.

Name

[Windows]
*Installation_folder***Manager\bin\rcxadm logctl** - Operation of operation logs of Resource Orchestrator

[Linux]
/opt/FJSVrcvmr/bin/rcxadm logctl - Operation of operation logs of Resource Orchestrator

Format

```
rcxadm logctl start
rcxadm logctl stop
rcxadm logctl set -attr record_cycle=record_cycle
rcxadm logctl show
rcxadm logctl delete -from from_date {-duration duration | {-to to_date |-latest}}
rcxadm logctl delete -duration duration {-from from_date | {-to to_date |-latest}}
rcxadm logctl list -from from_date {-duration duration | {-to to_date |-latest}} [-format csv] [-
no_header]
rcxadm logctl list -duration duration {-from from_date | {-to to_date |-latest}} [-format csv] [-
no_header]
```

Description

rcxadm logctl is the command for operating operation logs of Resource Orchestrator.

Subcommands

start

Start recording operation logs of Resource Orchestrator.

stop

Stop recording operation logs of Resource Orchestrator.

set

Sets and modifies the retention period of operation logs of Resource Orchestrator.

show

Displays the recording start date, retention period, retention folder, recording status (on/off), and the recording period.

Table 1.66 Information for Recorded Items

Items	Description
start_date	Start of recording (YYYY-MM-DD HH:MM:SS.XXX+/-hh:mm) A hyphen ("-") is set when the recording is stopped.
record_cycle	Retention period If the setting is not changed, "180" is set.
record_dir	Retention folder Operation logs are saved in the following folder: [Windows] *Installation_folder***Manager\var\operation**\ [Linux] **/var/opt/FJSVrcvmr/operation/**
record_status	Status of recording "off" is set when the recording is stopped.
record_count	Number of days to record Days when no events occur, and days when recording is not possible due to the manager being stopped are not counted as dates for recording.

delete

Deletes operation logs of Resource Orchestrator.

list

Displays operation logs of Resource Orchestrator.

Options

-attr record_cycle=*record_cycle*

Specify the number of days to store operation logs. If omitted, "180" is set.

Up to 2147483647 days can be specified.

-format *csv*

Use this option to output operation logs in CSV format.

Standard output is used for the operation log.

-no_header

Use this option not to output the information headers (Date, User, Group, IP, Progress, Resource, and Event).

-duration *duration*

Specify the data output duration.

Specification formats are shown below.

- *years*Y
- *months*M
- *weeks*W
- *days*D
- *hours*H

Example

```
-duration 3Y
-duration 4M
```

Specify an integer equal to or greater than 1 for *years*, *months*, *weeks*, *days*, and *hours*.

Point

When combined with -from, data for the specified duration is output from the start time using from.

When combined with -to, data for the specified duration is output to the end time using to.

-from *from_date*

Specify the start time of the output duration. Specify the local time.

Specification formats are shown below.

- "YYYY-MM-DD"
- "YYYY-MM-DD HH:MM"
- "YYYY-MM-DD HH:MM:SS"

The specifiable ranges are shown below.

- YYYY: 1970 to 2038
- MM: 1 to 12
- DD: 1 to 31
- HH: 0 to 23
- MM: 0 to 59
- SS: 0 to 60 (When "60" is specified, time will be increased by 1 minute.)

  In the following case, 1 day will be increased.

Table 1.67 Increment of Days

MMDD values specified	Dates incremented
0431	0501

MMDD values specified	Dates incremented
0631	0701
0931	1001
1131	1201
0229 (Other than leap year) 0230 (Leap year)	0301
0230 (Other than leap year) 0231 (Leap year)	0302
0231 (Other than leap year)	0303

Point

When -to, -duration, and -latest are combined, data from the specified time is output. In this case, the specified time is included.

-to *to_date*

Specify the end time of the output duration. Specify the local time.

-latest cannot be used at the same time.

Specification formats are shown below.

- "YYYY-MM-DD"
- "YYYY-MM-DD HH:MM"
- "YYYY-MM-DD HH:MM:SS"

For details of the specifiable ranges for YYYY, MM, DD, HH, MM, SS, refer to "Table 1.67 Increment of Days".

Point

When -from and -duration are combined, data is output until the specified time. In this case, the specified time is excluded.

-latest

The end time of the data output duration is regarded as the current time. Specify when outputting of the latest data.

-to cannot be used at the same time.

Point

When combined with -from or -duration, the data for the latest specified duration will be output.

1.8 Backup and Restoration Operations for Configuration Definition Information

This section explains the commands for backing up and restoring configuration definition information of Resource Orchestrator.

1.8.1 rcxbackup

Name

[Windows]
*Installation_folder***Manager\bin\rcxbackup** - backup of configuration definition information

[Linux]
/opt/FJSVrcvmr/bin/rcxbackup - backup of configuration definition information

Format

rcxbackup [-dir *directory***] [[-immediate]|[-timeout** *value***]]**

Description

rcxbackup is the command used for backup of the configuration definition information of Resource Orchestrator.

Back up configuration definition information of Resource Orchestrator using this command for restoration when the configuration definition information has been damaged.

Options

-dir *directory*

In *directory*, specify a directory to back up the configuration definition information of Resource Orchestrator.

When omitting the directory specification or the tuning parameter file, the configuration definition file is saved in the following directory:

[Windows]
*Installation_folder***Manager\var\backup**

[Linux]
/var/opt/FJSVrcxmr/backup

-immediate

Use this option to return directly to the command prompt without waiting for the operation being executed on the admin server to complete its execution.

If this command is executed when the manager has been stopped, regardless of whether this option is specified, the command will return directly to the command prompt without waiting for the operation to complete its execution.

-timeout *value*

Use this option to return with an error when the operation being executed on the admin server does not complete its execution after the expiration of the number of seconds specified in *value*.

Periodical backup may not be able to start its process while the manager is performing operations using the configuration definition information such as L-Server creation. Specify this option to cancel the backup after the specified number of seconds has elapsed.

If this command is executed when the manager has been stopped, the specification of this option will be ignored.

Example

```
>rcxbackup -dir /dir0 -immediate <RETURN>
```

Note

- Specify the command using an absolute path.
- When specifying folders or directories, take note of the following points.
  - Do not specify the system installation folder or the installation directory for the -dir option.
  - Do not use double-byte characters or the following symbols to specify folders or directories for the -dir option.

    """, "|", "*", "?", "<", ">", ",", "%", "&", "^", "=", "!", ";"

[Windows]
"/"

[Linux]
"\"

  - The folder path or directory path can be specified up to 100 characters.

- For the -timeout option, 172800 or less seconds can be specified. If left blank, "3600" is set.
- Do not stop or start the manager during execution of this command.
- If this command fails, a folder or a directory that has a name starting with tmp will be created in the folder or directory specified for the -dir option. If the problem is still not resolved after performing the actions based on the output error message, collect the folder or the directory as troubleshooting data, and contact Fujitsu technical staff. Delete these folders or directories when they are no longer necessary.
- Do not execute this command while resource operations, such as those involving L-Servers, resource pools, or resource folders, are being performed.
- If the configuration definition information is being updated when the periodical backup operation starts, the backup operation will be postponed until the update is complete.
- When an operation is being executed on the admin server, "INFO: Manager operation is still running." is displayed periodically.

1.8.2 rcxrestore

Name

[Windows]
*Installation_folder***Manager\bin\rcxrestore** - restoration of configuration definition information

[Linux]
/opt/FJSVrcvmr/bin/rcxrestore - restoration of configuration definition information

Format

rcxrestore -file *filename*

Description

rcxrestore is the command used for restoration of the configuration definition information of Resource Orchestrator.

Options

-file *filename*

In *filename*, specify the compressed format file name of the backup collected using the rcxbackup command.

Example

>**rcxrestore -file file0** <RETURN>

Note

- Specify the command using an absolute path.

- When specifying files, take note of the following points.
  - Do not use double-byte characters or the following symbols to specify files for the -file option.

    """, "|", "*", "?", "<", ">", ",", "%", "&", "^", "=", "!", ";"

    [Windows]
    "/"

    [Linux]
    "\"
  - The file path can be specified up to 100 characters.
  - During restoration, the certificates, configuration definition information, OS property definition files, system images and cloning images must have been backed up at the same point in time. It is recommended to store the backed up information in folders with names including the date and time of backup.
- Do not stop or start the manager during execution of this command. If this command fails, a folder or a directory that has a name starting with tmp will be created in the folder or directory specified for the -file option. If the problem is still not resolved after performing the actions based on the output error message, collect the folder or the directory as troubleshooting data, and contact Fujitsu technical staff. Delete these folders or directories when they are no longer necessary.

1.8.3 rcxlogtruncate

Name

[Windows]
*Installation_folder***Manager\sys\lserver_repair\rcxlogtruncate** - Deletion of L-Server restoration logs

[Linux]
/opt/FJSVrcvmr/sys/lserver_repair/rcxlogtruncate - Deletion of L-Server restoration logs

Format

rcxlogtruncate -dir *L-Server_restoration_log_storage_directory* **-date** *yyyymmdd_hhmm*

Description

rcxlogtruncate is the command used to delete L-Server restoration logs.

Options

-dir *L-Server_restoration_log_storage_directory*

Specify the directory to be used to store L-Server restoration logs.

-date *yyyymmdd_hhmm*

Deletes L-Server restoration logs before the specified date and time (*yyyymmdd_hhmm*).

Examples

>**rcxtruncate -dir** *dir1* **-date***20110501_0000* <RETURN>

1.8.4 rcxreserveid

Name

[Windows]
*Installation_folder***Manager\sys\lserver_repair \rcxreserveid** - Reservation of resource IDs.

[Linux]
/opt/FJSVrcvmr/sys/lserver_repair/rcxreserveid - Reservation of resource IDs

Format

rcxreserveid -logdir *L-Server_restoration_log_destination_directory*

Description

rcxreserveid is the command used to reserve resource IDs during restoration of the manager.

Executing this command prevents the overlapping of resource IDs before and after a manager failure.

Options

-logdir *L-Server_restoration_log_storage_directory*

Specify the directory to be used to store L-Server restoration logs.

Examples

>**rcxreserveid -logdir** *dir1* <RETURN>

Note

After restoring the manager, if starting the manager before executing this command, perform these operations again from restoration of the manager.

1.8.5 rcxchkmismatch

Name

[Windows]
*Installation_folder***Manager\sys\lserver_repair \rcxchkmismatch** - Deletion of resource folders and L-Servers

[Linux]
/opt/FJSVrcvmr/sys/lserver_repair/rcxchkmismatch - Deletion of resource folders and L-Servers

Format

rcxchkmismatch {-logdir *L-Server_restoration_log_storage_directory* **| -diff} [-allow del]**

Description

rcxchkmismatch is the command to perform the following operations after the manager is backed up:

- Checking resources which have been deleted or for which configuration changes have been made
- Deleting the information of resources which have been deleted from the configuration definition information

- Reflecting the information of resources for which configuration changes have been made, on the configuration definition information

Options

-logdir *L-Server_restoration_log_storage_directory*

Specify the directory where L-Server restoration logs are stored.

-diff

Use this option if L-Server restoration logs are damaged or not recorded. This option compares information between regular update information of VM management software and configuration definition information, and then displays the differences between them.

-allow del

Deletes the difference information between L-Server restoration logs and configuration definition information, or between VM management software and configuration definition information.

Examples

```
>rcxchkmismatch -logdir L-Server_restoration_log_storage_directory
<RETURN>
mismatch:
/Folder name/L-Server name 1
/L-Server name 2
..
spec mismatch:
/Folder name 2/L-Server name 3
/L-Server name 4
...
```

```
>rcxchkmismatch -logdir L-Server_restoration_log -allow del <RETURN>
mismatch and deleted:
/Folder_name/L-Server_name_1
/L-Server_name_2
...
```

1.8.6 rcxrepair

Name

[Windows]
*Installation_folder***Manager\sys\lserver_repair\rcxrepair** - Checking configuration definition information to restore

[Linux]
/opt/FJSVrcvmr/sys/lserver_repair/rcxrepair - Checking configuration definition information to restore

Format

rcxrepair -logdir *L-Server_restoration_log_storage_directory* [**-dir** *Output_destination_of_resource_definition_information* | **-dryrun**]

Description

Compare information between L-Server restoration logs and configuration definition information, and identify information requiring restoration.
rcxrepair is the command used to create an import file for restoring configuration definition information.

Options

-logdir *L-Server_restoration_log_storage_directory*

Specify the directory to be used to store L-Server restoration logs.

-dir *Output_destination_of_resource_definition_information*

Specify the destination for resource information of configuration definition information to restore.

When there is configuration definition information to be restored using the -dryrun option, use this option to create resource information.

-dryrun

Check the contents of configuration definition information to restore. When restoration is unnecessary, it is output as such.

Note

When using the -dryrun option, a temporary folder named rcxrepair_tmp is created in the folder specified when executing the command. Therefore, specify a writable folder when executing the command.

Even if the command is forcibly terminated, the rcxrepair_tmp folder may be created. In that case, delete the rcxrepair_tmp folder.

Examples

```
>rcxrepair -logdir L-Server_restoration_log -dryrun <RETURN>
folder create: /folder1
lserver create: /folder1/l-server1
lserver create: /folder1/l-server2
>rcxrepair -logdir L-Server_restoration_log_storage_directory -dir
Output_definition_of_resource_definition_information <RETURN>
```

Chapter 2 Resource Configuration Information and User Definition Information (XML Files)

This chapter explains resource configuration information and user definition information (XML files).

2.1 Overview

This section explains the XMLs used by Resource Orchestrator.

The following types of XMLs are used by Resource Orchestrator:

- L-Server Template
- L-Server
- Network Resources
- Resource Folders
- Users
- User Groups
- Tenant Folders
- iSCSI boot information

Note

- Use the UTF-8 character code for XML files.
- As a rule, line breaks and blank spaces are recognized as data in an XML. Make sure that there are no unnecessary line breaks or blank spaces when defining an XML file. Additionally, specify tags and attributes according to the Resource Orchestrator XML specifications. Tags not listed in the XML specifications are not recognized.
- Resources that are specified in an XML must be included in the access scope of the user that performs the operation.

2.2 L-Server Template

This section explains L-Server template XML definitions.

The L-Server template XML definitions differ depending on the server type.

For physical L-Servers, refer to "2.2.1 For Physical L-Servers".
For virtual L-Servers, refer to "2.2.2 For Virtual L-Servers".

If a template is imported without editing the L-Server template name, the content of the existing L-Server template is overwritten. If an L-Server template is imported after the name is edited from when it was exported, the L-Server template is added.
When defining multiple L-Server templates, define multiple L-Servers for each file, assign them different L-Server template names, and enclose them with LServerTemplates tags.

If there is only one L-Server template, the LServerTemplates tag is optional.

2.2.1 For Physical L-Servers

The L-Server template for physical L-Servers is as follows:

```
<?xml version="1.0" encoding="utf-8"?>
<LServerTemplates>
  <LServerTemplate name="L-Server#1 Template Name" id="L-Server Template ID" label="Label">
    <Comment>Comment</Comment>
    <ServerType>Server Type</ServerType>
```

```
    <Model>Model Name</Model>
    <Disks>
      <Disk type="Connection Type">
        <DiskIndex>Disk Index</DiskIndex>
        <DiskSize>Disk Size</DiskSize>
      </Disk>
    </Disks>
    <NICs>
      <NumOfNIC>Number of NICs used for an L-Server<NumOfNIC>
      <NIC>
        <NICIndex>NIC Index</NICIndex>
        <NetworkLinks>
          <NumOfNetworkLinks>Number of networks available for 1 NIC/NICGroup</NumOfNetworkLinks>
        </NetworkLinks>
      </NIC>
    </NICs>
    <NICGroups>
      <NICGroup>
        <NICGroupIndex>NIC redundancy group index</NICGroupIndex>
        <NetworkLinks>
          <NumOfNetworkLinks>Number of networks available for 1 NIC/NICGroup</NumOfNetworkLinks>
        </NetworkLinks>
        <NICLinks>
          <NICLink>Numbers of NICs contained in NIC group</NICLink>
        </NICLinks>
      </NICGroup>
    </NICGroups>
    <Policy>
      <Redundancy>Redundancy</Redundancy>
      <Repurpose>Server Automatic Release(true|false)</Repurpose>
      <SpareSelection method="Spare server selection method" />
    </Policy>
  </LServerTemplate>
  <LServerTemplate name="L-Server#2 Template Name" id="L-Server Template ID" label="Label">
  ...
  </LServerTemplate>
</LServerTemplates>
```

Table 2.1 List of Items Specified in L-Server Template XML Definitions for Physical L-Servers

Element Name	Description	Remarks (Possible Values, Examples)
L-Server template name (L-ServerTemplate name)	Name of L-Server template	Character string beginning with an alphanumeric character and containing up to 32 alphanumeric characters, underscores ("_"), and hyphens ("-")
L-Server template ID (L-ServerTemplate id)	ID for L-Server template	Optional. For internal management purposes.
Label (L-ServerTemplate label)	Label for L-Server template (optional)	Character string of up to 32 alphanumeric characters or symbols
Comment (Comment)	Comment for L-Server template (optional)	Character string of up to 256 alphanumeric characters or symbols
Server Type (ServerType)	Type of server to allocate as an L-Server	Specify "Physical".
Model (Model)	Model name of the server to allocate to L-Server	Specify the model name of the server to allocate to the L-Server. Specify the model name of the server after checking the basic information on the [Resource Details] tab of the server resource tree.

Element Name	Description	Remarks (Possible Values, Examples)
Disks (Disks)	The parent element of Disk elements	Specify as the parent element for Disk elements. <Disks> <DiskIndex>0</DiskIndex> <DiskSize>10.0</DiskSize> </Disks>
Disk connection type (Disk type)	The connection method of the disk to allocate to the L-Server	- FC Specify the disk with a Fibre Channel connection to allocate. - iSCSI Specify the disk with an iSCSI connection to allocate. If omitted, "FC" is set.
Disk index (DiskIndex)	Number of the disk to allocate to the L-Server (Optional, but required when specifying disk size)	Integer starting from 0 0: Boot disk Other than 0: Data disk Specify 0 if "iSCSI" was specified for the disk connection type. For details of the specifiable range, refer to "2.3.1 For Physical L-Servers".
Disk size (DiskSize)	Size of disk to create (Optional, but required when specifying disk number)	A number with up to one decimal place, in units of gigabytes For details of the specifiable range, refer to "2.3.1 For Physical L-Servers".
NICs (NICs)	A collection of NIC definitions	Specify one or more NIC tags.
NetworkLinks (NetworkLinks)	A collection of a number of network definitions (optional)	Specify the NumOfNetworkLinks tag only once. If the NetworkLinks tag is omitted, a single network is set for a NIC and a NIC redundancy group.
Number of networks available for one NIC/NICGroup (NumOfNetworkLinks)	Number of networks available for one NIC/NICGroup	An integer equal to or greater than 1
NICGroups (NICGroups)	A collection of NIC redundancy group definitions (optional)	Specify when NIC redundancy is necessary. Specify one or more NICGroup tags.
NIC redundancy group (NICGroup)	NIC redundancy group (Optional, but required when specifying the NICGroups tag)	Specify a NIC redundancy group. Specify a NIC contained in the NIC group using the NICLink tag.
NIC redundancy group index (NICGroupIndex)	NIC redundancy group index (Optional, but required when specifying the NICGroup tag)	Specify a NIC redundancy group index. Specify for each NICGroup. Specify sequential numbers starting from 0.
NICLinks (NICLinks)	A collection of NIC definitions of a NIC redundancy group	Specify the NICLink tags twice.
NIC numbers contained in the NIC redundancy group (NICLink)	NIC number contained in the NIC redundancy group (Optional, but required when specifying the NICGroup tag)	Specify a NIC number contained in the NIC redundancy group. When there are multiple NICs, specify NICLink for each NIC number.

Element Name	Description	Remarks (Possible Values, Examples)
		Specify a set of redundancies. A NIC number cannot be shared among groups.
NIC Index (NICIndex)	Number to identify the NIC definition to allocate to the L-Server (Optional, but required when specifying the NIC tag)	Integer starting from 0 Specify a number between 0 and 9. NIC number (NICIndex) + 1 corresponds to a network (NIC) number of the [General] tab in the [Create an L-Server] dialog.
Number of NICs (NumOfNIC)	Number of NICs for L-Server (optional)	An integer equal to or greater than 0 If 0 is specified, a NIC definition will not be created.
Number of Networks (NumOfNetworkLinks)	Number of Networks available for NIC/NICGroups (optional)	An integer equal to or greater than 1 If left blank, "1" is set. The NumOfNetworkLinks tag must be included within the NetworkLinks tags. Only one NumOfNetworkLinks tag can be included within the NetworkLinks tags.
Redundancy (Redundancy)	Server redundancy to allocate to L-Servers (optional)	- None None - HA Specify when performing redundancy. If omitted and not specified when creating the L-Server, None is set. For details on redundancy, refer to "Server Recovery" in "D. 2.1 When "Physical" is Selected for [Server type]" of the "ServerView Resource Orchestrator User's Guide".
Repurpose (Repurpose)	Automatic release of servers during power off (optional)	Specify whether or not to automatically release the servers allocated to the L-Server, when they are powered off. When enabling automatic release, specify "true". When not enabling automatic release, specify "false". If omitted, no value is set. In this case, the value set in the definition file is used when creating the L-Server. For details on the definition file, refer to "6.9.1 Installation" of the "ServerView Resource Orchestrator User's Guide".
Spare server selection method (SpareSelection method)	Selection method for spare servers (optional)	- name_order Spare servers are selected from among servers that match the model name of the operating server, in order of physical server names. - keep_spec A server that provides the same or higher performance figures as the operating server, and the least difference in performance is selected. If omitted, a user specified server is set.

Example

- L-Server Template

```
<?xml version="1.0" encoding="utf-8"?>
<LServerTemplate name="template2" label="for physical server">
  <Comment>2010/XX/XX created for work B</Comment>
  <ServerType>Physical</ServerType>
  <Model>PRIMERGY BX922 S2</Model>
  <Disks>
    <Disk>
      <DiskIndex>0</DiskIndex>
      <DiskSize>40.0</DiskSize>
    </Disk>
  </Disks>
  <Policy>
    <Redundancy>None</Redundancy>
  </Policy>
</LServerTemplate>
```

- Creating an L-Server template using detailed L-Server information

  Modify the following information.

  - Modify the name of the LServer tag.
  - Change the LServer tag to LServerTemplate tag.
  - Delete the CPU, CPUArch, CPUPerf, NumOfCPU, Memory, and MemorySize tags.
  - Delete the name of the DiskLink tag and Disk tag.
  - Delete the NetworkLinks, NetworkLink, MacAddress, and IpAddress tags.
  - Add NICGroup, NICGroupIndex, NetworkLinks, NumOfNetworkLInks, NICLinks, NumOfNIC, and NICIndex tags when necessary.

```
<?xml version="1.0" encoding="utf-8"?>
<LServerTemplate name="P-Server-template" id="WIN-66N8JTJM2BD_2853" label="">
  <Comment></Comment>
  <ServerType>Physical</ServerType>
  <Model>PRIMERGY BX920 S1</Model>
  <BootType>Disk</BootType>
  <Disks>
      <Disk>
        <DiskIndex>0</DiskIndex>
        <DiskSize>20.0</DiskSize>
      </Disk>
  </Disks>
  <NICGroups>
  </NICGroups>
  <NICs>
    <NIC>
      <NICIndex>0</NICIndex>
      <MacAddress auto="false">00:17:42:4F:05:40</MacAddress>
      <NetworkLinks>
          <NetworkLink name="admin_lan" index="0" vlan_mode="tagged">
          <IpAddress auto="false" address="192.168.24.122"/>
          </NetworkLink>
      </NetworkLinks>
    </NIC>
  </NICs>
  <HBAs>
    <HBA>
      <HBAIndex>0</HBAIndex>
      <WWN auto="false">20:00:00:17:42:50:00:54</WWN>
    </HBA>
  </HBAs>
```

```
  <ExternalIdentifier></ExternalIdentifier>
  <Current>
    <PhysicalServer name="chassis4-2" id="WIN-66N8JTJM2BD_83" />
  </Current>
  <ExternalProfile/>
  <Policy>
    <Redundancy>None</Redundancy>
    <Positioning>Fixed</Positioning>
    <Exclusion></Exclusion>
    <Priority>128</Priority>
    <Repurpose>false</Repurpose>
  </Policy>
  <Status>
    <ResourceStatus>stop</ResourceStatus>
    <PowerStatus>off</PowerStatus>
    <AllocationStatus>attached</AllocationStatus>
    <MaintenanceMode>active</MaintenanceMode>
    <Resources>allocated</Resources>
    <ServerAllocationStatus>true</ServerAllocationStatus>
    <DiskAllocationStatus>false</DiskAllocationStatus>
    <AddressAllocationStatus>true</AddressAllocationStatus>
  </Status>
  <From>
    <PhysicalServer name="chassis4-2" id="WIN-66N8JTJM2BD_83" />
  </From>
  <Spare>
  </Spare>
</LServerTemplate>
```

2.2.2 For Virtual L-Servers

The L-Server template for virtual L-Servers is as follows:

```
<?xml version="1.0" encoding="utf-8"?>
<LServerTemplates>
  <LServerTemplate name="L-Server#1 Template Name" id="L-Server Template ID" label="Label">
    <Comment>Comment</Comment>
    <ServerType>Server Type</ServerType>
    <VMType>VM Type</VMType>
    <CPU>
      <CPUArch>CPU Architecture</CPUArch>
      <CPUPerf>CPU Performance</CPUPerf>
      <CPUReserve>CPU reservation performance</CPUReserve>
      <CPUShare>CPU shares</CPUShare>
      <NumOfCPU>Number of CPUs</NumOfCPU>
    </CPU>
    <Memory>
      <MemorySize>Memory Size</MemorySize>
      <MemoryReserve>Memory reservation capacity</MemoryReserve>
      <MemoryShare>Memory shares</MemoryShare>
    </Memory>
    <Disks>
      <Disk>
        <DiskIndex>Disk Index</DiskIndex>
        <DiskSize>Disk Size</DiskSize>
        <Shared>Disk Shared Attributes</Shared>
      </Disk>
    </Disks>
    <NICs>
      <NumOfNIC>Number of NICs</NumOfNIC>
    </NICs>
```

```
    <Policy>
      <Redundancy>Redundancy</Redundancy>
      <Positioning>Positioning</Positioning>
      <Repurpose>Server Automatic Release(true|false)</Repurpose>
      <OverCommit>Enabling/disabling overcommit</OverCommit>
    </Policy>
  </LServerTemplate>
  <LServerTemplate name="L-Server#2 Template Name" id="L-Server Template ID" label="Label">
  ...
  </LServerTemplate>
</LServerTemplates>
```

Table 2.2 List of Items Specified in L-Server Template XML Definitions for Virtual L-Servers

Element Name	Description	Remarks (Possible Values, Examples)
L-Server template name (LServerTemplate name)	Name of L-Server template	Character string beginning with an alphanumeric character and containing up to 32 alphanumeric characters, underscores ("_"), and hyphens ("-")
L-Server template ID (LServerTemplate id)	ID for L-Server template	Optional. For internal management purposes.
Label (LServerTemplate label)	Label for L-Server template (optional)	Character string of up to 32 alphanumeric characters or symbols
Comment (Comment)	Comment for L-Server template (optional)	Character string of up to 256 alphanumeric characters or symbols
Server Type (ServerType)	Type of server to allocate as an L-Server	Specify "Virtual".
VM type (VMType)	VM type to allocate to the L-Server (optional)	- VMware - Hyper-V - RHEL-Xen - Oracle VM If omitted, it must be specified when creating the L-Server.
CPU architecture (CPUArch)	CPU architecture to allocate to L-Server (optional)	IA If omitted, "IA" is set.
CPU performance (CPUPerf)	CPU performance to allocate to L-Server	A number with up to one decimal place, in units of gigahertz For details of the specifiable range, refer to "2.3.2 For Virtual L-Servers".
CPU reservation performance (*1) (CPUReserve)	The minimum number of CPU resources to be allocated to an L-Server (optional)	A number with up to one decimal place, in units of gigahertz Specify a value in the range from 0 to the upper limit of the CPU performance. If left blank, "0" is set.
CPU shares (*1) (CPUShare)	The relative proportion for allocation of CPU resources to an L-Server (optional)	An integer equal to or greater than 1 (*2) If left blank, the value of "the number of CPUs multiplied by 1000" is set.
Number of CPUs (NumOfCPU)	Number of CPUs to allocate to L-Server	An integer equal to or greater than 1 For details of the specifiable range, refer to "2.3.2 For Virtual L-Servers".
Memory Size (MemorySize)	Size of memory to allocate to L-Server	A number with up to one decimal place, in units of gigabytes For details of the specifiable range, refer to "2.3.2 For Virtual L-Servers".

Element Name	Description	Remarks (Possible Values, Examples)
Memory reservation capacity (*1) (MemoryReserve)	The minimum amount of memory resources to be reserved for an L-Server (optional)	A number with up to one decimal place, in units of gigabytes Specify a value in the range from 0 to the upper limit of the memory capacity. If left blank, the value specified for memory capacity is set. (*3)
Memory shares (*1) (MemoryShare)	The relative proportion for allocation of memory resources on an L-Server (optional)	An integer equal to or greater than 0 (*2) If left blank, the number determined by multiplying the value specified for memory capacity by 1024 by 10 is set.
Disk index (DiskIndex)	Number of the disk to allocate to the L-Server (Optional, but required when specifying disk size)	Integer starting from 0 0: Boot disk Other than 0: Data disk For details of the specifiable range, refer to "2.3.2 For Virtual L-Servers".
Disk size (DiskSize)	Size of disk to create (Optional, but required when specifying disk number)	A number with up to one decimal place, in units of gigabytes If omitted, a disk size is assigned according to the size of the image specified when creating the L-Server. For details of the specifiable range, refer to "2.3.2 For Virtual L-Servers".
Disk shared attributes (Shared)	Specify when sharing disks among L-Servers (optional)	- true Specify when sharing disks among L-Servers. - false Specify when not sharing disks among L-Servers. When this attribute is not specified, the disk is not shared. When the VM type is not specified, or the software is "RHEL-Xen", the disk can be specified. This element cannot be specified, for disks with the number 0. When exporting an L-Server template, if there are no attributes, the disk is not shared.
Number of NICs (NumOfNIC)	Number of NICs for L-Server (optional)	An integer equal to or greater than 1
Redundancy (Redundancy)	Server redundancy to allocate to L-Servers (optional)	- None No redundancy - HA Place in a server with HA set If omitted and not specified when creating the L-Server, None is set. For details on redundancy, refer to "Server Recovery" in "D. 2.2 When "VM" is Selected for [Server type]" of the "ServerView Resource Orchestrator User's Guide". When "RHEL-Xen" has been specified for the VM type, only "None" can be specified.
Positioning (Positioning)	Physical position to allocate to L-Server (optional)	- Fixed Fixed physical position - AttachAtBoot Position changes upon startup

Element Name	Description	Remarks (Possible Values, Examples)
		When "RHEL-Xen" has been specified for the VM type, only "Fixed" can be specified. If omitted and not specified when creating the L-Server, Fixed is set. For details on boot location, refer to "Boot Location" in "D. 2.2 When "VM" is Selected for [Server type]" of the "ServerView Resource Orchestrator User's Guide".
Repurpose (Repurpose)	Automatic release of servers during power off (optional)	Specify whether or not to automatically release the servers allocated to the L-Server, when they are powered off. When enabling automatic release, specify "true". When not enabling automatic release, specify "false". If omitted, no value is set. In this case, the value set in the definition file is used when creating the L-Server. For details on the definition file, refer to "6.9.1 Installation" of the "ServerView Resource Orchestrator User's Guide".
Enabling/disabling overcommit (OverCommit)	Overcommit settings (optional)	Set enabling/disabling of overcommit. If left blank, "false" is set. When enabling overcommit, specify "true". When disabling overcommit, specify "false".

*1: For VMware, the specified value is set.
*2: For details on the values that can be specified, refer to the "vSphere Resource Management Guide" of VMware.
Refer to the relevant version of document, referring to the following URL:

URL: http://www.vmware.com/support/pubs/vs_pubs.html (As of July 2011)

*3: When omitted, the memory reservation capacity will be the same value as the value for the memory capacity, and the memory overcommit function will be disabled. When using the memory overcommit function, specify the value.

Example

- When specifying VMware for the VM type, create an L-Server template (two NICs)

```
<?xml version="1.0" encoding="utf-8"?>
<LServerTemplate name="template1" label="for virtual machine">
  <Comment>2010/XX/XX created for work A</Comment>
  <ServerType>Virtual</ServerType>
  <VMType>VMware</VMType>
  <CPU>
    <CPUArch>IA</CPUArch>
    <CPUPerf>1.0</CPUPerf>
    <NumOfCPU>2</NumOfCPU>
  </CPU>
  <Memory>
    <MemorySize>2.0</MemorySize>
  </Memory>
  <Disks>
    <Disk>
      <DiskIndex>0</DiskIndex>
      <DiskSize>100.0</DiskSize>
    </Disk>
    <Disk>
      <DiskIndex>1</DiskIndex>
      <DiskSize>200.0</DiskSize>
    </Disk>
  </Disks>
```

```
  <NICs>
    <NumOfNIC>2</NumOfNIC>
  </NICs>
  <Policy>
    <Redundancy>None</Redundancy>
    <Positioning>Fixed</Positioning>
  </Policy>
</LServerTemplate>
```

- Specify RHEL-Xen for the VM type, and create a L-Server template to share the data disks (for one NIC)

```
<?xml version="1.0" encoding="utf-8"?>
<LServerTemplate name="template1" label="for first server">
  <Comment>2010/XX/XX created for work A</Comment>
  <ServerType>Virtual</ServerType>
  <VMType>RHEL-Xen</VMType>
  <CPU>
    <CPUArch>IA</CPUArch>
    <CPUPerf>1.0</CPUPerf>
    <NumOfCPU>1</NumOfCPU>
  </CPU>
  <Memory>
    <MemorySize>1.0</MemorySize>
  </Memory>
  <Disks>
    <Disk>
      <DiskIndex>0</DiskIndex>
      <DiskSize>40.0</DiskSize>
    </Disk>
    <Disk>
      <DiskIndex>1</DiskIndex>
      <DiskSize>80.0</DiskSize>
      <Shared>true</Shared>
    </Disk>
  </Disks>
  <NICs>
    <NumOfNIC>1</NumOfNIC>
  </NICs>
  <Policy>
    <Redundancy>None</Redundancy>
    <Positioning>Fixed</Positioning>
  </Policy>
</LServerTemplate>
```

- Creating an L-Server template using detailed L-Server information

  Modify the following information.

  - Modify the name of the LServer tag.
  - Change the LServer tag to LServerTemplate tag.
  - Delete the name of the DiskLink tag and Disk tag.
  - Delete the NIC, NetworkLink, NICIndex, MacAddress, and IpAddress tags.
  - Add a NumOfNIC tag.

```
<?xml version="1.0" encoding="utf-8"?>
<LServerTemplate name="L-Server-template" id="rctest_1220" label="">
  <Comment></Comment>
  <TemplateLink name="sample_small" id="rctest_23" />
  <ServerType>Virtual</ServerType>
  <VMType>VMware</VMType>
```

```
  <OSType>Red Hat Enterprise Linux 5 (32-bit)</OSType>
  <CPU>
    <CPUArch>IA</CPUArch>
    <CPUPerf>1.0</CPUPerf>
    <NumOfCPU>1</NumOfCPU>
  </CPU>
  <Memory>
    <MemorySize>1.0</MemorySize>
  </Memory>
  <Disks>
      <Disk>
        <DiskIndex>0</DiskIndex>
        <DiskSize>10.0</DiskSize>
      </Disk>
  </Disks>
  <NICs>
    <NumOfNIC>1</NumOfNIC>
  </NICs>
  <ExternalIdentifier>42114bec-d26d-0c3d-c9aa-080a0c40d020</ExternalIdentifier>
  <Current>
    <VmHost name="gekkou-pri" id="rctest_62" />
    <VmGuest name="L-Server1-75" id="rctest_1224" />
  </Current>
  <ExternalProfile/>
  <ServerImageLink name="/ImagePool/pool" version="1" id="rctest_132" />
  <Policy>
    <Redundancy>None</Redundancy>
    <Positioning>Fixed</Positioning>
    <Exclusion></Exclusion>
    <Priority>128</Priority>
    <Repurpose>false</Repurpose>
  </Policy>
  <Status>
    <ResourceStatus>stop</ResourceStatus>
    <PowerStatus>off</PowerStatus>
    <AllocationStatus>attached</AllocationStatus>
    <MaintenanceMode>active</MaintenanceMode>
    <Resources>allocated</Resources>
    <ServerAllocationStatus>true</ServerAllocationStatus>
    <DiskAllocationStatus>true</DiskAllocationStatus>
    <AddressAllocationStatus>true</AddressAllocationStatus>
  </Status>
</LServerTemplate>
```

2.3 L-Servers

This section explains the XML definitions of L-Servers.

The L-Server XML definitions differ depending on the server type.

For physical L-Servers, refer to "2.3.1 For Physical L-Servers".
For virtual L-Servers, refer to "2.3.2 For Virtual L-Servers".

2.3.1 For Physical L-Servers

This section explains the XML definitions of physical L-Servers.

To specify the level, change the Resources tag to the Folder tag.

Refer to "Example Creating an L-Server in a resource folder or a tenant folder".

The XML definition for a physical L-Server is shown below.

```
<?xml version="1.0" encoding="utf-8"?>
<Resources>
  <LServer name="L-Server name" label="Label">
    <Comment>Comment</Comment>
    <TemplateLink name="L-Server template name"/>
    <ServerImageLink name="image name" version="image version"/>
    <ServerType>Server Type</ServerType>
    <Model>Model Name</Model>
    <BootType>Boot mode</BootType>
    <PXENetworkLink name="Network resource name"/>
    <Disks>
      <Disk name="Disk name" type="Disk Connection Type">
        <DiskIndex>Disk Index</DiskIndex>
        <Exist>Existing LUN</Exist>
        <DiskLink name="Disk name of existing LUN"/>
      </Disk>
      <Disk>
        <DiskLink name="Disk name of existing LUN" />
        <DiskIndex>Disk Index</DiskIndex>
      </Disk>
      <Disk>
        <Exist>Existing LUN</Exist>
        <Shared>Shared configuration</Shared>
        <DiskLink name="Disk name of existing LUN" />
        <DiskIndex>Disk Index</DiskIndex>
      </Disk>
      <Disk name="Disk name" type="Connection type">
        <DiskIndex>Disk Index</DiskIndex>
        <DiskSize>Disk Size</DiskSize>
        <From>
          <VirtualStorage name="Virtual storage resource name"/>
          <Pool name="Storage pool name"/>
        </From>
      </Disk>
    </Disks>
    <NICGroups>
      <NICGroup>
        <NICGroupIndex>NIC redundancy group index</NICGroupIndex>
        <NetworkLinks>
        <NetworkLink name="Network name" index="0" />
        <IpAddress>IP Address</IpAddress>
        </NetworkLinks>
        <NICLinks>
        <NICLink>Numbers of NICs contained in NIC group</NICLink>
        </NICLinks>
      </NICGroup>
    </NICGroups>
    <NICs>
      <NIC>
        <NICIndex>NIC Index</NICIndex>
        <NetworkLink name="Network name"/>
        <MacAddress auto="MAC address auto select" from="MacAddressSet" pool="Address pool"/>
        <IpAddress>IP Address</IpAddress>
      </NIC>
    </NICs>
    <HBAs>
      <HBA>
        <HBAIndex>HBAIndex</HBAIndex>
        <WWN auto="WWNAutoSelect" from="WWNAddressSet" Pool=AddressPool"/>
      </HBA>
    </HBAs>
    <IOVirtualOptionPool name="Address pool"/>
    <Policy>
```

```
      <Redundancy>Redundancy</Redundancy>
      <Priority>Priority</Priority>
      <Repurpose>Server Automatic Release(true|false)</Repurpose>
      <SpareSelection method="Spare server selection method" />
    </Policy>
    <Primary>Next server to start</Primary>
    <From>
      <PhysicalServer name="Physical server name"/>
    </From>
    <From>
      <Pool name="Server pool"/> or
      <PhysicalServer name="Physical server"/>
    </From>
    <Spare>
      <Pool name="Reserve setting server pool"/>
    </Spare>
    <Allocation>Allocation of Resources</Allocation>
    <OSSetting>
      <ComputerName>Computer name, hostname</ComputerName>
    </OSSetting>
  </LServer>
</Resources>
```

Table 2.3 List of Items Specified in XML Definitions for Physical L-Servers

Element Name	Description	Remarks (Possible Values, Examples)
L-Server name (*1, *2) (LServer name)	Name of the L-Server	Character string beginning with an alphanumeric character and containing up to 64 alphanumeric characters, underscores ("_"), and hyphens ("-")
Label (*1, *2) (LServer label)	Label for the L-Server (optional)	Character string of up to 32 alphanumeric characters or symbols
Comment (*1, *2) (Comment)	Comment for the L-Server (optional)	Character string of up to 256 alphanumeric characters or symbols
L-Server template name (*2) (TemplateLink name)	Name of the L-Server template to use for the L-Server (optional)	Specify the resource name of an existing L-Server template.
Image name (*2) (ServerImageLink name)	Name of the cloning image to deploy to the L-Server's boot disk (optional)	Specify the resource name of an existing cloning image. Specify using a name containing a resource folder. For details, refer to "6.1 Creation Using an L-Server Template" of the "ServerView Resource Orchestrator User's Guide".
Image version (*2) (ServerImageLink version)	Version of the cloning image to deploy to the L-Server's boot disk (optional)	An integer If omitted, the latest version is used.
Server type (*3) (ServerType)	Type of server to allocate as an L-Server	Specify "Physical".
Model (*2) (Model)	Model name of the server to allocate to L-Server	Specify the model name of the server to allocate to the L-Server. Specify the model name of the server after selecting the server resource on the server resource tree, and checking the model name on the [Resource Details] tab.
Boot mode (*1, *2) (BootType)	L-Server boot method	Specify the L-Server boot method. - Disk

Element Name	Description	Remarks (Possible Values, Examples)
		Specify this mode when performing the boot from the disk connected to the L-Server. - PXE Specify this mode when performing the network boot using PXE (Preboot eXecution Environment).
Network name for PXE boot (*1, *2) (PXENetworkLink name)	Network resource name to perform PXE boot of the L-Server (optional)	Specify the resource name of an existing network when performing a PXE boot.
Disk name (*2) (Disk name)	Name of the disk to allocate to the L-Server (optional)	Character string beginning with an alphanumeric character and containing up to 32 alphanumeric characters, underscores ("_"), and hyphens ("-") If omitted, a name is automatically generated.
Disk connection type (*2) (Disk type)	The connection method of the disk to allocate to the L-Server	- FC Specify the disk with a Fibre Channel connection to allocate. - iSCSI Specify the disk with an iSCSI connection to allocate. Setting is possible only when disks have the number 0. If omitted, "FC" is set.
Existing LUN (*2) (Exist)	Specify that the LUN to allocate to the L-Server was created in advance by using storage management software, or was automatically created by Resource Orchestrator (optional)	- true Specify when the LUN was created in advance by using storage management software, or was automatically created by Resource Orchestrator. - false Specify when the LUN was created automatically by Resource Orchestrator. When connecting a LUN that was created in advance by using storage management software, or was automatically created by Resource Orchestrator, this setting cannot be omitted.
Sharing Configuration (*2) (Shared)	Shared configuration of the disk to allocate to the L-Server (optional)	- true Specify when sharing the disk between multiple L-Servers. - false Specify when restricting it to one L-Server. If left blank, "false" is set.
Disk name of the existing LUN (*2) (DiskLink name)	Disk name of the LUN which was created in advance by using storage management software, or was automatically created by Resource Orchestrator to allocate to the L-Server (optional)	Specify the disk name to allocate.
Disk index (*2, *3) (DiskIndex)	Number of the disk to allocate to the L-Server	Integer starting from 0 0: Boot disk Other than 0: Data disk Specify a number between 0 and 59. Specify 0 if "iSCSI" was specified for the disk connection type.

Element Name	Description	Remarks (Possible Values, Examples)
Disk size (*3) (DiskSize)	Size of disk to create	A number with up to one decimal place, in units of gigabytes For details on the scope which can be specified, refer to "D.3 [Disk] Tab" of the "ServerView Resource Orchestrator User's Guide".
Virtual storage (*2) (VirtualStorage name)	Virtual storage from which the disk to allocate to the L-Server is created (optional) If specified at the same time as storage pool, priority is given to this attribute.	Specify the resource name of an existing virtual storage.
Storage pool (*2) (Pool name)	Resource pool for extracting the virtual storage to create the disk to allocate to the L-Server (optional)	Specify the resource name of an existing storage pool. If there are storage pools with the same name on different levels, the level must also be specified. Folder/Pool
NICGroups (NICGroups)	A collection of NIC redundancy group definitions (optional)	Specify when NIC redundancy is necessary. Specify one or more NICGroup tags.
NIC redundancy group (*2) (NICGroup)	NIC redundancy group	Specify a NIC redundancy group. NIC IP addresses with the index specified in NICLink, and the Network name, are ignored.
NIC Redundancy Index (*2) (NICGroupIndex)	NIC redundancy index	Specify a NIC redundancy index. Specify for each NICGroup. Specify sequential numbers starting from 0.
NIC numbers contained in the NIC group (*2) (NICLink)	NIC number contained in the NIC group	Specify NIC numbers contained in the NIC group. If there are multiple NIC numbers, specify the NICLink for each NIC number. Specify a set of redundancies. The NIC number cannot be longer than the length of the NICGroup tag.
NIC (NIC)	NIC definition	When not performing NIC redundancy, specify the NetworkLink tag and the NetworkLinks tag. When not connecting a NIC to a network, the NetworkLink tag and the NetworkLinks tag are not necessary. The child elements are the IpAddress tag, the NetworkLink tag, the NetworkLinks tag, the MacAddress tag, and the NICIndex tag.
NIC Index (*2) (NICIndex)	Number to identify the NIC definition to allocate to the L-Server	Integer starting from 0 Specify a number between 0 and 9. Check that sequential numbers starting from 0 are used for each NIC tag. NIC number (NICIndex) + 1 corresponds to a network (NIC) number of the [General] tab in the [Create an L-Server] dialog.
Network Name (*2) (NetworkLink name)	Name of the network that the L-Server connects to	Specify the name of an existing network resource. When the network resource is an admin LAN resource or one for iSCSI, specify "untagged" for vlan_mode.
Network Index (*2) (NetworkLink index)	Network index (Optional)	For multiple network names, specify a network index. The index starts from 0. When there is one network name, the network index can be omitted.
VLAN mode (*2) (NetworkLink vlan_mode)	VLAN mode (optional)	Specify a VLAN mode. The VLAN mode can be specified using the following methods:

Element Name	Description	Remarks (Possible Values, Examples)
		- Untagged VLAN Communication vlan_mode="untagged" - Tagged VLAN Communication vlan_mode="tagged" When vlan_mode is omitted, tagged VLAN communication is used.
MAC address (*2) (MacAddress)	MAC address to allocate to the L-Server (Optional, when specifying the address pool)	The MAC address can be specified using the following methods: - MAC address direct specification <MacAddress auto="false">MAC address format</MacAddress> For the MAC address format, specify the MAC address in either hyphen ("-") or colon (":") delimited form. ("*xx-xx-xx-xx-xx-xx*" or "*xx:xx:xx:xx:xx:xx*") - Auto allocation <MacAddress auto="true" from="MacAddressSetResource"/> or <MacAddress auto="true" pool="Address pool"/> An address in the MAC address range set in the MACAddressSetResource or MAC address range registered in the specified address pool will automatically be allocated.
IP address (*2) (IpAddress)	IP address to allocate to the L-Server (optional)	The IP address can be specified using the following methods: <IpAddress>IP address format</IpAddress> Specify an IP address. <IpAddress auto="true"/> An IP address is automatically assigned from the address range set for the network resource. Even if the IpAddress tag is omitted, an IP address is automatically assigned from the address range set for the network resource.
HBA number (*2) (HBAIndex)	Number to identify the HBA definition to allocate to the L-Server	Integer starting from 0 Specify a number between 0 and 1.
WWN (*2) (WWN)	WWN to allocate to the L-Server (Optional, when specifying the address pool)	WWN can be specified using the following methods: - WWN direct specification <WWN auto="false">WWN format</WWN> For the WWN format, specify the WWN in colon (":") delimited form. ("*xx:xx:xx:xx:xx:xx*") - Auto allocation <WWN auto="true" from="WWNAddressSetResource"/> <WWN auto="true" pool="Address pool name"/> An address in the WWN scope set in the WWN address set resources or WWN scope registered in the specified address pool will automatically be assigned.
Address pool (*2) (IOVirtualOptionPool name)	Address pool to allocate to the L-Server If specified at the same time as MAC address and WWN, priority is given to this attribute. (Optional, when specifying the MAC address and WWN)	Specify the resource name of the address pool to store address set resources (WWNs and MAC addresses) to allocate to L-Servers. - When the physical server to allocate to the L-Server is a blade server

Element Name	Description	Remarks (Possible Values, Examples)
		WWNs and MAC addresses of address set resources are the target of configuration. - When the physical server to allocate to the L-Server is a rack mount server WWNs of address set resources are the target of configuration. The address pool can be specified using the following methods: <IOVirtualOptionPool name="Address pool"/> If there are address pools with the same name on different levels, the level must also be specified. *Folder name*\ *Pool name*
Redundancy (*1, *2, *3) (Redundancy)	Server redundancy to allocate to L-Servers (optional)	- None None - HA Specify when performing redundancy. If omitted and not specified when creating the L-Server, None is set. For details on redundancy, refer to "Server Recovery" in "D.2.1 When "Physical" is Selected for [Server type]" of the "ServerView Resource Orchestrator User's Guide".
Priority (*1, *2) (Priority)	Priority when allocating resources or creating an L-Server (optional)	When the L-Server is the target of batch power operations, or when performing batch creation of multiple L-Servers using XMLs of resource folders, specify the priority in the range of 1 to 256. Smaller values indicate higher priority. If omitted, "128" is set. When 0 is specified, the server is excluded from batch power operations.
Server Automatic Release (*1, *2) (Repurpose)	Automatic release of servers during power off (optional)	Specify whether or not to automatically release the servers allocated to the L-Server, when they are powered off. When enabling automatic release, specify "true". When not enabling automatic release, specify "false". If the values of this attribute and "Server Automatic Release" of the L-Server template are omitted, the value that is set in the definition file is used. For details on the definition file, refer to "6.9.1 Installation" of the "ServerView Resource Orchestrator User's Guide". Ensure that "true" is specified for L-Servers to change the usage of.
Spare server selection method (*1, *2) (SpareSelection method)	Selection method for a spare server (optional)	- name_order Spare servers are selected from among servers that match the model name of the operating server, in order of physical server names. - keep_spec A server that provides the same or higher performance figures as the operating server, and the least difference in performance is selected. If omitted, "keep_spec" is set.
Server pool (*1, *2) (Pool name)	The resource pool that comprises the physical servers allocated to L-Servers.	Specify the resource names of existing server pools. If there are server pools with the same name on different levels, the

Element Name	Description	Remarks (Possible Values, Examples)
		level must also be specified. *Folder name*/ *Pool name*
Physical server (*1, *2) (PhysicalServer name)	Specify the physical server to allocate to the L-Server. If specified at the same time as server pool, priority is given to the specifications of the physical server.	Specify the physical server to allocate to the L-Server.
Reserve setting server pool (*1, *2) (Pool name)	Specify the server pool for reserve settings. (optional)	Valid when redundancy has been configured. If there are server pools with the same name on different levels, the level must also be specified. *Folder name*/ *Pool name*
Allocation of resources (Allocation)	Status of resources allocated to the L-Server (optional)	- true Specify to allocate resources. - false Only specify when creating a configuration definition. If this attribute is omitted, the value set in the definition file is used. For details on the definition file, refer to "6.9.1 Installation" of the "ServerView Resource Orchestrator User's Guide".
Computer name, hostname (*1, *2, *4) (ComputerName)	Computer name and hostname	[Windows/Linux] For specifiable values, refer to "F.7.3 [OS] Tab Configuration" in the "ServerView Resource Orchestrator User's Guide".

*1: Values can be changed by modifying an L-Server, only when its status is "allocated" (resources have been allocated) or "preserved" (servers have been released).
Even if an L-Server template name or the content of an L-Server template specified for the L-Server template name is modified, the configuration of L-Servers already created using the template will not be modified.
*2: Values can be changed by modifying an L-Server, only when its status is "defined" (only the configuration definition has been created).
*3: Specify if no L-Server template is used or if the values specified in the L-Server template will not be used.
*4: Personalizing information to be specified after the image is deployed.

Example

- Creating an L-Server that does not deploy a cloning image using an L-Server template

```
<?xml version="1.0" encoding="utf-8"?>
<Resources>
  <LServer name="first_server">
    <TemplateLink name="small"/>
    <ServerType>Physical</ServerType>
    <Model>PRIMERGY BX920 S2</Model>
    <NICs>
      <NIC>
        <NICIndex>0</NICIndex>
        <NetworkLink name="net01"/>
      </NIC>
    </NICs>
  </LServer>
</Resources>
```

- Creating an L-Server that deploys a cloning image using an L-Server template

```
<?xml version="1.0" encoding="utf-8"?>
<Resources>
  <LServer name="second_server">
    <TemplateLink name="small"/>
    <ServerType>Physical</ServerType>
    <Model>PRIMERGY BX920 S2</Model>
    <ServerImageLink name="/ImagePool/master_image"/>
    <NICs>
      <NIC>
        <NICIndex>0</NICIndex>
        <NetworkLink name="net01"/>
      </NIC>
    </NICs>
    <OSSetting>
      <ComputerName>host1</ComputerName>
    </OSSetting>
  </LServer>
</Resources>
```

- Creating an L-Server that deploys a Linux cloning image without using an L-Server template

```
<?xml version="1.0" encoding="utf-8"?>
<Resources>
  <LServer name="L-Server">
    <ServerImageLink name="/ImagePool/RHEL5"/>
    <ServerType>Physical</ServerType>
    <Model>PRIMERGY BX920 S2</Model>
    <BootType>Disk</BootType>
    <Disks>
      <Disk>
        <DiskIndex>0</DiskIndex>
        <DiskSize>40.0</DiskSize>
      </Disk>
      <Disk>
        <DiskIndex>1</DiskIndex>
        <DiskSize>30.0</DiskSize>
      </Disk>
    </Disks>
    <NICs>
      <NIC>
        <NICIndex>0</NICIndex>
        <NetworkLink name="net01"/>
      </NIC>
    </NICs>
    <HBAs>
      <HBA>
        <HBAIndex>0</HBAIndex>
      </HBA>
    </HBAs>
    <IOVirtualOptionPool auto="true" />
    <Policy>
      <Redundancy>None</Redundancy>
      <Priority>128</Priority>
    </Policy>
    <Repurpose>true</Repurpose>
    <Allocation>true</Allocation>
    <OSSetting>
      <ComputerName>host1</ComputerName>
    </OSSetting>
  </LServer>
</Resources>
```

- Creating an L-Server in a resource folder or a tenant folder

```
<?xml version="1.0" encoding="utf-8"?>
<Folder name="Resource folder name or tenant folder name">
  <LServer name="L-Server name" label="Label">
    ...
  </L-Server>
</Folder>
```

Table 2.4 List of Items Specified in XML Definitions when Creating an L-Server in a Resource Folder or a Tenant Folder

Element Name	Description	Remarks (Possible Values, Examples)
Resource folder name or tenant folder name (*1)	The name of a resource folder or a tenant folder to place L-Servers in (optional)	To specify the level, use the following format: *Resource_folder_name**Resource_folder_name* *Tenant_folder_name**Resource_folder_name* *Resource_folder_name**Tenant_folder_name*

*1: Specify if creating an L-Server in a resource folder.

- Creating another L-Server using detailed L-Server information

  Modify the following information.

  - Enclose everything in the Resources tags.
  - Modify the name of the LServer tag.
  - Delete the name of the DiskLink tag and Disk tag. (Modify name if allocating an existing LUN)

    If none of these tags exist, add them.
  - Modify the MacAddress, IpAddress, and WWN tags. (If specifying an address pool for address assignment, or resources)

    If none of these tags exist, add them as necessary.
  - Modify PhysicalServer in From tags or Spare tags. (If specifying tags)

```
<?xml version="1.0" encoding="utf-8"?>
<Resources>
<LServer name="P-Server2" id="WIN-66N8JTJM2BD_2853" label="">
  <Comment></Comment>
  <ServerType>Physical</ServerType>
  <Model>PRIMERGY BX920 S1</Model>
  <CPU>
    <CPUArch>ia32</CPUArch>
    <CPUPerf>2.0</CPUPerf>
    <NumOfCPU>0</NumOfCPU>
  </CPU>
  <Memory>
    <MemorySize>0.0</MemorySize>
  </Memory>
  <BootType>Disk</BootType>
  <Disks>
      <Disk name="P-Server2-0-disk0">
        <DiskIndex>0</DiskIndex>
        <DiskSize>20.0</DiskSize>
      </Disk>
  </Disks>
  <NICGroups>
  </NICGroups>
  <NICs>
    <NIC>
```

```
      <NICIndex>0</NICIndex>
      <MacAddress auto="true" from="mac_address_set"/>
      <NetworkLinks>
          <NetworkLink name="admin_lan" index="0" vlan_mode="tagged">
            <IpAddress auto="true"/>
          </NetworkLink>
      </NetworkLinks>
    </NIC>
  </NICs>
  <HBAs>
    <HBA>
      <HBAIndex>0</HBAIndex>
      <WWN auto="true" pool="/AddressPool" />
    </HBA>
  </HBAs>
  <ExternalIdentifier></ExternalIdentifier>
  <Current>
    <PhysicalServer name="chassis4-2" id="WIN-66N8JTJM2BD_83" />
  </Current>
  <ExternalProfile/>
  <Policy>
    <Redundancy>None</Redundancy>
    <Positioning>Fixed</Positioning>
    <Exclusion></Exclusion>
    <Priority>128</Priority>
    <Repurpose>false</Repurpose>
  </Policy>
  <Status>
    <ResourceStatus>stop</ResourceStatus>
    <PowerStatus>off</PowerStatus>
    <AllocationStatus>attached</AllocationStatus>
    <MaintenanceMode>active</MaintenanceMode>
    <Resources>allocated</Resources>
    <ServerAllocationStatus>true</ServerAllocationStatus>
    <DiskAllocationStatus>false</DiskAllocationStatus>
    <AddressAllocationStatus>true</AddressAllocationStatus>
  </Status>
  <From>
    <PhysicalServer name="chassis4-2" id="WIN-66N8JTJM2BD_83" />
  </From>
  <Spare>
  </Spare>
</LServer>
</Resources>
```

2.3.2 For Virtual L-Servers

This section explains the XML definitions of virtual L-Servers.

To specify the level, change the Resources tag to the Folder tag.

Refer to "Example Creating an L-Server in a resource folder or a tenant folder".

The XML definition for a virtual L-Server is shown below.

```
<?xml version="1.0" encoding="utf-8"?>
<Resources>
  <LServer name="L-Server name" label="Label">
    <Comment>Comment</Comment>
    <TemplateLink name="L-Server template name"/>
    <ServerImageLink name="image name" version="image version"/>
    <ServerType>Server Type</ServerType>
```

```
<VMType>VM Type</VMType>
<OSType>OS Type</OSType>
<CPU>
  <CPUArch>CPU Architecture</CPUArch>
  <CPUPerf>CPU Performance</CPUPerf>
  <CPUReserve>CPU reservation performance</CPUReserve>
  <CPUShare>CPU shares</CPUShare>
  <NumOfCPU>Number of CPUs</NumOfCPU>
</CPU>
<Memory>
  <MemorySize>Memory Size</MemorySize>
  <MemoryReserve>Memory reservation capacity</MemoryReserve>
  <MemoryShare>Memory shares</MemoryShare>
</Memory>
<Disks>
  <Disk name="Disk name">
    <DiskIndex>Disk Index</DiskIndex>
    <DiskLink name="Name of the disk created in advance"> or
    <DiskLink name="Source disk name to copy">
    <DiskSize>Disk Size</DiskSize>
    <From auto="Automatic selection of storage for use">
      <VirtualStorage name="Virtual storage resource name"/>
      <Pool name="Storage pool name"/>
    </From>
  </Disk>
</Disks>
<NICs>
  <NIC>
    <NICIndex>NIC Index</NICIndex>
    <NetworkLink name="Network name"/>
    <MacAddress auto="MACAddressAutoSelect" from="MacAddressSet" pool="AddressPool"/>
    <IpAddress>IP Address</IpAddress>
  </NIC>
</NICs>
<Policy>
  <Redundancy>Redundancy</Redundancy>
  <Positioning>Positioning</Positioning>
  <Exclusion>Exclusion</Exclusion>
  <Priority>Priority</Priority>
  <Repurpose>Server Automatic Release(true|false)</Repurpose>
  <OverCommit>Enabling/disabling overcommit</OverCommit>
</Policy>
<From keep="Retention of a used server" auto="Automatic selection of a used server">
  <VmHost name="VM host resource name"/>
  <Pool name="Pool name"/>
</From>
<Allocation>Allocation of Resources</Allocation>
<OSSetting>
  <ComputerName>Computer name, hostname</ComputerName>
  <FullName>Full Name</FullName>
  <ProductKey>Product Key</ProductKey>
  <AdminPassword>Administrator Password</AdminPassword>
  <CAL>License Mode</CAL>
  <CALMaxConnection>Maximum Number of Connections</CALMaxConnection>
  <OrganizationName>Organization Name</OrganizationName>
  <DomainName>Domain Name</DomainName>
  <DNSSearchPaths>
    <DNSSearchPath>DNS Search Path</DNSSearchPath>
    <DNSSearchPath>DNS Search Path</DNSSearchPath>
  </DNSSearchPaths>
  <DNSServers>
    <DNSServer nic="NIC Index" ip="DNS IP Address" />
    <DNSServer nic="NIC Index" ip="DNS IP Address" />
```

```
      </DNSServers>
      <TimeZone>Time Zone</TimeZone>
      <HardwareClock>Hardware Clock Configuration</HardwareClock>
    </OSSetting>
  </LServer>
</Resources>
```

Table 2.5 List of Items Specified in XML Definitions for Virtual L-Servers

Element Name	Description	Remarks (Possible Values, Examples)
L-Server name (*1, *2) (LServer name)	Name of the L-Server	Enter a name for the L-Server. For details on the characters and the number of characters which can be specified, refer to "D.1 [General] Tab" of the "ServerView Resource Orchestrator User's Guide".
Label (*1, *2) (LServer label)	Label for the L-Server (optional)	Character string of up to 32 alphanumeric characters or symbols
Comment (*1, *2) (Comment)	Comment for the L-Server (optional)	Character string of up to 256 alphanumeric characters or symbols
L-Server template name (*2) (TemplateLink name)	Name of the L-Server template to use for the L-Server (optional)	Specify the resource name of an existing L-Server template.
Image name (*2) (ServerImageLink name)	Name of the cloning image to deploy to the L-Server's boot disk (optional)	Specify the resource name of an existing cloning image. Specify using a name containing a resource folder. For details, refer to "6.1 Creation Using an L-Server Template" of the "ServerView Resource Orchestrator User's Guide".
Image version (*2) (ServerImageLink version)	Version of the cloning image to deploy to the L-Server's boot disk (optional)	An integer If omitted, the latest version is used.
Server type (*3) (ServerType)	Type of server to allocate as an L-Server	Specify "Virtual".
VM type (*2, *3) (VMType)	Type of VM to allocate as an L-Server	- VMware - Hyper-V - RHEL-Xen - Oracle VM
OS type (*1, *2) (OSType)	Type of OS for the L-Server. This setting can be omitted if an image is specified.	[VMware] For the values that can be set, refer to the information displayed on the GUI, or the values described in the "NAME" column of the VMware web site (*4). [Hyper-V] For the possible values that can be set, refer to the information displayed on the GUI, or the Name of the operating system object that can be obtained from the Virtual Machine Manager database of Microsoft(R) System Center Virtual Machine Manager 2008 R2. This information can be obtained using the Get-Operating System Cmdlet. [Xen] Specify Linux.

Element Name	Description	Remarks (Possible Values, Examples)
CPU architecture (*3) (CPUArch)	CPU architecture of the server to allocate to the L-Server (optional)	IA If omitted, IA is set.
CPU performance (*1, *2, *3) (CPUPerf)	CPU performance to allocate to L-Server	A number with up to one decimal place, in units of gigahertz For details on the scope which can be specified, refer to "D.2.2 When "VM" is Selected for [Server type]" of the "ServerView Resource Orchestrator User's Guide". [Xen] Specify a value larger than 0.1.
CPU reservation performance (*1, *5, *6, *7) (CPUReserve)	The minimum number of CPU resources to be allocated to an L-Server (optional)	A number with up to one decimal place, in units of gigahertz Specify a value in the range from 0 to the upper limit of the CPU performance. If left blank, the values will differ when creating or modifying the L-Server. - For creation "0" is set. - For modification The current value of the L-Server is retained. Enabled when VM type is set to "VMware".
CPU shares (*1, *5, *6, *7) (CPUShare)	The relative proportion for allocation of CPU resources on an L-Server (optional)	An integer equal to or greater than 1 (*8) If left blank, the values will differ when creating or modifying the L-Server. - For creation A number determined by multiplying the value specified for number of CPUs by 1000 is set. - For modification The current value of the L-Server is retained. Enabled when VM type is set to "VMware".
Number of CPUs (*1, *2, *3) (NumOfCPU)	Number of CPUs to allocate to L-Server	An integer equal to or greater than 1 For details on the scope which can be specified, refer to "D.2.2 When "VM" is Selected for [Server type]" of the "ServerView Resource Orchestrator User's Guide". [Xen] Specify a value larger than 1.
Memory size (*1, *2, *3) (MemorySize)	Size of memory to allocate to L-Server	A number with up to one decimal place, in units of gigabytes For details on the scope which can be specified, refer to "D.2.2 When "VM" is Selected for [Server type]" of the "ServerView Resource Orchestrator User's Guide". [Xen] Specify a value larger than 0.1.
Memory reservation capacity (*1, *5, *6, *7) (MemoryReserve)	The minimum amount of memory resources to be reserved for an L-Server (optional)	A number with up to one decimal place, in units of gigabytes Specify a value in the range from 0 to the upper limit of the memory capacity. If left blank, the values will differ when creating or modifying the L-Server. - For creation

Element Name	Description	Remarks (Possible Values, Examples)
		The value specified for memory size is set. (*9) - For modification The current value of the L-Server is retained. Enabled when VM type is set to "VMware".
Memory shares (*1, *5, *6, *7) (MemoryShare)	The relative proportion for allocation of memory resources on an L-Server (optional)	An integer equal to or greater than 0 (*8) If left blank, the values will differ when creating or modifying the L-Server. - For creation A number determined by multiplying the value specified for memory capacity by 1024 by 10 is set. - For modification The current value of the L-Server is retained. Enabled when VM type is set to "VMware".
Disk name (*2) (Disk name)	The disk name to allocate to L-Servers (optional)	Character string beginning with an alphanumeric character and containing up to 32 alphanumeric characters, underscores ("_"), and hyphens ("-") If omitted, a name is automatically generated. The disk name is ignored when a disk name created in advance is specified at the same time.
Disk index (*2, *3) (DiskIndex)	Number of the disk to allocate to the L-Server	Integer starting from 0 0: Boot disk Other than 0: Data disk [VMware] Specify a number between 0 and 55. [Hyper-V] Specify a number between 0 and 59. [Xen] Specify a number between 0 and 251. [Oracle VM] When the L-Server is an HVM (Hardware Virtualized Machine): Specify a number between 0 and 7. When the L-Server is a PVM (Para-Virtualized Machine): Specify a number between 0 and 59.
Name of the disk created in advance (*2) (DiskLink name)	The name of a disk created in advance for allocation to the L-Server (optional)	Name of a disk which already exists When the VM type is "RHEL-Xen", the disk name can be specified. This element cannot be specified, for disks with the number 0. The name of the source disk to be copied cannot be specified at the same time. For an L-Server, a single disk created in advance cannot be specified multiple times. When specifying the name at the same time as the disk size, the disk size for the disk name created in advance is reflected on the new disk.
Disk size (*2, *3) (DiskSize)	Size of disk to create	A number with up to one decimal place, in units of gigabytes For details on the scope which can be specified, refer to "D.3 [Disk] Tab" of the "ServerView Resource Orchestrator User's Guide".

Element Name	Description	Remarks (Possible Values, Examples)
		The disk size can be omitted when specifying the name of a disk created in advance at the same time. The disk name information created in advance is given priority when a disk name created in advance is specified at the same time. For L-Servers, the disk size can be omitted when specifying a disk name created in advance or the disk name of the source to be copied at the same time. The information of the disk name created in advance or the name of the source disk to be copied is given priority when the information is specified at the same time. [Xen] Specify a number between 0.1 and 999.9.
Disk shared attributes (*3) (Shared)	Specify when sharing disks among L-Servers (optional)	- true Specify when sharing disks among L-Servers. - false Specify when not sharing disks among L-Servers. When this attribute is not specified, the disk is not shared. When the VM type is "RHEL-Xen", the disk name can be specified. This element cannot be specified, for disks with the number 0.
Automatic selection of the storage to use (*2) (From auto)	Automatically selects the storage destination used for an L-Server (optional)	- true Specify to automatically select the resource destination. - false Specify to not automatically select resources. If omitted, the resource is automatically selected if "Virtual storage resource name" or "Storage pool name" is not specified.
Disk name of the source (*3) (DiskCopy name)	Data disk name of the source to copy the content from (optional)	Specify the disk name of the source data disk to copy the content from. When the VM type is "RHEL-Xen", the disk name can be specified. This element cannot be specified, for disks with the number 0. The name of a disk created in advance cannot be specified at the same time. When specifying the name at the same time as the disk size, the disk size for the disk name of the source to be copied is reflected to the new disk.
Virtual storage (*2) (VirtualStorage name)	Virtual storage from which the disk to allocate to the L-Server is created (optional) If specified at the same time as storage pool, priority is given to this attribute.	Specify the resource name of an existing virtual storage. [Hyper-V] When specifying this element, specify the same virtual storage for all disks.
Storage pool (*2) (Pool name)	Resource pool for extracting the virtual storage to create the disk to allocate to the L-Server (optional)	Specify the resource name of an existing storage pool. If there are storage pools with the same name on different levels, the level must also be specified. Folder/Pool

Element Name	Description	Remarks (Possible Values, Examples)
		[Hyper-V] When specifying this element, specify the same storage pool for all disks.
NIC Index (*2) (NICIndex)	Number to identify the NIC definition to allocate to the L-Server	An integer starting from 0. NIC number (NICIndex) + 1 corresponds to a network (NIC) number of the [General] tab in the [Create an L-Server] dialog. [VMware] [Hyper-V] Specify a number between 0 and 9. [Xen] Specify a number between 0 and 14. [Oracle VM] Specify a number between 0 and 7.
Network Name (*2) (NetworkLink name)	Name of the network that the L-Server connects to	Specify the name of an existing network resource.
MAC address (Media Access Control address) (MacAddress)	The MAC address to allocate to the L-Server NIC	The MAC address can be specified using the following methods: <MacAddress auto="true" from="AddressSetResource (MAC address)"/> or <MacAddress auto="true" pool="Address pool"/> An address in the MAC address range set in the MACAddressSetResource or MAC address range registered in the specified address pool will automatically be allocated. When address set resource and address pool are specified at the same time, the address set resource has priority. When the VM type is "RHEL-Xen", the MAC address must be specified.
IP address (*2) (IpAddress)	IP address to allocate to L-Servers (optional)	The IP can be specified using the following methods: <IpAddress>IP address format</IpAddress> Specify an IP address. <IpAddress auto="true"/> An IP address is automatically assigned from the address range set for the network resource. Even if the IpAddress tag is omitted, an IP address is automatically assigned from the address range set for the network resource.
Redundancy (*1, *2, *3) (Redundancy)	Server redundancy to allocate to L-Servers (optional)	- None No redundancy - HA Place in a server with HA set If omitted and not specified when creating the L-Server, None is set. For details on redundancy, refer to "Server Recovery" in "D.2.2 When "VM" is Selected for [Server type]" of the "ServerView Resource Orchestrator User's Guide". When "RHEL-Xen" has been specified for the VM type, only "None" can be specified.
Positioning (*1, *2, *3) (Positioning)	Physical location of the server to allocate to L-Servers (optional)	- Fixed Fixed physical position

Element Name	Description	Remarks (Possible Values, Examples)
		- AttachAtBoot Position changes upon startup If omitted, Fixed is set. When "RHEL-Xen" has been specified for the VM type, only "Fixed" can be specified.
Exclusion (*1, *2) (Exclusion)	Exclusive operation with another virtual machine on a physical server (optional)	Specify the *L-Server_name* or the *Resource_folder_name*. To specify L-Server names or resource folder names that are arranged in a hierarchy, the level must also be specified. /*Folder1*/*Folder2* /*Folder1*/*L-Server3* Specify resources included in the access scope.
Priority (*1, *2) (Priority)	Priority when allocating resources or creating an L-Server (optional)	When the L-Server is the target of batch power operations, or when performing batch creation of multiple L-Servers using XMLs of resource folders, specify the priority in the range of 1 to 256. Smaller values indicate higher priority. If omitted, "128" is set. When 0 is specified, the server is excluded from batch power operations. If a VM type other than "RHEL-Xen" is specified, L-Servers are created depending on the priority which has been specified.
Server Automatic Release (*1, *2) (Repurpose)	Automatic release of servers during power off (optional)	Specify whether or not to automatically release the servers allocated to the L-Server, when they are powered off. When enabling automatic release, specify "true". When not enabling automatic release, specify "false". If the values of this attribute and "Server Automatic Release" of the L-Server template are omitted, the value that is set in the definition file is used. For details on the definition file, refer to "6.9.1 Installation" of the "ServerView Resource Orchestrator User's Guide".
Enabling/disabling overcommit (OverCommit)	Setting for overcommit (optional)	Set enabling/disabling of overcommit. If left blank, "false" is set. When enabling overcommit, specify "true". When disabling overcommit, specify "false".
Retention of used servers (*2) (From keep)	Retains the server destination used for an L-Server (optional)	- true Specify when retaining the resource destination. - false Specify when not retaining the resource destination. If not specified, "true" is set.
Automatic selection of the server to use (*2) (From auto)	Automatically selects the server destination used for an L-Server (optional)	- true Specify to automatically select the resource destination. - false Specify to not automatically select resources. If omitted, when "VM host" or "VM pool name" is specified, the "VM host" or the "VM pool name" is given priority.

Element Name	Description	Remarks (Possible Values, Examples)
		When "VM host" or "VM pool name" is not specified, the resource is automatically selected.
VM host name (*1, *2) (VmHost name)	VM host to create the VM to allocate to the L-Server (optional) If specified at the same time as resource pool, priority is given to this attribute.	Specify the resource name of a registered VM host. If not retaining a server to use, this is valid only when allocating for the first time.
VM pool (*1, *2) (Pool name)	Resource pool to extract the VM host to create the VM to allocate to the L-Server from (optional)	Specify the resource name of a registered VM pool. If there are VM pools with the same name on different levels, the level must also be specified. *resource_folder_name**Resource_pool_name* If not retaining a server to use, this is valid only when allocating for the first time.
Allocation of resources (Allocation)	Status of resources allocated to the L-Server (optional)	- true Specify to allocate resources. - false Only specify when creating a configuration definition. If this attribute is omitted, the value set in the definition file is used. For details on the definition file, refer to "6.9.1 Installation" of the "ServerView Resource Orchestrator User's Guide".
Computer name, hostname (*2, *10) (ComputerName)	Computer name and hostname	[VMware] For details on the values which can be specified, refer to "G.1.6 [OS] Tab Configuration" in the "ServerView Resource Orchestrator User's Guide". [Hyper-V] For details on the values which can be specified, refer to "G.2.6 [OS] Tab Configuration" in the "ServerView Resource Orchestrator User's Guide". [Xen] Only host name can be specified.
Full name (*2, *10) (FullName)	Full name used for Windows	[VMware] For details on the values which can be specified, refer to "G.1.6 [OS] Tab Configuration" in the "ServerView Resource Orchestrator User's Guide". [Hyper-V] For details on the values which can be specified, refer to "G.2.6 [OS] Tab Configuration" in the "ServerView Resource Orchestrator User's Guide".
Product key (*2, *10) (ProductKey)	Windows product key	
Administrator password (*2, *10) (AdminPassword)	Administrator password used for Windows	
License mode (*2, *10) (CAL)	Client access license set for Windows	
Maximum number of connections (*2, *10) (CALMaxConnection)	Number of client connections set for Windows	
Organization name (*2, *10) (OrganizationName)	Organization name used for Windows	

Element Name	Description	Remarks (Possible Values, Examples)
Domain name (*2, *10) (DomainName)	Domain name used for the OS	
DNS search path (*2, *10) (DNSSearchPath)	DNS search path used for Linux	To specify multiple values, use multiple tags. <DNSSearchPaths> <DNSSearchPath>DNS Search Path1</DNSSearchPath> <DNSSearchPath>DNS Search Path2</DNSSearchPath> </DNSSearchPaths> [VMware] For details on the values which can be specified, refer to "G.1.6 [OS] Tab Configuration" in the "ServerView Resource Orchestrator User's Guide". [Hyper-V] For details on the values which can be specified, refer to "G.2.6 [OS] Tab Configuration" in the "ServerView Resource Orchestrator User's Guide".
NIC Index (*2, *10) (DNSServer nic)	NIC index used to set the DNS	NIC index used to set the DNS IP address. This index is required when the OS is Windows. If the OS is Linux, leave the nic attribute blank. Specify a number between 0 and 9.
DNS IP address (*2, *10) (DNSServer id)	DNS IP address	For Windows, use the DNS IP address to set for each NIC. For Linux, use the DNS IP address to set for the system.
Time zone (*2, *10) (TimeZone)	Time zone for the OS	- For the time zones that can be specified using Windows, refer to the Microsoft web site (*11). Convert the value from the "Index" column to a decimal, or specify a value from the "Time" column. - Examples of the time zones that can be specified using Linux are listed below. To specify other time zones, refer to the information displayed using commands provided by the OS such as timeconfig. - Asia/Tokyo - US/Pacific - US/Central - US/Eastern - Europe/Berlin - Europe/Amsterdam - Europe/London - Asia/Seoul - Asia/Hong_Kong - Australia/Canberra -
Hardware clock configuration (*2, *10) (HardwareClock)	Clock configuration used for Linux	[VMware] For details on the values which can be specified, refer to "G.1.6 [OS] Tab Configuration" in the "ServerView Resource Orchestrator User's Guide".

Element Name	Description	Remarks (Possible Values, Examples)
		[Hyper-V] For details on the values which can be specified, refer to "G.2.6 [OS] Tab Configuration" in the "ServerView Resource Orchestrator User's Guide".

*1: Values that can be changed by modifying an L-Server. Even if an L-Server template name or the content of an L-Server template specified for the L-Server template name is modified, the L-Server configuration will not be modified. Only change the OS type if no OS is installed.
*2: Values can be changed by modifying an L-Server, only when its status is "defined" (only the configuration definition has been created).
*3: Only specify if no L-Server template is used or if the values specified in the L-Server template will not be used.
*4: For details on the possible values, refer to the VMware web site below.
*5: The value can be changed using the rcxadm lserver modify command. For details on the rcxadm lserver modify command, refer to "1.3.1 rcxadm lserver".
*6: For VMware, the value can be changed.

VMware web site

URL:
http://www.vmware.com/support/developer/vc-sdk/visdk400pubs/ReferenceGuide/vim.vm.GuestOsDescriptor.GuestOsIdentifier.html
(As of July 2011)

*7: For VMware, the specified value is set.
*8: For details on the values that can be specified, refer to the "vSphere Resource Management Guide" of VMware.
Refer to the relevant version of document, referring to the following URL:

URL: http://www.vmware.com/support/pubs/vs_pubs.html (As of July 2011)

*9: When omitted, the memory reservation capacity will be the same value as the value for the memory capacity, and the memory overcommit function will be disabled. When using the memory overcommit function, specify the value.
*10: Information to be specified individually after the image is deployed. Only specify if there is no OS property definition file or if you want to change the existing values. For Oracle VM, the values cannot be specified individually. If set, the value is ignored.
*11: Refer to the Microsoft web site below.

Microsoft web site

URL: http://support.microsoft.com/kb/973627/en-us/ (As of July 2011)

Example

- Creating an L-Server that does not deploy a cloning image using an L-Server template

```
<?xml version="1.0" encoding="utf-8"?>
<Resources>
  <LServer name="first_server">
    <TemplateLink name="small"/>
    <ServerType>Virtual</ServerType>
    <OSType>Red Hat Enterprise Linux 5 (32-bit)</OSType>
    <NICs>
      <NIC>
        <NICIndex>0</NICIndex>
        <NetworkLink name="net01"/>
      </NIC>
    </NICs>
  </LServer>
</Resources>
```

- Creating an L-Server that deploys a cloning image using an L-Server template (pre-configured OS property definition file)

```
<?xml version="1.0" encoding="utf-8"?>
<Resources>
  <LServer name="second_server">
    <TemplateLink name="small"/>
    <ServerType>Virtual</ServerType>
    <ServerImageLink name="/ImagePool/master_image"/>
    <NICs>
      <NIC>
        <NICIndex>0</NICIndex>
        <NetworkLink name="net01"/>
      </NIC>
    </NICs>
    <OSSetting>
      <ComputerName>host2</ComputerName>
    </OSSetting>
  </LServer>
</Resources>
```

- Creating an L-Server that deploys a Linux cloning image without using an L-Server template (pre-configured OS property definition file)

```
<?xml version="1.0" encoding="utf-8"?>
<Resources>
  <LServer name="L-Server">
    <ServerImageLink name="/ImagePool/RHEL5"/>
    <ServerType>Virtual</ServerType>
    <CPU>
      <CPUPerf>1.0</CPUPerf>
      <NumOfCPU>1</NumOfCPU>
    </CPU>
    <Memory>
      <MemorySize>2</MemorySize>
    </Memory>
    <Disks>
      <Disk>
        <DiskIndex>0</DiskIndex>
        <DiskSize>20.0</DiskSize>
      </Disk>
      <Disk>
        <DiskIndex>1</DiskIndex>
        <DiskSize>30.0</DiskSize>
      </Disk>
    </Disks>
    <NICs>
      <NIC>
        <NICIndex>0</NICIndex>
        <NetworkLink name="net01"/>
      </NIC>
    </NICs>
    <Policy>
      <Redundancy>None</Redundancy>
      <Positioning>Fixed</Positioning>
    </Policy>
    <OSSetting>
      <ComputerName>host1</ComputerName>
      <DomainName>xx.zz.yy</DomainName>
      <DNSSearchPaths>
        <DNSSearchPath>10.20.30.40</DNSSearchPath>
      </DNSSearchPaths>
    </OSSetting>
```

```
  </LServer>
</Resources>
```

- Creating an L-Server in a resource folder or a tenant folder

```
<?xml version="1.0" encoding="utf-8"?>
<Folder name="Resource folder name or tenant folder name">
  <LServer name="L-Server name" label="Label">
    ...
  </L-Server>
</Folder>
```

Table 2.6 List of Items Specified in XML Definitions when Creating an L-Server in a Resource Folder or a Tenant Folder

Element Name	Description	Remarks (Possible Values, Examples)
Resource folder name or tenant folder name (*1)	Name of the resource folder or the tenant folder to place the L-Server in (optional)	To specify the level, use the following format: *Resource_folder_name*/*Resource_folder_name* *Tenant_folder_name*/*Resource_folder_name* *Resource_folder_name*/*Tenant_folder_name*

*1: Specify if creating an L-Server in a resource folder or a tenant folder.

- Creating an L-Server (with one NIC) on a specific host without deploying cloning images using an L-Server template (for RHEL-Xen)

```
<?xml version="1.0" encoding="utf-8"?>
<Resources>
  <LServer name="first_server">
    <TemplateLink name="template1"/>
    <ServerType>Virtual</ServerType>
    <OSType>Linux</OSType>
    <NICs>
      <NIC>
        <NICIndex>0</NICIndex>
        <NetworkLink name="net01"/>
        <MacAddress auto="true" from="mac_address_set"/>
      </NIC>
    </NICs>
    <From>
      <VmHost name="vmhost1"/>
    </From>
  </LServer>
</Resources>
```

- Creating another L-Server using detailed L-Server information

  Modify the following information.

  - Enclose everything in the Resources tags.
  - Modify the name of the LServer tag.
  - Delete the DiskLink, MacAddress, IpAddress tags and the name of Disk tag.
  - Add the OSSetting tag.

    When the name field of the NetworkLink tag is left blank, add an appropriate network resource name.

  The following example is used to create an L-Server that has the same configuration as one already created, using the detailed information of the L-Server created with a Linux cloning image that has been deployed.

  When deploying a Windows cloning image, changes should be made referring to the XML definition shown above.

```
<?xml version="1.0" encoding="utf-8"?>
<Resources>
<LServer name="L-Server2" id="rctest_1220" label="">
  <Comment></Comment>
  <TemplateLink name="sample_small" id="rctest_23" />
  <ServerType>Virtual</ServerType>
  <VMType>VMware</VMType>
  <OSType>Red Hat Enterprise Linux 5 (32-bit)</OSType>
  <CPU>
    <CPUArch>IA</CPUArch>
    <CPUPerf>1.0</CPUPerf>
    <NumOfCPU>1</NumOfCPU>
  </CPU>
  <Memory>
    <MemorySize>1.0</MemorySize>
  </Memory>
  <Disks>
      <Disk>
        <DiskIndex>0</DiskIndex>
        <DiskSize>10.0</DiskSize>
      </Disk>
  </Disks>
  <NICs>
    <NIC>
      <NetworkLink name="vnet30" id="rctest_1123" />
      <NICIndex>0</NICIndex>
    </NIC>
  </NICs>
<ExternalIdentifier>42114bec-d26d-0c3d-c9aa-080a0c40d020</ExternalIdentifier>
  <Current>
        <VmHost name="gekkou-pri" id="rctest_62" />
        <VmGuest name="L-Server1-75" id="rctest_1224" />
  </Current>
  <ExternalProfile/>
  <ServerImageLink name="/ImagePool/pool" version="1" id="rctest_132" />
  <Policy>
    <Redundancy>None</Redundancy>
    <Positioning>Fixed</Positioning>
    <Exclusion></Exclusion>
    <Priority>128</Priority>
    <Repurpose>false</Repurpose>
  </Policy>
  <Status>
    <ResourceStatus>stop</ResourceStatus>
    <PowerStatus>off</PowerStatus>
    <AllocationStatus>attached</AllocationStatus>
    <MaintenanceMode>active</MaintenanceMode>
    <Resources>allocated</Resources>
    <ServerAllocationStatus>true</ServerAllocationStatus>
    <DiskAllocationStatus>true</DiskAllocationStatus>
    <AddressAllocationStatus>true</AddressAllocationStatus>
  </Status>
  <OSSetting>
    <DNSSearchPaths>
      <DNSSearchPath>10.20.30.40</DNSSearchPath>
    </DNSSearchPaths>
  </OSSetting>
</LServer>
</Resources>
```

2.4 Network Resources

This section explains the creation and modification of network resources.

2.4.1 Creation

The XML definition for network resources is shown below.

```
<?xml version="1.0" encoding="utf-8"?>
<Pool name="Name of the resource pool to store the network resource">
<Network name="Network resource name" label="label" auto="Automatic configuration">
  <Type="Network resource type"/>
  <ManagementLanSubnet name="Admin LAN subnet name"/>
  <Comment>Comment</Comment>
  <Vlanid>VLAN ID</Vlanid>
  <ExternalPorts>
    <NetworkSwitchPort number="LAN switch blade external port number" switch="LAN switch blade name"/>
    <NetworkSwitchPort number="LAN switch blade external port number" switch="LAN switch blade name"/>
  </ExternalPorts>
  <AddressSet name="Address set name" subnet="subnet address" mask="subnet mask">
    <Exclude>
      <AddressRange start="IP address range to exclude (Start IP address #1)" end="IP address range
to exclude (End IP address #1)" />
      <AddressRange start="IP address range to exclude (Start IP address #2)" end="IP address range
to exclude (End IP address #2)" />
    </Exclude>
    <DefaultGateway address="XXX.XXX.XXX.XXX"/>
  </AddressSet>
</Network>
</Pool>
```

The XXX.XXX.XXX.XXX format (period (".") -decimal notation) is used for the IP address, subnet address, and subnet mask.
The AddressSet tag is optional. If it is omitted, a network resource that cannot be assigned an address is created.

Table 2.7 List of Items Specified in XML Definitions for Network Resources

Element Name	Description	Remarks (Possible Values, Examples)
Resource pool name (Pool name)	Name of the resource pool to store the network resource	Character string beginning with an alphanumeric character and containing up to 32 alphanumeric characters, underscores ("_"), and hyphens ("-")
Network resource name (Network name)	Name of the network resource	Character string beginning with an alphanumeric character and containing up to 32 alphanumeric characters, underscores ("_"), and hyphens ("-")
Network resource type (Type)	Network resource type	Specify the type of the network resource. - For an admin LAN Specify "admin". Subnet information for admin LANs can be set using the AddressSet tag. - For iSCSI boot Specify "iSCSI". - For a public LAN Specify "<Type />". If omitted, a public LAN is specified.
Label	Label for the network resource (optional)	Character string of up to 32 alphanumeric characters or symbols

Element Name	Description	Remarks (Possible Values, Examples)
(Network label)		
Automatic configuration (Network auto)	Automatic configuration for network resources	Specify whether automatic configuration for virtual networks, virtual switches, or port groups, which are associated with the network resource, is to be performed. - true If there are no virtual networks, virtual switches, or port groups associated with the network resource, the network is configured automatically. - false Automatic configuration of networks is not performed. The virtual networks, virtual switches, or port groups created beforehand are used for the network resource. If left blank, "true" is set.
Admin LAN subnet name (ManagementLanSubnet name)	Specify an admin LAN subnet name. (optional)	Either use a character string beginning with an alphanumeric character and containing up to 32 alphanumeric characters and hyphens ("-"), or leave the field blank If left blank, the admin LAN subnet that the manager is directly connected to is specified.
Comment (Comment)	Comment for the network resource (optional)	Character string of up to 256 alphanumeric characters or symbols
VLAN ID (Vlanid)	VLAN ID	An integer between 1 and 4094
External port number (ExternalPorts)	A collection of LAN switch blade external port numbers (optional)	One or more NetworkSwitchPort tags
LAN switch blade external port number (NetworkSwitchPort number)	External port number of a LAN switch blade required to create a network resource for external communications	A positive integer
LAN switch blade name (NetworkSwitchPort switch)	Name of a LAN switch blade with an external port	-
Address set name (AddressSet name)	Name of the address set	Character string beginning with an alphanumeric character and containing up to 32 alphanumeric characters, underscores ("_"), periods ("."), and hyphens ("-")
Subnet address (AddressSet subnet)	Subnet	Subnet value
Subnet mask (AddressSet mask)	Subnet mask	Subnet mask value The maximum value for a subnet mask is 255.255.255.255 (32-bit mask) and the minimum value is 255.255.0.0 (16-bit mask). However, 255.255.255.254 cannot be specified.

Element Name	Description	Remarks (Possible Values, Examples)
IP Address to Exclude (Exclude)	A collection of exclusion ranges of IP addresses (optional)	One or more AddressRange tags
IP address exclusion range (Start IP address, End IP address) (AddressRange)	Specify the IP address range (start and end) to exclude from the administration of Resource Orchestrator. Start and end IP addresses are included in the exclusion range. Multiple ranges can be specified.	Specification of start and end IP addresses As the network address and broadcast address are automatically excluded, do not specify them in the IP address range (start and end) to exclude.
IP address inclusion range (Start IP address) (AddressRange start)	Starting point of exclusion range of IP addresses	IP address in IPv4 format
IP address inclusion range (End IP address) (AddressRange end)	Endpoint of exclusion range of IP addresses	IP address in IPv4 format
Default gateway (DefaultGateway address)	Default gateway	IP address

Note

When specifying a subnet address and not specifying IP addresses for exclusion or a default gateway address, do not specify the end tag for the <AddressSet> tag.

Example

- Do not specify an end tag as shown below.

```
<Pool name="NetworkPool">
  <Network name="sample">
     <Vlanid>10</Vlanid>
     <AddressSet name="sample" subnet="192.168.1.0" mask="255.255.255.0">
     </AddressSet>
  </Network>
</Pool>
```

- Specify an empty element tag instead of the end tag.

```
<Pool name="NetworkPool">
  <Network name="sample">
     <Vlanid>10</Vlanid>
     <AddressSet name="sample" subnet="192.168.1.0" mask="255.255.255.0"/>
  </Network>
</Pool>
```

Example

```
<?xml version="1.0" encoding="utf-8"?>
<Pool name="NetworkPool">
<Network name="man_net" label="man_net_label">
    <Comment>comment</Comment>
  <Vlanid>4000</Vlanid>
  <ExternalPorts>
```

```
    <NetworkSwitchPort number="11" switch="bx620-lan1"/>
    <NetworkSwitchPort number="12" switch="bx620-lan2"/>
  </ExternalPorts>
  <AddressSet name="192.168.99.0" subnet="192.168.99.0" mask="255.255.255.0">
    <Exclude>
      <AddressRange start="192.168.99.10" end="192.168.99.20" />
      <AddressRange start="192.168.99.30" end="192.168.99.40" />
    </Exclude>
    <DefaultGateway address="192.168.99.254"/>
  </AddressSet>
</Network>
</Pool>
```

2.4.2 Modification

When modifying network resources, only elements that have been defined can be modified.

The following elements can be modified:

- Network resource name
- Label
- Comment
- Subnet information
- Exclusion range of IP addresses
- Default gateway
- External connection port settings

  Only the following operation can be performed for external connection ports. Deleting and changing of external connection ports cannot be performed.

  - Addition of external connection ports of a chassis attached to the target external network, when one or more external networks exist

If defining multiple elements, they will be modified at the same time.

Define all new information of the settings after modification for external connection port settings.

Define all new information of the settings after modification for IP addresses to exclude.

Note

- Network resource types cannot be changed (specification of the Type tag).
- Resource pools cannot be changed (specification of the Pool tag). To change to another resource pool, use the rcxadm pool move command.
- VLAN IDs cannot be changed (specification of the Vlanid tag).
- Admin LAN subnet names cannot be changed (specification of the ManagementLanSubnet tag).
- No errors occur in command execution.

The XML definition for modification of each element is shown below.

Example

- Modifying network resource names

```
<Network name="Modified network resource name" />
```

- Modifying labels

```
<Network label="Modified label" />
```

- Modifying comments

```
<Network>
  <Comment>Modified comments</Comment>
</Network>
```

- Modifying subnet information (when subnet information is not registered in network resources)

```
<Network>
  <AddressSet subnet="Modified subnet address" mask="Modified subnet mask" />
</Network>
```

- Initializing subnet information (when the network resource type is public LAN, and the subnet information is registered)

```
<Network>
  <AddressSet />
</Network>
```

Do not specify any value in <AddressSet>.

- Adding exclusion range of IP addresses (when adding the IP address range of 192.168.1.1 to 192.168.1.10 to the existing exclusion range of 192.168.1.100 to 192.168.1.200)

```
<Network>
  <AddressSet>
    <Exclude>
      <AddressRange start="192.168.1.100" end="192.168.1.200" />
      <AddressRange start="192.168.1.1" end="192.168.1.10" />
    </Exclude>
  </AddressSet>
</Network>
```

- Changing exclusion range of IP addresses (when deleting the IP address range of 192.168.1.1 to 192.168.1.10 from the exclusion ranges of 192.168.1.100 to 192.168.1.200 and 192.168.1.1 to 192.168.1.10)

```
<Network>
  <AddressSet>
    <Exclude>
      <AddressRange start="192.168.1.100" end="192.168.1.200" />
    </Exclude>
  </AddressSet>
</Network>
```

Do not specify a value from 192.168.1.1 to 192.168.1.10.

- Initializing the value of exclusion range of IP addresses

```
<Network>
  <AddressSet>
    <Exclude />
  </AddressSet>
</Network>
```

Do not specify any value in <Exclude>.

- Modifying the default gateway

```
<Network>
  <AddressSet>
    <DefaultGateway address="Modified default gateway" />
  </AddressSet>
</Network>
```

- Initializing the default gateway (This can only be specified when the network resource type is public LAN)

```
<Network>
  <AddressSet>
    <DefaultGateway />
  </AddressSet>
</Network>
```

Do not specify a value in <DefaultGateway>.

- Adding external connection ports (when adding external connection port information for an attached chassis (PRIMERGY BX900))

Information before modification		Information after modification	
LAN switch blade name	External port number	LAN switch blade name	External port number
bx600-lan1	11	bx600-lan1	11
bx600-lan2	11	bx600-lan2	11
		bx900-lan1	12
		bx900-lan2	12

  - Before the modification

```
<Network>
  <ExternalPorts>
    <NetworkSwitchPort number="11" switch="bx600-lan1"/>
    <NetworkSwitchPort number="11" switch="bx600-lan2"/>
  </ExternalPorts>
</Network>
```

  - After the modification

```
<Network>
  <ExternalPorts>
    <NetworkSwitchPort number="11" switch="bx600-lan1"/>
    <NetworkSwitchPort number="11" switch="bx600-lan2"/>
    <NetworkSwitchPort number="12" switch="bx900-lan1"/>
    <NetworkSwitchPort number="12" switch="bx900-lan2"/>
  </ExternalPorts>
</Network>
```

2.5 Resource Folders

The XML definition for resource folders is shown below.

```
<?xml version="1.0" encoding="utf-8"?>
<Folder name="Resource folder name" label="Label">
  <Comment>Comment</Comment>
  <LServers>
```

```
    <LServer name="L-Server name" label="Label">
      L-Server information
    </LServer>
    <LServer name="L-Server name" label="Label">
      L-Server information
    </LServer>
    ...
  </LServers>
</Folder>
```

Table 2.8 List of Items Specified in XML Definitions for Resource Folders

Element Name	Description	Remarks (Possible Values, Examples)
Resource folder name (Folder name)	Name of the resource folder	Character string beginning with an alphanumeric character and containing up to 32 alphanumeric characters, underscores ("_"), and hyphens ("-") When creating it in a resource folder or a tenant folder, specify the resource folder name or the tenant folder name using slashes ("/").
Label (Folder label)	Label for the resource folder (optional)	Character string of up to 32 alphanumeric characters or symbols
Comment (Comment)	Comment for the resource folder (optional)	Character string of up to 256 alphanumeric characters or symbols

For details on the elements of LServer tags, refer to "2.3 L-Servers".

Example

```
<?xml version="1.0" encoding="utf-8"?>
<Folder name="folder001" label="Folder for work 1">
  <Comment>Created on 2010/XX/XX for work 1</Comment>
  <LServers>
    <LServer name="L-Server1" label="Label">
      L-Server1 Information
    </LServer>
    <LServer name="L-Server2" label="Label">
      L-Server2 Information
    </LServer>
  </LServers>
</Folder>
```

2.6 User

The XML definition for users is shown below.

```
<?xml version="1.0" encoding="utf-8"?>
<User name="User name" label = "Label" >
  <Password >Password</Password>
  <Comment>"Comment 1"</Comment>
  <UserGroup>User group name</UserGroup>
   <Roles>
    <Role name="Role name 1">
      <Scopes>
        <Scope>Access scope 1</Scope>
        <Scope>Access scope 2</Scope>
```

```
        <Scope>Access scope 3</Scope>
      </Scopes>
    </Role>
    <Role name="Role name 2">
      <Scopes>
        <Scope>Access scope 1</Scope>
        <Scope>Access scope 2</Scope>
        <Scope>Access scope 3</Scope>
      </Scopes>
    </Role>
  </Roles>
</User>
```

Table 2.9 List of Items Specified in XML Definitions for Users

Element Name	Description	Remarks (Possible Values, Examples)
User name (User name)	Name of the user	Character string beginning with an alphabetic character and containing up to 32 alphanumeric characters, underscores ("_"), and hyphens ("-")
Label (User label)	Label for the user (optional)	Character string of up to 32 alphanumeric characters or symbols
Password (Password)	Password for the user	Character string of up to 16 alphanumeric characters or symbols
Comment (Comment)	Comment for the user (optional)	Character string of up to 256 alphanumeric characters or symbols
User group name (UserGroup)	Name of the user group the user belongs to (optional)	Specify the name of a user group. If omitted, the user group that the current user belongs to will be assigned.
Role Names (Role name)	Role name (optional)	Specify the role name to allocate to the access scope. For details on role names which can be assigned, refer to "Table C.1 Operation Scope of Roles" in "C.1 Roles" of the "ServerView Resource Orchestrator User's Guide".
Access scope (Scope)	Set the access scope for the specified role.	Specify the scope of access to allow for the user. To restrict the access scope, specify resource folder names or resource names. If you do not want to restrict the access scope, specify "all".

Example

```
<?xml version="1.0" encoding="utf-8"?>
<User name="test_user01" label="test_user01">
  <Password>test_user01</Password>
  <Comment>test_user</Comment>
  <UserGroup>admin</UserGroup>
</User>
```

2.7 User Groups

The XML definition for user groups is shown below.

```
<?xml version="1.0" encoding="utf-8"?>
<UserGroup name ="User Group name 1" label = "label 1">
  <Comment>"Comment 1"</Comment>
   <Roles>
```

```
    <Role name="Role name 1">
      <Scopes>
        <Scope>Access scope 1</Scope>
        <Scope>Access scope 2</Scope>
        <Scope>Access scope 3</Scope>
      </Scopes>
    </Role>
    <Role name="Role name 2">
      <Scopes>
        <Scope>Access scope 1</Scope>
        <Scope>Access scope 2</Scope>
        <Scope>Access scope 3</Scope>
      </Scopes>
    </Role>
  </Roles>
</UserGroup>
```

Table 2.10 List of Items Specified in XML Definitions for User Groups

Element Name	Description	Remarks (Possible Values, Examples)
User group name (UserGroup name)	Name of the user group	Character string (Unicode) beginning with an alphanumeric character and containing up to 32 alphanumeric characters, underscores ("_"), and hyphens ("-")
Label (UserGroup label)	Label for the user group (optional)	Character string of up to 32 alphanumeric characters or symbols
Comment (Comment)	Comment for the user group (optional)	Character string of up to 256 alphanumeric characters or symbols
Role Names (Role name)	Role name (optional)	Specify the role name to allocate to the access scope. For details on role names which can be assigned, refer to "Table C.1 Operation Scope of Roles" in "C.1 Roles" of the "ServerView Resource Orchestrator User's Guide".
Access scope (Scope)	Specify the access scope for the role.	Specify the scope of access to allow for the user. To restrict the access scope, specify resource folder names or resource names. If you do not want to restrict the access scope, specify "all".

Example

```
<?xml version="1.0" encoding="utf-8"?>
<UserGroup name="admin" label="admin">
  <Comment>admin_group</Comment>
  <Roles>
    <Role name="administrator">
      <Scopes>
        <Scope>all</Scope>
      </Scopes>
    </Role>
  </Roles>
</UserGroup>
```

2.8 Tenant Folders

The XML definition for tenant folders is shown below.

```
<?xml version="1.0" encoding="utf-8"?>
<Tenant name ="Name of the tenant folder" label="Label">
  <Comment>Comment</Comment>
  <UserGroup name="User group name" label="Label">
    <Comment>Comment</Comment>
    <Role name="Role name">
        <Scopes>
          <Scope>Tenant folder name</Scope>
        </Scopes>
    </Role>
  </UserGroup>
  <User name="User name" label="Label">
    <Password >Password</Password>
    <Comment>Comment</Comment>
    <UserGroup>User group name</UserGroup>
  </User>
  <Pools>
    <Pool name="Resource pool name" type="Resource pool type" label="Label">
      <Comment>Comment</Comment>
      <Priority>Priority</Priority>
    </Pool>
  </Pools>
  <GlobalPoolLinks>
    <GlobalPoolLink>Global pool name</GlobalPoolLink>
       :
  </GlobalPoolLinks>
</Tenant>
```

Table 2.11 List of Items Specified in XML Definitions for Tenant Folders

Element Name	Description	Remarks (Possible Values, Examples)
Tenant folder name (Tenant name)	Name of the tenant folder	Character string beginning with an alphanumeric character and containing up to 32 alphanumeric characters, underscores ("_"), and hyphens ("-") When creating it in a resource folder, specify the resource folder name using slashes ("/"). Creation in a tenant folder is not possible.
Label (Tenant label)	Label for the tenant folder (optional)	Character string of up to 32 alphanumeric characters or symbols
Comment (Comment)	Comment for the tenant folder (optional)	Character string of up to 256 alphanumeric characters or symbols
User group name (UserGroup name)	Name of the user group to create in the tenant folder	Specify a user group name to create. If the UserGroup tag is omitted, "supervisor" is set. For details on elements in the UserGroup tag, refer to "2.7 User Groups". When using directory services to manage users, the user group specified here is not created. After creating tenants, create users and user groups using the ldif file, and then configure roles. For details on user management and role settings using directory services, refer to "C.4 User Management Using Directory Service" in the "ServerView Resource Orchestrator User's Guide".
User name (User name)	Name of the user to create in the tenant folder	Specify a user name to create. If the User tag is omitted, no user is created. As elements of the User tag, a label (User label), a password (Password), a comment (Comment), and a user group name (UserGroup name) can be specified. Role names (Role name) and access scopes (Scope) cannot be specified.

Element Name	Description	Remarks (Possible Values, Examples)
		For details on the each element, refer to "2.6 User". When using directory services to manage users, the user specified here is not created. After creating tenants, create users and user groups using the ldif file, and then configure roles. For details on user management and role settings using directory services, refer to "C.4 User Management Using Directory Service" in the "ServerView Resource Orchestrator User's Guide".
Resource pool name (Pool name)	Name of the resource pool to create in the tenant folder	Specify the name of the resource pool to create in the tenant folder. If the Pools tag is omitted, no resource pool is created in the tenant folder.
Resource Pool Types (Pool type)	Resource Pool Types	Specify the type of the resource pool to create in the tenant folder. It can be specified using the following methods: - vm (VM pool) - server (Server pool) - storage (Storage pool) - network (Network pool) - address (Address pool) - image (Image pool)
Label (Pool label)	Label for the resource pool (optional)	Character string of up to 32 alphanumeric characters or symbols
Comment (Pool comment)	Comment for the resource pool (optional)	Character string of up to 256 alphanumeric characters or symbols
Priority (Priority)	Resource pool priority (optional)	Specify the priority for the resource pool as between 1 and 10. If omitted, "5" is set. For the priority order, 1 is the highest and 10 is the lowest.
Global pool name (GlobalPoolLink)	Name of the global pool	Specify the resource pool name to be defined in a global pool of a tenant. If the GlobalPoolLinks tag is omitted, no global pool is defined for the tenant. If specifying a resource pool in a resource folder, specify the resource folder name using slashes ("/").

Example

```
<?xml version="1.0" encoding="utf-8"?>
<Tenant name ="TenantFolder" label="TenantFolder Label">
  <Comment>TenantFolder Comment</Comment>
  <UserGroup name="TenantUserGroup" label="TenantUserGroup Label">
    <Comment>TenantUserGroup Comment</Comment>
    <Role name="administrator">
        <Scopes>
          <Scope>TenantFolder</Scope>
        </Scopes>
    </Role>
  </UserGroup>
  <User name="TenantAdminUser" label="TenantAdministratorUser Label">
    <Password>tenant123</Password>
    <Comment>TenantAdministratorUser Comment</Comment>
```

```
    <UserGroup>TenantUserGroup</UserGroup>
  </User>
  <Pools>
    <Pool name="VMHostPool" type="vm" label="VMHostPool Label">
      <Comment>VMHostPool Comment</Comment>
      <Priority>5</Priority>
    </Pool>
    <Pool name="ServerPool" type="server" label="ServerPool Label">
      <Comment>ServerPool Comment</Comment>
      <Priority>5</Priority>
    </Pool>
    <Pool name="StoragePool" type="storage" label="StoragePool Label">
      <Comment>StoragePool Comment</Comment>
      <Priority>5</Priority>
    </Pool>
    <Pool name="NetworkPool" type="network" label="NetworkPool Label">
      <Comment>NetworkPool Comment</Comment>
      <Priority>5</Priority>
    </Pool>
    <Pool name="AddressPool" type="address" label="AddressPool label">
      <Comment>AddressPool Comment</Comment>
      <Priority>5</Priority>
    </Pool>
    <Pool name="ImagePool" type="image" label="ImagePool label">
      <Comment>ImagePool Comment</Comment>
      <Priority>5</Priority>
    </Pool>
  </Pools>
  <GlobalPoolLinks>
    <GlobalPoolLink>/VMHostPool</GlobalPoolLink>
    <GlobalPoolLink>/ServerPool</GlobalPoolLink>
      :
  </GlobalPoolLinks>
</Tenant>
```

2.9 iSCSI Boot Information

The XML definition of the iSCSI boot information is shown below.

```
<?xml version="1.0" encoding="utf-8"?>
<Storage>
  <Pool name="Storage pool name"/>
  <Ports>
   <Port index="Storage port index number" ip="IP address[:iSCSI Communication port number]" iqn="IQN name"/>
   <Port index="Storage port index number" ip="IP address[:iSCSI Communication port number]" iqn="IQN name"/>
  </Ports>
  <Disks>
   <Disk name="Disk name">
    <DiskSize>Disk Size</DiskSize>
    <Server>
     <Nics>
      <Nic ip="IP address" iqn="IQN Name" portindex="Storage port Index number"/>
      <Nic ip="IP address" iqn="IQN Name" portindex="Storage port Index number"/>
     </Nics>
     <Chap user="User name authentication" password="Authentication password"/>
     <MutualChap password="Mutual authentication password"/>
    </Server>
   </Disk>
   <Disk name="Disk resource name">
    ...
```

```
   </Disk>
  </Disks>
 </Storage>
```

Table 2.12 List of Items Specified in XML Definitions for iSCSI Boot Information

Element Name	Description	Remarks (Possible Values, Examples)
Storage pool name (Pool name)	Storage pool name for disk registration	Resource name of created storage pool If there are storage pools with the same name on different levels, the level must also be specified. *Folder/Pool*
Storage Port Index Number (*1) (Port index)	Index number to specify the storage port	Integer starting from 0 Specify a number between 0 and 999. Smaller index numbers are managed on the primary side of iSCSI boot.
Storage port IP address (Port ip)	Storage port IP address	Specify the items in the following format. *IP_address*[:*iSCSI Communication_port_number*] *iSCSI Communication_port_number* specifies an integer between 1024 and 65535. If omitted, 3260 is set.
Storage port IQN name (Port iqn)	Storage port IQN name	Character string beginning and ending with an alphanumeric character and containing up to 223 alphanumeric characters, colons (":"), hyphens ("-"), and periods (".")
Disk name (Disk name)	Disk name to register in the storage pool	Character string beginning with an alphanumeric character and containing up to 32 alphanumeric characters, underscores ("_"), and hyphens ("-")
Disk size (*2) (DiskSize)	Disk size to register in the storage pool	A number with up to one decimal place, in units of gigabytes For details on the scope which can be specified, refer to "Size" in "D.3.1 When "Physical" is Selected for [Server type]" or "D.3.2 When "VM" is Selected for [Server type]" of the "ServerView Resource Orchestrator User's Guide".
Server IP address (Nic ip)	IP address of the server to use iSCSI boot	Specify the IP address.
Server IQN name (Nic iqn)	IQN name of the server to use iSCSI boot	Character string beginning and ending with an alphanumeric character and containing up to 223 alphanumeric characters, colons (":"), hyphens ("-"), and periods (".") For multipath configurations, the same IQN name must be specified for the same server.
Storage port index number which is connected to a server (*1, *3) (Nic portindex)	Storage port index number which is connected to a NIC of a server to use iSCSI boot	Integer starting from 0 Specify a number between 0 and 999.
User name for authentication (Chap user)	User name for CHAP authentication (optional)	User name consisting of alphanumeric characters or symbols containing from 1 to 127 characters (ASCII characters (0x20 to 0x7e)) If left blank, the authentication password cannot be specified.
Authentication password (Chap password)	Authentication password for CHAP (optional)	User name consisting of alphanumeric characters or symbols containing from 12 to 16 characters (ASCII characters (0x20 to 0x7e)) If a user name for authentication is specified, this setting cannot be omitted.

Element Name	Description	Remarks (Possible Values, Examples)
Mutual authentication password (MutualChap password)	Password for mutual authentication (optional)	User name consisting of alphanumeric characters or symbols containing from 12 to 16 characters (ASCII characters (0x20 to 0x7e)) If a user name for authentication is omitted, this setting cannot be specified.

*1: If the Index number of a storage port is the same as the one connected to a server, a physical connection is required.
*2: Register the actual LUN size in the iSCSI boot information. If it differs, the actual size of the LUN will be enabled from the server.
*3: The NIC Index specified in the iSCSI boot network definition file must be connected in the ascending order of the specified numbers.

Example

The definition when portindex=0 with NIC1, and portindex=2 with NIC2 are connected is shown below.

- Specifying a storage definition file for iSCSI boot

  <Nic ... portindex="0"/>

  <Nic ... portindex="2"/>

- Specifying a network definition file for iSCSI boot

  chassis_model.BX900.boot_nic = NIC1,NIC2

Example

```
<?xml version="1.0" encoding="utf-8"?>
<Storage>
  <Pool name="StoragePool" />
  <Ports>
    <Port index="0" ip="192.168.0.1" iqn="iqn.2010-03.com.fujitsu:iscsi:storage-0" />
    <Port index="1" ip="192.168.0.2" iqn="iqn.2010-03.com.fujitsu:iscsi:storage-1" />
  </Ports>
  <Disks>
    <Disk name="disk-01">
      <DiskSize>10</DiskSize>
      <Server>
        <Nics>
          <Nic portindex="0" ip="192.168.0.10" iqn="iqn.2010-03.com.fujitsu:iscsi:server-01" />
          <Nic portindex="1" ip="192.168.0.11" iqn="iqn.2010-03.com.fujitsu:iscsi:server-01" />
        </Nics>
        <Chap user="root" password="passwordpassword" />
      </Server>
    </Disk>
    <Disk name="disk-02">
      <DiskSize>10</DiskSize>
      <Server>
        <Nics>
          <Nic portindex="0" ip="192.168.0.20" iqn="iqn.2010-03.com.fujitsu:iscsi:server-02" />
          <Nic portindex="1" ip="192.168.0.21" iqn="iqn.2010-03.com.fujitsu:iscsi:server-02" />
        </Nics>
      </Server>
    </Disk>
  </Disks>
</Storage>
```

Chapter 3 Messages

This chapter explains the messages output or displayed by Resource Orchestrator.

When messages other than those listed in this chapter are output, refer to the "ServerView Resource Coordinator VE Messages".

3.1 Messages from Resource Orchestrator

This appendix explains the messages output or displayed by Resource Orchestrator.

21146

FJSVrcx:INFO:21146:*name*:*type* status is changed to *status*

[Description]

The status of the *type* resource *name* has changed to *status*.

Status ("normal", "stop", "unknown") is displayed in *status*.

[Corrective Action]

Check the status *status* of the *type* resource *name*. If the status is "normal" or if the status changed to "stop" after an operation accompanying stopping of the resource stop, no action is necessary.

- When "Disk" is displayed for *type*, and "unknown" is displayed for *status*

  The disk resource may be being used for other than the managed server.

  Check that there are no problems.

21161

FJSVrcx:INFO:21161:*obj*:*type* is detected.

[Description]

The resource displayed in *type* has been detected.

- When "VMguest" is displayed for *type*:
  The server name of the VM guest is displayed in *obj*.
- When "cloning image" is displayed for *type*:
  The name and version of the cloning image is displayed in *obj*.
- When "snapshot image" is displayed for *type*:
  The name and version of the snapshot is displayed in *obj*.
- When "vstorage" is displayed for *type*:
  The name of the virtual storage resource is displayed in *obj*.
- When "storage" is displayed for *type*:
  The resource name of the physical storage unit is displayed in *obj*.

[Corrective Action]

No action is necessary.

21162

FJSVrcx:INFO:21162:*obj*:*type* is lost.

[Description]

The resource displayed in *type* is no longer being managed by Resource Orchestrator.

- When "VMguest" is displayed for *type*:
  The server name of the VM guest is displayed in *obj*.
- When "cloning image" is displayed for *type*:
  The name and version of the cloning image is displayed in *obj*.
- When "snapshot image" is displayed for *type*:
  The name and version of the snapshot is displayed in *obj*.
- When "vstorage" is displayed for *type*:
  The name of the virtual storage resource is displayed in *obj*.
- When "storage" is displayed for *type*:
  The resource name of the physical storage unit is displayed in *obj*.
- When "Disk" is displayed for *type*:
  The disk resource name is displayed in *obj*.

[Corrective Action]

No action is necessary.

21163

FJSVrcx:INFO:21163:*obj*:*type* is migrated.

[Description]

The resource displayed in *type* has been migrated.

- When *type* is "Disk"
  The name of the disk that has been migrated is displayed in *obj*.

[Corrective Action]

No action is necessary.

21167

FJSVrcx:INFO:21167:*obj*:*type* configuration information updated

[Description]

The configuration information (CPU, memory, disk, etc.) of the L-Server on *obj* has been updated.

"L-Server" is displayed in *type*.

[Corrective Action]

No action is necessary.

22700

FJSVrcx:INFO:22700:*name*:using already existing virtual switch on server *server*

[Description]

The virtual switch *name* on the server *server* is used.

[Corrective Action]

No action is necessary.

22701

FJSVrcx:INFO:22701:*name*:using already existing virtual network on server *server*

[Description]

The virtual network *name* on the server *server* is used.

- When the target server is a VMware server

  The virtual network indicates a port group on the virtual switch.

[Corrective Action]

No action is necessary.

22702

FJSVrcx:INFO:22702:*name*:was manually created by a user, so do not delete the *resource* on the server *server*

[Description]

When deleting a network resource, the resource *name* corresponding to the network resource that exists on the server *server* was not deleted.

The resource *name* was manually created by a user, not automatically by Resource Orchestrator. Therefore, it is not deleted.

- When "virtual switch" is displayed for *resource*

  The resource indicates a virtual switch.

- When "virtual network" is displayed for *resource*

  If the target is a VMware server, the resource indicates a port group on the virtual switch.

  In cases other than the above, the resource indicates a virtual network.

[Corrective Action]

No action is necessary.

27800

FJSVrcx:INFO:27800:an external authentication system has been *done*

[Description]

The directory service has been successfully configured as an external authentication function. The following cases may occur for *done*:

- For "registered"

  The directory service has been registered.

- For "unregistered"

  The directory service has been unregistered.

- For "modified"

  The directory service has been changed.

[Corrective Action]

No action is necessary.

41303

FJSVrcx:WARNING:41303:*server_name*:server status is changed to status

[Description]

Refer to the explanation in "Message number 41303" in "ServerView Resource Coordinator VE Messages".

However, for Resource Orchestrator, "warning", "error", or "unknown" may be displayed for the status of the L-Server or the resources that comprise the L-Server.

[Corrective Action]

Refer to the corrective action described in "Message number 41303" in "ServerView Resource Coordinator VE Messages".

When "warning", "error", or "unknown" are displayed for status of the L-Server or the resources that comprise the L-Server, perform the following corrective action:

- Identify the failure location from the RC console.

  For the operation method using the RC console, refer to "Chapter 2 User Interface" of the "ServerView Resource Coordinator VE Setup Guide".

- When there is resource management software on the resource, identify the failed part using the resource management software.

41502

FJSVrcx:WARNING:41502:*obj*:*function* was skipped (*cause*)

[Description]

During the operation for *obj*, part of the process *function* was skipped to enable continuance of the operation.

The resource name is displayed for *obj*.

The name of the skipped process is displayed for *function*.

The reason the process was not performed is displayed for *cause*.

[Corrective Action]

- When "StorageChassisFailover" is displayed for *function*:

  The process *obj* was skipped by the switchover between operating and standby storage.

  - When "not supported" is displayed for *cause*:

    There are no storage unit name or volume identifiers in the disk information.

    Check that the content of the replication definition file is correct.

  - When "mirror_definition not found" is displayed for *cause*:

    The replication definition file corresponding to a disk registered in Resource Orchestrator does not exist.

    Check that the content of the replication definition file is correct.

  - When "not pre_created" is displayed for *cause*:

    The disk registered with Resource Orchestrator is not the one created in advance.

    The target is the disk created in advance.

42501

FJSVrcx:WARNING:42501:invalid value in the configuration file (file=*file*, detail=*detail*)

[Description]

There is an invalid value in the definition file.

The file name is displayed for *file*.

The details of the error are displayed for *detail*. When multiple errors are detected, they are displayed separated by commas (",").

When l_server.rcxprop is displayed for *file*, and allocate_after_create or auto_preserved is displayed for *detail*, the value in the [Create an L-Server] dialog or the [Modify an L-Server] dialog has not been correctly set. Therefore, an unintended value may be set.

When vnetwork_ibp.rcxprop is displayed for *file*, and support_ibp_mode is displayed for *detail*, the IBP setting values have not been set correctly.

[Corrective Action]

When the file name is l_server.rcxprop, check the value corresponding to the key value displayed for *detail*, and change the setting to the correct value, which is case sensitive. After that, perform the following corrective actions.

- When allocate_after_create is displayed for *detail*:

  When there is no problem with the L-Server even if resources are allocated, no action is necessary.

  When creating only the L-Server definition, delete the L-Server and create it again.

- When auto_preserved is displayed for *detail*.

  When the resource has been allocated to an L-Server, change the "Resource release" in the [Modify an L-Server] dialog.

  When the L-Server has only a definition, change the "Resource release" in the [Modify L-Server's definition] dialog.

  When changing the L-Server using the command, set the Repurpose tag, and then change the L-Server.

When the file name is vnetwork_ibp.rcxprop, check the value corresponding to the key value displayed for *detail*, and change the setting to the correct value, which is case sensitive.

For details, refer to "F.4 Pre-setup Preparations (Network)" of the "ServerView Resource Orchestrator User's Guide".

42540

FJSVrcx:WARNING:42540:failed to write records. detail=*detail*

[Description]

The recording process of the operation log failed.

[Corrective Action]

Check the following, resolve the cause of the error, and then perform the operation again.

- When *detail* is "filesystem full"
  - Check the system log to see if there are error message(s) regarding the disk or file system.
  - Check the system log to see if there is quota limit or file system full message.

42701

FJSVrcx:WARNING:42701:NIC*number* is not connected to any of the external connection ports of the network resource *name* on the server *server*

[Description]

- When *server* is a physical server:

  The external connection port of the switch specified for the network resource *name* and NIC*number* are not connected.

- When *server* is a VM host:

  The external connection port of the switch specified in the network resource *name* and NIC*number* used by the virtual network created by the user in advance, are not connected.

[Corrective Action]

- When *server* is a physical server:

  Check the details related to the causes of the explanations above, and specify a NIC which can be connected with the network resource.

- When *server* is a VM host:

  Check the details related to the causes of the description above, and create the virtual network again.

47234

FJSVrcx:WARNING:47234:an error was ignored by the "force" option(*detail*)

[Description]

An error was ignored by the option.

In *detail*, a detailed message is displayed.

[Corrective Action]

Check the contents in *detail*, and then perform the corrective actions.

47242

FJSVrcx:WARNING:47242:*name*:failed to control switching HUB. (*detail*)

[Description]

VLAN configuration for the LAN switch displayed in *name* has failed.

In *detail*, an error message that explains the root cause of the problem is output.

[Corrective Action]

The VLAN information used by the source server for switchover may be set for the LAN switch displayed in *name*.

Delete the VLAN information by manually operating the LAN switch when necessary.

61151

FJSVrcx:ERROR:61151:*value*: conflicts with *address_type* of:*obj*

[Description]

There is a conflict between *value* and the *address_type* of *obj*.
The following causes are possible:

- The specified value overlaps with the *address_type* of *obj*
- The value of an already registered *obj* is incorrect

One of the following is displayed in *address_type*:

- IP address
- MAC address
- network address

One of the following is displayed in *obj*:

- admin server

  Indicates an admin server.

- Resource name

  Indicates a registered resource.

- Subnet name

  Indicate a registered subnet.

[Corrective Action]

- When the specified value overlaps with the *address_type* of *obj*

  Perform the operation again after correcting the specified value.

- When the value of an already registered *obj* is incorrect

  Perform the operation again after changing the value of *obj*.

- When this message is displayed during creation of a network resource for which the Admin LAN type is set

  Select [Create Resource]-[Using existing admin subnet] to create a resource.

61162

FJSVrcx:ERROR:61162:resource state(s) differ from actual state(s) in *external_software*.

[Description]

Refer to the explanation in "Message number 61162" in "ServerView Resource Coordinator VE Messages".

[Corrective Action]

Refer to the corrective action described in "Message number 61162" in "ServerView Resource Coordinator VE Messages".

61166

FJSVrcx:ERROR:61166:*server_name* is not powered off.

[Description]

The power of the L-Server *server_name* has not been stopped.

The name of the L-Server is displayed in *server_name*.

[Corrective Action]

Stop the power of the L-Server. Then perform the operation again.

61167

FJSVrcx:ERROR:61167:I/O device not found for *server_name*

[Description]

The I/O device used for allocation of the server profile on the server *server_name* was not found.

When creating a physical L-Server, the server name selected when creating the L-Server will be displayed in *server_name*.

[Corrective Action]

Hardware requirements may not have been met.

For details, refer to "Table 1.27 Required Hardware" of "1.4 Hardware Environment" in the "ServerView Resource Orchestrator User's Guide".

61174

FJSVrcx:ERROR:61174:*server_name*:addresses already used in *external_software*. detail=*detail*

[Description]

The address specified for the server *server_name* already exists.

An address that is the same as one already in use may have been specified.

In *server_name*, the name of the server is displayed.

When the specified address is that of external software, the name of the external software is displayed in *external_software*.

In *detail*, a detailed message is displayed.

[Corrective Action]

Specify an unused address resource, and perform the operation again.

When the error occurs even when an unused address resource is specified, part of the external software information may be incorrect.

Refer to the external software information, and check whether or not the same address is included in the information.

If incorrect information remains, delete the information, and then perform the operation again.

When using the server as a current server, perform the following operations to set a unique address, and then perform the operation again:

- Set the address resource as being outside the range
- Use the current server as an L-Server

61175

FJSVrcx:ERROR:61175:*server_name*:addresses out of range in *external_software*. detail=*detail*

[Description]

- When *external_software* is VIOM

  The address specified for the server *server_name* is outside the range that is available for use.

In *server_name*, the name of the server is displayed.

In *detail*, a detailed message is displayed.

[Corrective Action]

Please change the VIOM settings so that the address (MAC address or WWN) displayed in *detail* is included in the range that is available for use.

61176

FJSVrcx:ERROR:61176:*profile_name*:already assigned to another server.

[Description]

The server profile *profile_name* is assigned to another server.

In *profile_name*, the name of the server profile is displayed.

[Corrective Action]

Delete the server profile of *profile_name*, and perform the operation again.

61177

FJSVrcx:ERROR:61177:*server_name*:a server profile is already assigned.

[Description]

Another server profile has been assigned to the server *profile_name*.

In *server_name*, the name of the server is displayed.

[Corrective Action]

Delete the server profile configured for the server *server_name*, and perform the operation again.

61178

FJSVrcx:ERROR:61178:*server_name*:server profile deletion failed (*detail*).

[Description]

Failed to delete the server profile.

In *server_name*, the name of the server is displayed.

In *detail*, a detailed message is displayed.

[Corrective Action]

Delete the server profile configured for the server *server_name*, and perform the operation again.

61184

FJSVrcx:ERROR:61184:inconsistent boot configuration between: *spare_servers* and *server_name*

[Description]

The settings for iSCSI boot differ between *spare_servers* and *server_name*.

One of the following is displayed in *spare_servers* and *server_name*:

- L-Server XML
- iscsi_*user_group_name*.rcxprop
- iscsi.rcxprop
- iSCSI disk resource

When *spare_servers* or *server_name* is something other than the above, refer to the explanation in "Message number 61184" in "ServerView Resource Coordinator VE Messages".

[Corrective Action]

Review the settings of *spare_servers* and *server_name*, and perform the operation again.

- When *spare_servers* or *server_name* is "L-Server XML"

  Review the content of the L-Server XML definition file.

  For details on L-Server XML definition files, refer to "Chapter 2 Resource Configuration Information and User Definition Information (XML Files)".

- When *spare_servers* or *server_name* is "iscsi_*user_group_name*.rcxprop" or "iscsi.rcxprop"

  Review the content of the iSCSI boot network definition file.

  For details on iSCSI boot network definition files, refer to "5.2.5 Network Resources" of the "ServerView Resource Orchestrator User's Guide".

- When *spare_servers* or *server_name* is "iSCSI disk resource"

  Review the content of the definition file of the disk used for iSCSI boot.

  For details on definition files of disks used for iSCSI boot, refer to "Chapter 2 Resource Configuration Information and User Definition Information (XML Files)".

61189

FJSVrcx:ERROR:61189:*service* is not installed

[Description]

service is not installed.

The following is displayed for *service*:

- DHCP Server

[Corrective Action]

After installing *service*, perform the operation again.

There is also the following case for Resource Orchestrator.

- When "DHCP Server" is displayed for *service* on a Windows manager

  After installing the standard DHCP service of the OS, perform the operation again.

61191

FJSVrcx:ERROR:61191:*obj*:*function* was aborted. detail=*detail*

[Description]

The process *function* for *obj* was not executed.

The reason why *function* was not executed is displayed for *detail*.

- When "failover", "failback", or "recovery" is displayed for *function*:

  Due to the reason in *detail*, the process of failover, failback, or recovery using the rcxstorage command was aborted.

[Corrective Action]

- When "failover", "failback", or "recovery" is displayed for *function*:

  Collect this message and troubleshooting data, and contact Fujitsu technical staff.

61508

FJSVrcx:ERROR:61508:The file version (*ExportVersion*) is incompatible with the system version (*ImportVersion*).

[Description]

The version used for the export of the configuration information and the one used for the import are different.

The version used for the export is output in *ExportVersion*. When the version information does not exist in the configuration information specified at import, "unknown" is output.

The version used for the import is output in *ImportVersion*.

[Corrective Action]

Use the same version for the export and import system.

61509

FJSVrcx:ERROR:61509:invalid format. detail=*detail*

[Description]

The format of the specified value, or the content of the XML specified when performing the following is not correct:

- Import of configuration information

  Detailed information is output in the format "message: error part" for *detail*.

  - When the message is "invalid MIME type":

    The format of the configuration information specified at import is not in XML format.

    The specified MIME type is output in the error part.

  - When the message is "invalid XML tag":

    The format of the XML tag information of the configuration information specified at import is not correct.

The XML tag name of the incorrect format is output in the error part.

- When the message is "invalid tag name":

  An incorrect resource type exists in the configuration information specified at import.

  The highest-level tag of the incorrect resource type is output in the error part. When multiple tag names are output, they are displayed separated by commas (",").

- When the message is "lack of XML tag":

  The configuration information specified at import does not contain all of the configuration information required for the resource type.

  The highest-level tag of the resource type and the insufficient resource name are output in the error part. When multiple tag names are output, they are displayed separated by commas (",").

- When the message is "lack of resource tag":

  The resource type information of the configuration information specified at import does not contain all of the required resource information.

  The highest-level tag of the resource type and the insufficient resource name are output in the error part, separated by commas (",").

- When the message is "duplicate XML tag":

  There are multiple highest-level tags of the same resource type in the configuration information specified at import. When importing, multiple instances of the same resource type cannot be processed.

  The top-level tag of the resource type is output to the error part. When multiple tag names are output, they are displayed separated by commas (",").

[Corrective Action]

Contact Fujitsu technical staff.

62501

FJSVrcx:ERROR:62501:*key*:is required

[Description]

key must be specified.

[Corrective Action]

If this message is output during the following operations, check the content of the XML file specified when operating the server, and correct the tags and values specified in *key*.

- Creating an L-Server

  For details on the tags and the values, refer to "2.3 L-Servers".

  When creating another L-Server using detailed L-Server information, which is output using the rcxadm lserver show command, refer to "Creating another L-Server using detailed L-Server information" of "2.3.1 For Physical L-Servers" or "2.3.2 For Virtual L-Servers".

- Importing an L-Server template

  For details on the tags and the values, refer to "2.2 L-Server Template".

- Registration of iSCSI boot information

  For details on the tags and the values, refer to "2.9 iSCSI Boot Information".

If this message is output when creating or changing a virtual L-Server, check and correct the value set in the dialog window and perform the operation again.

If this message is output when starting the virtual L-Server, check the value in the L-Server definition settings, and perform the operation again.

- When "OSSetting.AdminPassword" is displayed for *key*

  Specify the "Administrator password" on the [OS] tab.

- When "OSSetting.DNSSearchPaths.DNSSearchPath" is displayed for *key*

  Specify the "DNS Search Path" on the [OS] tab.

  For more information on this value, refer to "Appendix D L-Server Parameter Details" of the "ServerView Resource Orchestrator User's Guide".

- When "port group" is displayed for *key*

  Check that there are no incomplete descriptions for the virtual bridge or VLAN ID in the virtual network definition file.

If this message is output when performing file import operations for DR, review the details of the XML specified at the operations, and add the tag and value described in *key*, and then perform the operation again.

62502

FJSVrcx:ERROR:62502:*template*:L-Server created from the template remains. detail=*obj*,..

[Description]

template is being used by the L-Server output in *obj*.
If there are three or more L-Server names output in *obj*, only two are displayed, followed by "...".

[Corrective Action]

If you do not want to use the template *template* used when creating the L-Server again, perform the following operations:

- Add the -force option to the command, and perform the operation again
- Delete the L-Server template from the RC console

62503

FJSVrcx:ERROR:62503:*obj*:storage management software registration failed. detail=*detail*

[Description]

An error occurred during the control of storage management software, so registration of the storage management software *obj* failed.

[Corrective Action]

- When *detail* is "version unmatch. [*version_of_the_storage_management_software*]"

  There is an error in the *version_of_the_storage_management_software*. Use a supported version.

- When *detail* is "service is not run."

  The storage management software is not operating. Start the storage management software.

- When *detail* is "invalid storage management software name"

  There is an error in the name specified for the -soft_name option. Specify the correct name.

- When *detail* is "one or more option is short"

  A required option has not been specified. Specify the required option.

- When *detail* is "one or more option is unnecessary"

  An unnecessary option has been specified. Do not specify unnecessary options.

- When *detail* is "storagemgr is already registered"

  The specified storage management software has already been registered. Storage management software that is already registered cannot be registered.

- When *detail* is "ip address: invalid format"

  There is an error in the specified IP address. Specify the correct IP address.

- When *detail* is "port: invalid format"

  There is an error in the specified port number. Specify the port number using a decimal number.

- When *detail* is "port: out of range"

  There is an error in the specified port number. Specify the port number in the range of 0 to 65535.

- When *detail* is "command failed."

  Storage management software may not be able to be used. Check whether or not storage management software is available.

  In the following cases, storage management software is unavailable. Check that the preparations have been completed, referring to "3.2 Preparations for Storage Environments" in the "ServerView Resource Orchestrator User's Guide".

  - When the IP address for access to the storage management software specified with the -ip option is incorrect
  - When descriptions in the storage connection definition file are incorrect
  - When a security file has not been created

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *detail*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

62504

FJSVrcx:ERROR:62504:*obj*:changing storage management software information failed. detail=*detail*

[Description]

An error occurred during control of storage management software, so changes to the configuration of the storage management software *obj* failed.

[Corrective Action]

- When *detail* is "storagemgr is registered as VM management software"

  This command cannot be used to make configuration changes, as storage management software has been registered as VM management software. For details on how to modify VM management software settings, refer to "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- When *detail* is "one or more option is unnecessary"

  An unnecessary option has been specified. Do not specify unnecessary options.

- When *detail* is "ip address: invalid format"

  There is an error in the specified IP address. Specify the correct IP address.

- When *detail* is "port: invalid format"

  There is an error in the specified port number. Specify the port number using a decimal number.

- When *detail* is "port: out of range"

  There is an error in the specified port number. Specify the port number in the range of 0 to 65535.

- When *detail* is "storagemgr is registered as iSCSI controller"

  This command cannot change resources, as the disk used for iSCSI boot has been registered.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *detail*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

62505

FJSVrcx:ERROR:62505:*obj*:storage management software unregistration failed. detail=*detail*

[Description]

An error occurred in the control of the storage management software, so deletion of the storage management software *obj* failed.

[Corrective Action]

- When *detail* is "storagemgr is registered as VM management software"

  This command cannot be used for deletion as the storage management software has been registered as VM management software. For details on how to delete VM management software, refer to "6.4.5 Deleting VM Management Software" in the "ServerView Resource Coordinator VE Setup Guide".

- When *detail* is "storagemgr is registered as iSCSI controller"

  This command cannot delete resources, as the disk used for iSCSI boot has been registered.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *detail*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

62506

FJSVrcx:ERROR:62506:*server_name*:*vm_host* on the L-Server is registered in *pool*.

[Description]

The L-Server cannot be deleted because the VM host *vm_host* on the L-Server *server_name* is registered with the VM pool *pool*.

[Corrective Action]

When deleting the L-Server, delete the registration of the VM host *vm_host* from the VM pool *pool*, and then perform the operation again.

62507

FJSVrcx:ERROR:62507:*resource*:the disk and its contents will be deleted (unless shared with another L-Server), to do so, specify the -allow deldisk option.

[Description]

It is necessary to specify the "-allow deldisk" option when executing the command, because this operation may delete the disk contents.

The name of the L-Server or the disk is displayed for *resource*.

[Corrective Action]

Specify the "-allow deldisk" option for the command, and perform the operation again.

When backing up the disk contents of L-Server, perform this corrective action and then perform the operation again.

62510

FJSVrcx:ERROR:62510: failed to control *obj*(*ipaddress*). IF=*%1*, code=*%2*, message=*%3*

[Description]

An error occurred during control of storage management software.

In *obj*, the resource name of the storage management software is displayed.

For *ipaddress*, the IP address of the target resource is displayed.

In *%1*, the internal function name is displayed.

In *%2*, the internal code information is displayed.

In *%3*, the internal detail information is displayed.

[Corrective Action]

- When using NetApp as storage management software
  - If *%2* is "13062":

    Since the specified disk size is larger than the available space, creation of a volume on the storage unit failed.

    Perform the operation again after modifying the disk size.
  - If *%2* is "13115":

    Since the specified disk size is less than 20MB, creation of a volume on the storage unit failed.

    Perform the operation again after modifying the disk size.
- When using PRIMECLUSTER GDS as storage management software
  - *When %1* is /usr/sbin/sdxvolume, and *%3* contains "no enough space"

    Since the specified disk size is larger than the available space, creation of a volume on the storage unit failed.
  - When "Permission denied" or "not privileged" is included in *%3*

    The user specified when registering the storage management software does not have sufficient privileges to execute the command.

    Change the user name for the storage management software.

    For details on the command, refer to the "1.7.1 rcxadm storagemgr" in the "ServerView Resource Orchestrator Reference Guide".
  - *When %1 is* /usr/sbin/sdxvolume, and *%3* contains "class closed down", or when *%1 is* /bin/dd, and *%3* contains "No such device or address"

    A failure may occur on the disk used as virtual storage.

    Refer to the PRIMECLUSTER GDS manual.
  - *When %1* is /usr/sbin/sdxvolume, and *%3* contains "related to proxy volume"

    In the settings of PRIMECLUSTER GDS, a proxy volume is related to a disk.

    After deleting the relationship using PRIMECLUSTER GDS, perform the operation again.
  - When a character string beginning with "/usr/sbin/sdx" is displayed in *%1*

    An error occurred while executing a PRIMECLUSTER GDS command.

    Refer to the PRIMECLUSTER GDS manual.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in internal code information, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

62511

FJSVrcx:ERROR:62511: failed to control *obj*. IF=*%1*, message=*%2*

[Description]

An error occurred during control of storage management software.

In *obj*, the resource name of the storage management software is displayed.

In *%1*, the internal function name is displayed.

In *%2*, the message of the storage management software is displayed.

[Corrective Action]

- When the target storage is ETERNUS
  - If *%2* is "ERROR:ssmgr3419:The specified alias name has already been registered."

    Creation or startup of the L-Server failed because the alias name of the affinity group has already been defined when ETERNUS storage was created.

    For details, refer to "When an L-Server is Created or Started, "Message number 62511" is Displayed, then Creation or Startup of the L-Server Fails.".
  - When *%2* is "ERROR:ssmgr3422:As for specified volume *Volume_number*, the LUN mapping is done."

    Connecting a disk resource to an L-Server has failed because the Volume corresponding to the disk resource had already been mapped.

    For details, refer to "When a Disk Resource is Connected to an L-Server, "Message number 62511" is Displayed and Connection Fails.".
  - When any other message is displayed

    Performing corrective actions referring to the ETERNUS SF Storage Cruiser manual, and then perform the operation again
- When the target storage is EMC CLARiiON or EMC Symmetrix DMX
  - When *%2* is "lunmask doesn't set it."

    A disk resource connected to an L-Server has been released from storage management software.

    Detach the disk resource from the L-Server, and then perform the operation again.
  - When any other message is displayed

    Perform the operation again after performing corrective actions referring to "3.2 Messages Beginning with swsag or ssmgr".
- When using any other storage

  Perform operations again after performing corrective actions, referring to the storage management software manual.

62512

FJSVrcx:ERROR:62512:filename:invalid file format, detail=*%1*

[Description]

There is an error in the file format specified for *filename*.

The details of the error are displayed for *%1*.

[Corrective Action]

- When executing the rcxstorage command:
  - When "specified target volume not found in ROR (line:*n*)" is displayed for *%1*:

    The disk resource corresponding to the target volume for replication specified on line *n* of the replication definition file specified for *filename* has not been detected and displayed in the resource tree. Check that the target volume for replication is correctly specified, and then execute the command again.
  - When "number of column must be 4 (line:*n*)" is displayed for *%1*:

    There is an error with the number of columns in line *n* of the replication definition file that is specified for *filename*. Check that the number of columns is 4, and then execute the command again.
  - When "empty file" is displayed for *%1*:

    There is no content in the replication definition file specified for *filename*. Check that the content of the replication definition file is correct, and then execute the command again.

- When "field missing a value (line:*n*)" is displayed for *%1*:

  A column with no value set exists in line *n* of the replication definition file specified for *filename*. Set the value for the column, and then execute the command again.

- When "definition conflict with line m (line:*n*)" is displayed for *%1*:

  The definition in line *n* of the replication definition file specified for *filename* is found again in line *m*. Correct the volume, and execute the command again.

62540

FJSVrcx:ERROR:62540:invalid date. (*option*)

[Description]

An incorrect value or time range was specified in *option*.

One of the following is output in *option*:

- -from
- -to
- -duration
- -from >= -to

[Corrective Action]

Refer to the command reference and specify a correct value or time range in *option*, then perform the operation again.

For details, refer to "1.7.14 rcxadm logctl".

62541

FJSVrcx:ERROR:62541:failed to *process* records. *detail*

[Description]

The process *process* for the log operation failed.

In *process*,"read","delete", or "copy" is output.

[Corrective Action]

Check the following, resolve the cause of the error, and then perform the operation again.

- Check the system log to see if there are error message(s) regarding the disk or file system.
- Check the system log to see if there is quota limit or file system full message.

62557

FJSVrcx:ERROR:62557:*obj* is not empty

[Description]

The specified *obj* is not empty.

[Corrective Action]

Perform the operation again after emptying the specified *obj*.

62558

FJSVrcx:ERROR:62558:*resource* in *obj1* is already used by *obj2*

[Description]

The *resource* in *obj1* is already used by *obj2*.

[Corrective Action]

- When releasing registered resources from resource pools or deleting resource pools forcibly

  Perform the operation again, after changing the *resource* so it is not used.

- When VM management software is deleted

  Perform the operation again, after changing the *resource* so it is not used.

  If an L-Server is being managed by the VM management software, the VM management software cannot be deleted.
  If this message is displayed when deleting the VM management software, delete all L-Servers operating on VM hosts managed by the VM management software (*obj1*) for deletion.

  The VM host under the management of the VM management software that is to be deleted is displayed in *resource*. When there are multiple VM hosts, an arbitrary VM host will be displayed.

  The L-Server created in *resource* is displayed in *obj2*. When there are multiple L-Servers, an arbitrary L-Server will be displayed.

- When storage management software is deleted

  If an L-Server using virtual storage resource is being managed by the storage management software, the storage management software cannot be deleted.
  If this message is displayed when deleting the storage management software, delete all L-Servers using virtual storage resource managed by the storage management software (*obj1*) for deletion.

  The virtual storage resource under the management of the storage management software that is to be deleted is displayed in *resource*. When there are multiple virtual storage resources, an arbitrary virtual storage resource will be displayed.

  The L-Server using *resource* is displayed in *obj2*. When there are multiple L-Servers, an arbitrary L-Server will be displayed.

  If there is a storage pool managed by the storage management software that has virtual storage resources registered, the storage management software cannot be deleted.

  If this message is displayed when deleting storage management software, release virtual storage resources managed by the storage management software (*obj1*) that will be deleted.

  The virtual storage resource under the management of the storage management software that is to be deleted is displayed in *resource*.

  When there are multiple virtual storage resources, an arbitrary virtual storage resource will be displayed.

  The storage pool in which *resource* is registered is displayed in *obj2*. When there are multiple storage pools, an arbitrary storage pool will be displayed.

  When a disk resource corresponding to the LUN created in advance has been registered in a storage pool, storage management software corresponding to the disk resource cannot be deleted. Before deleting the storage management software, unregister the disk resource corresponding to the LUN created in advance from the storage pool.

- When creating a physical L-Server

  In this case, the following messages will be output in the event log:

  - When "(create)" follows after *resource*

    The specified physical server resource is already assigned as an L-Server, or registered as a spare server.

  - When "(Spare)" follows after *resource*

    The physical server resource specified as a spare server is already assigned as an L-Server, or registered as a spare server.

  - When "(Primary)" follows after *resource*

    The physical server resource specified in the physical server usage change is already assigned as an L-Server, or registered as a spare server.

  Specify a physical server resource or resource pool that is already registered, and perform the operation again.

- When IP address is displayed in *resource*

  The network resource of the specified IP address has already been allocated to another L-Server. Specify an unused IP address for the network resource, and perform the operation again.

- When an address set resource is deleted

  Perform the operation again, after changing the *resource* so it is not used.

  If an L-Server using a WWN and a MAC address selected from an address set resource exists, the address set resource cannot be deleted.

  If this message is displayed when deleting an address set resource, execute the rcxadm address show command to check the WWN or the MAC address in use, then delete all L-Servers for which the WWN and the MAC address are set.

  The WWN and the MAC address used by the L-Server are displayed in *resource*. If multiple WWNs and MAC addresses exist, one WWN or one MAC address is displayed at random.

  - The address set resource name for deletion is displayed in *obj1*.
  - "L-Server" is displayed in *obj2*.

- When a managed server is modified or deleted

  Perform the operation again, after changing the *resource* so it is not used.

  If there is a physical L-Server for which the same admin IP address as that of the specified managed server has been set, the managed server cannot be modified or deleted.

  When modifying the managed server, if this message is displayed, change the admin IP address of the physical L-Server displayed in *obj2*, and then perform the operation again.

  When modifying the managed server, if this message is displayed, either delete the physical L-Server displayed in *obj2*, or release the managed server from the physical L-Server, and then perform the operation again.

  The admin IP address used by a physical L-Server is displayed in *resource*.

  - The name of the network resource in use is displayed in *obj1*.
  - The name of the physical L-Server for which the same IP address as that of the specified managed server has been set, is displayed in *obj2*.

62559

FJSVrcx:ERROR:62559:external script *script_name* execution error *detail*

[Description]

An error occurred while executing a script registered for external integration.

[Corrective Action]

If other software is integrated into Resource Orchestrator, refer to the manuals for that software and check whether *script_name* is registered.
If *script_name* is registered, refer to the manual of that software.

If the integrated software cannot be found, collect this message and troubleshooting data, and contact Fujitsu technical staff.

62700

FJSVrcx:ERROR:62700:*name*:virtual switch creation failed on server *server* (*code*)

[Description]

Failed to create the virtual switch *name* on server *server*.

- If the target server is a Hyper-V server:

  Virtual switch indicates the virtual network of Hyper-V.

[Corrective Action]

Perform the action indicated in the *code* information.

- If *code* is 15 or 1511:

  There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

  When using Intel PROSet in Hyper-V, refer to "G.2.7 Advisory Notes for Hyper-V Usage" of the "ServerView Resource Orchestrator User's Guide".

- If *code* is 16, 1524, or 1525:

  The VM host could not be found.

  Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM host has been deleted.

- If *code* is 100, 115, 1512, 1526, 1527, 1528, 1529, or 1531:

  The login account information for the VM host/VM management software entered during registration may not have the required privileges.

  Check the privilege status from the VM management software. If the account does not have the required privileges, change the entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM host/VM management software.

  For details on changing login account information, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

  When using Intel PROSet in Hyper-V, review "G.2.7 Advisory Notes for Hyper-V Usage" of the "ServerView Resource Orchestrator User's Guide".

- If *code* is 101, 110, 111, 112, 114, 116, or 1509:

  Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software.

- If *code* is 113 or 1510:

  The login account information for the VM host/VM management software that was entered during registration cannot be used to communicate with the VM host/VM management software. The login account information for the VM host/VM management software may have been changed after registration.

  Change the entered values (user name and password) for the login account information to the correct values.

  For details on changing login account information, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *code* is 500, 511, 1530, 1532, 1533, 1534, or 1600:

  Failed to create the virtual switch as the configuration of the physical network adapter and virtual switch of the VM host/VM management software is not capable of creating the virtual switch. Check the configuration of the physical network adapter and virtual switch of the VM host/VM management software, referring to "5.2.5 Network Resources" of the "ServerView Resource Orchestrator User's Guide".

  When using Intel PROSet in Hyper-V, review "G.2.7 Advisory Notes for Hyper-V Usage" of the "ServerView Resource Orchestrator User's Guide".

- If *code* is 513 or 1601:

  Failed to create the virtual switch as the physical network adapter to connect to another virtual switch is in use. Check the network settings of the VM host/VM management software.

- If *code* is 514 or 515:

  Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software.

- If code is 1599:

  Failed to create the virtual switch as the response from the VM host or VM management software to the admin server is not correct. Check the operation status and network settings of the VM host or VM management software.

  When using Intel PROSet in Hyper-V, refer to "G.2.7 Advisory Notes for Hyper-V Usage" of the "ServerView Resource Orchestrator User's Guide".

- If *code* is 1602:

  Creation of the virtual switch failed because the virtual switch name already exists. Change the virtual switch name of the VM host/VM management software.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *code*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

62701

FJSVrcx:ERROR:62701:*name*:virtual switch deletion failed on server *server* (*code*)

[Description]

Failed to delete the virtual switch *name* on server *server*.

- If the target server is a Hyper-V server:

  Virtual switch indicates the virtual network of Hyper-V.

[Corrective Action]

Perform the action indicated in the *code* information.

As the virtual switch *name* remains on the server *server*, check its usage status and if it is no longer necessary, delete the virtual switch from the VM management software.

- If *code* is 15 or 1511:

  There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

- If *code* is 16, 1524, or 1525:

  The VM host could not be found.

  Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM host has been deleted.

- If *code* is 100, 115, or 1512:

  The login account information for the VM host/VM management software entered during registration may not have the required privileges.

  Check the privilege status from the VM management software. If the account does not have the required privileges, change the entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM host/VM management software.

  For details on changing login account information, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *code* is 101, 110, 111, 112, 114, 116, or 1509:

  Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software.

- If *code* is 113 or 1510:

  The login account information for the VM host/VM management software that was entered during registration cannot be used to communicate with the VM host/VM management software. The login account information for the VM host/VM management software may have been changed after registration.

  Change the entered values (user name and password) for the login account information to the correct values.

For details on changing login account information, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *code* is 520:

  Failed to delete the virtual switch. Check the operation status and network settings of the VM host/VM management software. If operations performed from the VM management software are not executed, there is a problem with the VM host/VM management software. Resolve the problem with the VM host/VM management software.

- If *code* is 522:

  Failed to delete the virtual switch as the switch is in use. If the virtual switch is not necessary, delete the virtual switch from the VM management software.

- If *code* is 523 or 524:

  Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *code*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

62702

FJSVrcx:ERROR:62702:*name*:virtual network creation failed on server *server* (*code*)

[Description]

Failed to create the virtual network *name* on server *server*.

- When the target server is a VMware server

  The virtual network indicates a port group on the virtual switch.

[Corrective Action]

Perform the action indicated in the *code* information.

- If *code* is 15:

  There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

- If *code* is 16:

  The VM host could not be found.

  Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM host has been deleted.

- If *code* is 100 or 115:

  The login account information for the VM host/VM management software entered during registration may not have the required privileges.

  Check the privilege status from the VM management software. If the account does not have the required privileges, change the entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM host/VM management software.

  For details on changing login account information, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *code* is 101, 110, 111, 112, 114, or 116:

  Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software.

- If *code* is 113:

  The login account information for the VM host/VM management software that was entered during registration cannot be used to communicate with the VM host/VM management software. The login account information for the VM host/VM management software may have been changed after registration.

Change the entered values (user name and password) for the login account information to the correct values.

For details on changing login account information, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *code* is 610:

  Failed to create the virtual network because the virtual network name already exists. Change the virtual network name for the VM host/VM management software.

- If *code* is 611:

  Failed to create the virtual network. Check the operation status and network settings of the VM host/VM management software. If operations performed from the VM management software are not executed, there is a problem with the VM host/VM management software. Perform the operation again after resolving the problem with the VM host/VM management software.

- If *code* is 613:

  Failed to create the virtual network as the virtual switch to connect to the virtual network cannot be found. Check the virtual switch of the VM host/VM management software.

- If *code* is 614 or 615:

  Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *code*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

62703

FJSVrcx:ERROR:62703:*name*:virtual network deletion failed on server *server* (*code*)

[Description]

Failed to delete the virtual network *name* on server *server*.

- When the target server is a VMware server

  The virtual network indicates a port group on the virtual switch.

[Corrective Action]

Perform the action indicated in the *code* information.

As the virtual network *name* remains on the server *server*, check its usage status and if it is no longer necessary, delete the virtual network from the VM management software.

- If *code* is 15:

  There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

- If *code* is 16:

  The VM host could not be found.

  Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM host has been deleted.

- If *code* is 100 or 115:

  The login account information for the VM host/VM management software entered during registration may not have the required privileges.

  Check the privilege status from the VM management software. If the account does not have the required privileges, change the entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM host/VM management software.

  For details on changing login account information, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *code* is 101, 110, 111, 112, 114, or 116:

  Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software.

- If *code* is 113:

  The login account information for the VM host/VM management software that was entered during registration cannot be used to communicate with the VM host/VM management software. The login account information for the VM host/VM management software may have been changed after registration.

  Change the entered values (user name and password) for the login account information to the correct values.

  For details on changing login account information, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *code* is 620:

  Failed to delete the virtual network. Check the operation status and network settings of the VM host/VM management software. If operations performed from the VM management software are not executed, there is a problem with the VM host/VM management software. Resolve the problem with the VM host/VM management software.

- If *code* is 622:

  Failed to delete the virtual network as the virtual network being used by the VM guest. If the virtual network is not necessary, delete the virtual network from the VM management software.

- If *code* is 623 or 624:

  Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *code*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

62704

FJSVrcx:ERROR:62704:*name*:virtual switch not found on server *server*

[Description]

The virtual switch *name* was not found on the server *server*.

[Corrective Action]

Perform the operation again after restoring the target virtual switch using the VM management software.

Due to the specification of an external port for the network resource corresponding to the virtual switch, it is necessary to connect to an appropriate physical network adapter. For details, refer to "5.2.5 Network Resources" of the "ServerView Resource Orchestrator User's Guide".

62705

FJSVrcx:ERROR:62705:*name*:virtual network not found on server *server*

[Description]

The virtual network *name* was not found on the server *server*.

[Corrective Action]

Perform the operation again after restoring the target virtual network using the VM management software.

When the virtual network *name* has the same name as a network resource, check the VLAN ID of the network resource using the GUI, and set the same VLAN ID for the virtual network.

When the virtual network *name* does not have the same name as a network resource, create a virtual network with the same name as the virtual network created in advance on the server *server*.

- When the target server is a VMware server

  The virtual network indicates a port group on the virtual switch.

62706

FJSVrcx:ERROR:62706:virtual network *name*(vlan*id1*) already set vlan*id2* and exist

[Description]

An attempt was made to create a virtual network *name* assigned with vlan*id1*; however, a virtual network *name* assigned with vlan*id2* already exists.

[Corrective Action]

Perform the operation again after deleting the previously created virtual network *name* assigned with vlan*id2*, or changing the name of the virtual network on registered VM host server.

- When the target server is a VMware server

  The virtual network indicates a port group on the virtual switch.

62707

FJSVrcx:ERROR:62707: some virtual network that sets vlan*id* exists

[Description]

There are multiple virtual networks assigned with vlan*id*.

[Corrective Action]

Change the virtual network and vlan*id* combinations so that they are unique between the registered VM hosts.

- When the target server is a VMware server

  The virtual network indicates a port group on the virtual switch.

62708

FJSVrcx:ERROR:62708:NIC*number* cannot be connected with the network resource *name*

[Description]

NIC*number* cannot be connected with the network resource *name*.

The following causes are possible:

- When defining an external connection port on the switch for the network resource *name*, NIC*number* is not connected to any switches.
- When not defining the external connection port on the switch for the network resource *name*, specify a NIC other than that of the recommended configuration. Check the configuration of the VM host, referring to "5.2.5 Network Resources" of the "ServerView Resource Orchestrator User's Guide".

[Corrective Action]

Check the details related to the causes of the explanations above, and specify a NIC which can be connected with the network resource.

62709

FJSVrcx:ERROR:62709:NIC(*number*) on server *server* not redundancy detail=(*mac*)

[Description]

NIC redundancy has not been configured for the combination of NIC (*number*) on the server *server*.

In *number*, the server NIC index numbers to connect with the virtual switches are displayed, separated by commas.
In *mac*, the MAC address information of the server NIC to connect with the virtual switches is displayed, separated by commas.

- If the target server is a Hyper-V server:

  Virtual switch indicates the virtual network of Hyper-V.

  When creating a virtual switch, it is connected to NIC (*number*) on the server *server*.

  Redundancy may not have been configured for the NIC(*number*) in advance.

[Corrective Action]

- If the target server is a Hyper-V server:

  Configure NIC redundancy using the combination of NIC (*number*) on the server *server*.

62710

FJSVrcx:ERROR:62710:*name1*:inconsistent virtual switch name *name2* on NIC(*number*) in server *server*

[Description]

The virtual switch *name1* cannot be created, as there is a virtual switch, *name2*, for NIC(*number*) on the server *server*.

In *number*, the server NIC index numbers to connect with the virtual switches are displayed, separated by commas.

- If the target server is a Hyper-V server:

  Virtual switch indicates the virtual network of Hyper-V.

[Corrective Action]

Delete the virtual switch *name2* or change the name to the virtual switch *name1*.

62711

FJSVrcx:ERROR:62711:virtual switch *name* already exists on NIC expect NIC(*number*)

[Description]

The virtual switch *name* already exists on a NIC other than NIC(*number*).

In *number*, the server NIC index numbers to connect with the virtual switches are displayed, separated by commas.

- If the target server is a Hyper-V server:

  Virtual switch indicates the virtual network of Hyper-V.

[Corrective Action]

Either delete the virtual switch *name* created on the interface, excluding NIC(*number*), or change the name of the virtual switch.

62712

FJSVrcx:ERROR:62712:NIC*number* is not connected to any of the external connection ports of the network resource *name* on the server *server*

[Description]

- When *server* is a physical server:

  The external connection port of the switch specified for the network resource *name* and NIC*number* are not connected.

- When *server* is a VM host:

  The external connection port of the switch specified in the network resource *name* is not connected to the NIC*number* used for the virtual network manually created by the user in advance.

[Corrective Action]

- When *server* is a physical server:

  Check the details related to the causes of the description above, and specify a NIC which can be connected with the network resource.

- When *server* is a VM host:

  Check the details related to the causes of the description above, and create the virtual network again.

62717

FJSVrcx:ERROR:62717:Automatic Network Configuration does not support this configuration. detail=*detail*

[Description]

The specified configuration is unavailable for automatic network configuration.

- When *detail* is "different types of LAN switch blades *model*"

  In the specified LAN switch blades on the external connection ports for the network resource, different models of LAN switch blades are selected in the combination *model* for the same chassis.

  The model names of the LAN switch blades are output in *model*, separated by commas(",").

[Corrective Action]

Check the configurations supported for automatic network configuration, and resolve the error.

- When *detail* is "different types of LAN switch blades *model*"

  For each chassis, check that the same model of the LAN switch blade is specified on the external connection ports for the network resource.

  For LAN switch blades, the same model must be used in the same chassis, according to the following units:

  - For BX900 chassis, use the same model in units of Fabric
  - For BX600 chassis, use the same model in units of the combination NET1/NET2, and, NET3/NET4
  - For BX400 chassis, use the same model in units of the combination Fabric1/Fabric2

65300

65300: *obj* creation failed

[Description]

An error occurred while creating *obj*. *obj* has not been created.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65301

65301: *obj* deletion failed

[Description]

An error occurred while deleting *obj*. *obj* has not been deleted.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65302

65302: Changing of *obj* information failed

[Description]

An error occurred while modifying the information of *obj*. The information of *obj* has not been modified.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65303

65303: Moving of *obj* failed

[Description]

An error occurred while moving *obj*. *obj* has not been moved.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65304

65304: *obj* registration failed

[Description]

An error occurred while registering *obj*. *obj* has not been registered.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65305

65305: Changing of *obj* settings failed

[Description]

An error occurred while modifying the configuration of *obj*. The configuration of *obj* has not been modified.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65306

65306: *obj* migration failed

[Description]

An error occurred while moving *obj* between servers. *obj* has not been moved.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65307

65307: Creation of snapshot image failed

[Description]

An error occurred while collecting the snapshot image. The snapshot image has not been collected.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65308

65308: Restoration of snapshot image failed

[Description]

An error occurred while restoring the snapshot image. The snapshot image has not been restored.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65309

65309: *obj* importation failed

[Description]

An error occurred while importing *obj*. *obj* has not been imported.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65310

65310: *obj* release failed

[Description]

An error occurred while unregistering *obj*. *obj* has not been unregistered.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65311

65311:Opening of the L-Server console failed
FJSVrcx:ERROR:65311:Opening of the L-Server console failed

[Description]

An error occurred while starting the L-Server console.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65312

65312:Powering on of L-Server in *obj* failed.

[Description]

An error occurred while turning on the L-Server. Power has not been turned on.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65313

65313:Powering off of L-Server in *obj* failed.

[Description]

An error occurred while turning off the L-Server. Power has not been turned off.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65314

65314:Reboot of L-Server in *obj* failed.

[Description]

An error occurred while rebooting the L-Server. Rebooting has not been performed.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65615

FJSVrcx:ERROR:65615:Failed to add user group.

[Description]

An error occurred while registering a user group. The user group has not been registered.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65616

FJSVrcx:ERROR:65616:Failed to change user group.

[Description]

An error occurred while changing a user group. The user group has not been changed.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65617

FJSVrcx:ERROR:65617:Failed to delete user group.

[Description]

An error occurred while deleting a user group. The user group has not been deleted.

[Corrective Action]

Check the message number displayed in the details in the dialog, and perform the appropriate action.

65836

65836:User ("*username*") has already been registered.
FJSVrcx:ERROR:65836:User ("*username*") has already been registered.

[Description]

Registration failed as there is already a registered user with the same name.

[Corrective Action]

Enter a user name that has not been registered, and register it.

65840

FJSVrcx:ERROR:65840: failed to connect to directory server

[Description]

The directory server could not be communicated with.

[Corrective Action]

Check whether the communication settings are correct, and the directory server has been started.

Then perform the operation again.

For details, refer to "1.7.10 rcxadm authctl".

65841

FJSVrcx:ERROR:65841: the current user has no valid privileges for this product

[Description]

Refer to the explanation in "Message number 65841" in "ServerView Resource Coordinator VE Messages".

There is also the following case for Resource Orchestrator.

- The specified user does not belong to the user group.
- The specified user belongs to multiple user groups.

[Corrective Action]

Refer to the corrective action described in "Message number 65841" in "ServerView Resource Coordinator VE Messages".

There is also the following case for Resource Orchestrator.

- Set the specified user as a member of an appropriate user group.

65903

FJSVrcx:ERROR:65903:Export to *file_name* failed.

[Description]

Export to the file specified for *file_name* failed.

[Corrective Action]

After confirming the path to the specified file name, perform the operation again.

65910

FJSVrcx:ERROR:65910:The value of *item*, *value*, is invalid.

[Description]

The process was canceled due to one of the following reasons:

- The *value* for *item* in a configuration definition file, L-Server XML file, L-Server template XML file, resource pool XML file, image XML file, or the [Create an L-Server] dialog has a formatting error
- An invalid character has been used
- There is no value set
- The *item* specified in an XML file of iSCSI boot information contains an error
- The network resource name and the subnet name of the public LAN subnet are different
- The network resource name and the admin LAN subnet name are different
- When performing switchover of operating or standby storage, the content of the replication definition file is incorrect
- The *value* for *item* that has been specified in the XML file to create tenant folders, or in the XML file of the L-Server has a formatting error
- A tagged VLAN has been configured for a network resource for which PXE boot is specified
- When PXE boot is specified, and an image is also specified
- When retrieving the L-Server, the L-Server name has been specified incorrectly

One of the following is displayed in *item*:

- Disk (Disk name)
- Type
- operation
- Key value of the resource definition information
- A tag or attribute name of the L-Server XML file
- A tag or attribute name of the L-Server template XML file
- A tag or attribute name of the image XML file
- A key value in the [Create an L-Server]
- A tag or attribute name of the resource pool XML file
- A tag or attribute name of the iSCSI boot information XML file
- Network name, AddressSet name

  The network resource name and the public LAN subnet name are different.
- Network name, ManagementLanSubnet name

  The network resource name and the admin LAN subnet name are different.
- Disk.Shared

  There is an error in the shared disk specifications.
- A tag or attribute name of the XML file to create tenant folders
- PXENetworkLink or net
- ServerImageLink.id
- NICs.NIC.NICIndex
- The L-Server name when retrieved
- processors shares
- memory shares

- Network auto

  There is an error in the value specified for automatic configuration.

[Corrective Action]

Perform the operation again after checking the content displayed in *item*, and resolving the cause of the error.

- Disk (Disk name)

  The value of "*value*" in the disk information is incorrect.

  When performing the switchover operation of operating or standby storage, check the content of the replication definition file.

- Type

  - If you imported a configuration definition file in the RCXCSV V2.0 format:

    An invalid value is specified in the section name.

    Correct the definitions in the configuration definition file.

  - If you imported a configuration definition file in the RCXCSV V1.0 format:

    Something other than Chassis, EtherSwitch, or ServerBlade is specified for the resource type.

    Correct the definitions in the configuration definition file.

- operation

  A value other than "new", "change", or a hyphen ("-") is specified in the operation field, or there is a mistake in the operation area of the section header.

  Only "new" or a hyphen ("-") can be specified in the sections after the line of "#Backup configuration".

  Correct the definitions in the configuration definition file.

- Key value of the resource definition information

  An invalid value is specified for the displayed key, or there is a mistake in the displayed key value in the section header.

  Correct the definitions in the configuration definition file.

  For details on the values that can be specified for *item*, refer to "Appendix D Format of CSV System Configuration Files" of the "ServerView Resource Coordinator VE Setup Guide".

- A tag or attribute name of the L-Server XML file

  Perform the operation again after correcting the value corresponding to the displayed key value in the L-Server XML file and correcting the definition.

- A tag or attribute name of the L-Server template XML file

  Perform the operation again after correcting the value corresponding to the displayed key value in the XML file of the L-Server template and correcting the definition.

- A tag or attribute name of the image XML file

  Perform the operation again after correcting the value corresponding to the displayed key value in the image XML file and correcting the definition.

- A key value in the [Create an L-Server]

  Perform the operation again after correcting the value corresponding to the displayed key value.

  - When IP address is displayed in *value*

    An IP address outside the range that can be allocated to the network resource has been specified.
    Specify an unused IP address for the network resource, and perform the operation again.

- A tag or attribute name of the iSCSI boot information XML file

  Perform the operation again after reviewing the value in the iSCSI boot information XML file and correcting the definition.

- A tag or attribute name of the resource pool XML file

  Perform the operation again after correcting the value corresponding to the displayed key value in the resource pool XML file and correcting the definition.

- Network name, AddressSet name

  Specify the same value for both the network resource name and the public LAN subnet name.

- Network name, ManagementLanSubnet name

  Specify the same value for both the network resource name and the admin LAN subnet name.

- Disk.Shared

  The system disk is specified as a shared disk.

  System disks cannot be specified as shared disks.

  After correcting the definitions, perform the operation again.

- A tag or attribute name of the XML file for tenant folders

  Perform the operation again after correcting the value corresponding to the displayed key value in the XML file of the tenant folder and correcting the definition.

- PXENetworkLink or net

  For the network resource for which PXE boot is specified, select a network resource that does not have a tagged VLAN configured.

- ServerImageLink.id

  When specifying PXE boot, images cannot be specified.

  After specifying only PXE boot, perform the operation again.

- NICs.NIC.NICIndex

  Check that sequential numbers starting from 0 are used for the NICIndex tag value of each NIC tag.

- The L-Server name when retrieved

  If an L-Server name was not specified when retrieved, specify the name and perform the operation again.

  If an L-Server name was specified, check and correct the name.

- processors shares

  Review the CPUShare value defined in the L-Server template, import the L-Server template, and then perform the operation again.

  - When an error occurs while creating an L-Server using commands

    If the CPUShare tag has been entered in the XML, review the value specified for the CPUShare tag also, and then perform the operation again.

  - When an error occurs when starting an L-Server

    Review the CPUShare value defined for the L-Server, modify the L-Server using commands, and then perform the operation again.

- memory shares

  Review the MemoryShare value defined for the L-Server template, import the L-Server template again, and then perform the operation again.

  - When an error occurs while creating an L-Server using commands

    If the MemoryShare tag has been entered in the XML, review the value specified for the MemoryShare tag also, and then perform the operation again.

  - When an error occurs when starting an L-Server

    Review the MemoryShare value defined for the L-Server, modify the L-Server using commands, and then perform the operation again.

- Network auto

  Perform the operation again after reviewing the value specified for automatic configuration and correcting the definition.

65911

FJSVrcx:ERROR:65911:Specified resource *value* not found.

[Description]

The process was canceled because the specified resource *value* is not registered.
The resource *value* may not be included in the access scope of the user or user group that performed the operation.

- When *value* is "image key = xxx"

  The process was canceled because the registered cloning image was deleted due to deletion of a host from VMware vCenter Server.

- When "(create)" follows after *value*

  The process was canceled because one of the following applies to the specified physical server:

  - The specified physical server does not exist
  - The specified physical server is not registered in the resource pool
  - The specified physical server is already assigned as an L-Server
  - The specified physical server is already assigned as a spare server
  - The physical server resource does not exist in the resource pool

- When "(Spare)" follows after *value*

  The process was canceled as the resource specified as a spare server does not exist.

- When "(Primary)" follows after *value*

  The process was canceled as the resource specified in the physical server usage change does not exist.

  - The specified physical server does not exist
  - The specified physical resource pool does not exist
  - The physical server resource does not exist in the specified resource pool

- When *value* is "PhysicalServer"

  When the resource type is "PhysicalServer", the physical server which satisfies the conditions may not exist or may be in an incorrect status.

- When "(Storage pool)" follows after *value*

  The process was canceled because one of the following applies to the specified disk resource:

  - The specified disk resource is not registered in the resource pool
  - The virtual storage resource in which the specified disk resource was created is not registered in the resource pool

- When "*value*" is "IOVirtualOptionPool"

  The process was canceled because one of the following applies to the specified address set resource:

  - There is no address pool to store the address set resources to allocate to L-Servers
  - There are no unused address set resources in the address pool

[Corrective Action]

You cannot modify by specifying an unregistered resource name.

Perform the operation again after specifying a resource name that is already registered.

If you have specified a resource name that is already registered, there is a mistake in the key value of the resource name in the section header. Perform the operation again after correcting the configuration definition file.

To register new resource information with the specified resource name, change the operation to "new".

If "image key = *xxxx*" is displayed for *value*, perform the operation again after restoring the deleted cloning image and using a command to modify the L-Server configuration. When modifying the L-Server configuration, set an appropriate value in the ServerImageLink tag.

Perform the operation again after setting the access scope of resources.

When "PhysicalServer" has been output for *value*, a physical server that matches the specified conditions may not exist, or the status may be invalid. Check that the L-Server definition and the physical server in the specified server pool meet or exceed all of the following conditions.

- Number of CPUs
- CPU Clock Speed
- Memory Size
- Number of NICs

Also check that the network configuration of the admin LAN matches completely, including NIC redundancy.

When "IOVirtualOptionPool" is output for *value*, check that an address pool to store the address set resource exists, or an unused address set resource exists in the address pool.

65926

FJSVrcx:ERROR:65926:The file extension of *file_name* is not supported.

[Description]

The process was aborted as a file with an extension that is not the target of operation was specified.

[Corrective Action]

Specify a file with an extension that is the target of operation, and perform the operation again.

65927

FJSVrcx:ERROR:65927:*file_name* already exists.

[Description]

The specified file already exists.

[Corrective Action]

Change the file name and perform the operation again.

67112

FJSVrcx:ERROR:67112:no resources found matching *obj*.

[Description]

The resource that matches *obj* could not be found.

- When creating a physical L-Server

  Failed to configure the IP address of the public LAN.

  There are the following cases:

  - When more NICs than the physical server contains have been specified

    The network (NIC) specified when creating the L-Server exceeds the number of NICs of the physical server.

- When the drivers of cloning images are not the latest.

  When a number exceeding the number of NICs has not been specified, and the cloning image specified when creating the L-Server was Windows, the drivers of the cloning image may not be the latest.

The number displayed as the index is the same number as the detailed display of the L-Server.

- When executing the rcxstorage command:
  - When "mirror definition" is displayed for *obj*

    The disk matching the description of the replication definition file has not been defined in Resource Orchestrator.

    (There are no disks to be recovered in failover or Disaster Recovery.)

  - When "disk" is displayed for *obj*

    There are no disk resources to be processed.

    - When switching over the operating and standby storage

      The disk to be processed was created in advance, and the storage unit supports switchover of operating and standby storage.

- When linking a configured physical server to a physical L-Server:
  - When "disk" is displayed for *obj*

    There are no disk resources to be processed.

- When creating a virtual L-Server:
  - When *obj* starts with "VLANID"

    The virtual network resource specified in the virtual network definition file was not found on the VM host.

[Corrective Action]

Review the specified conditions.

- When creating a physical L-Server
  - When more NICs than the physical server contains have been specified

    Check that the network (NIC) specified when creating the L-Server is smaller than the number of NICs of the physical server. Change the network settings and perform the operation again.

  - When the drivers of cloning images are not the latest.

    Delete the created L-Server.
    Update the drivers of the cloning image specified when creating the L-Server, and create the cloning image again. Create the L-Server again after specifying the re-created cloning image.

- When executing the rcxstorage command:
  - When "mirror definition" is displayed for *obj*

    Check that the content of the replication definition file is correct, and then execute the command again.

  - When "disk" is displayed for *obj*

    Check the disk resource to be processed, and perform the command again.

- When linking a configured physical server to a physical L-Server:
  - When "disk" is displayed for *obj*

    Check the disk resource to be processed, and perform the command again.

- When creating a virtual L-Server:
  - When *obj* starts with "VLANID"

    Perform the operation again after checking the target virtual network definition file and resolving the cause of the error.

67129

FJSVrcx:ERROR:67129:Syntax error.

[Description]

"*Usage*" is displayed.

- When "*Usage*" is "Usage: rcxbackup -dir *directory* [[-nowait]|[-timeout *value*]]"

  There is an error in the input format of the rcxbackup command. The command is not executed.

- When "*Usage*" is "Usage: rcxrestore -file *filename*"

  There is an error in the input format of the rcxrestore command. The command is not executed.

[Corrective Action]

Check the format displayed in "*Usage*", and then execute the command again.

67133

FJSVrcx:ERROR:67133:*value*:out of range

[Description]

The specified value is out of range.

The value specified for *value* is output in "XML tag (specified value, range)" or "XML key (specified value, range) server/free/remain amount of ip address/remain amount of MAC address/remain amount of WWN address" format.

[Corrective Action]

Perform the operation again after correcting the specified value.

When *value* is one of the following, perform corrective action according to the content:

- For "XML key (specified value, range) server":

  Perform the operation again after checking the hardware configuration (CPU, memory) of the VM host on which the L-Server is located using the GUI.

- For "XML key (specified value, range) free":

  Perform the operation again after checking the available resources (CPU, memory) of the VM host on which the L-Server is located, and securing sufficient resources.

- For "XML key (specified value, range) remain amount of ip address/remain amount of MAC address/remain amount of WWN address", there may are the following possibilities.

  - When using a physical L-Server, the specified NIC number exceeds the upper limit of the supported number
  - The specified IP addresses, MAC addresses, and WWNs do not exist in the resource pool
  - There are no vacant addresses in the resource pools of IP addresses, MAC addresses, and WWNs

  Perform the operation again after reviewing the values corresponding to the displayed IP addresses, MAC addresses, and WWNs in the L-Server XML file and correcting their definitions. Add the IP addresses, MAC addresses, and WWNs that are necessary for the resource pool.

67134

FJSVrcx:ERROR:67134:*value*:invalid format

[Description]

The format of the specified value, or the content of the XML specified when performing the following is not correct:

- Creating an L-Server

- Modifying an L-Server
- Importing an L-Server template
- Registration of iSCSI boot information
- Create tenant folders

In *value*, the following information is output:

- XML_tag_name
- Folder XML
- L-Server XML
- L-Server Template XML
- Network XML
- User XML
- UserGroup XML
- Pool XML
- iSCSI XML
- Tenant XML
- *Specified_value* (IP address, etc.)
- -duration

[Corrective Action]

- When -duration is output

  Specify a correct value or format for the option, then perform the operation again.

  For details, refer to "1.7.14 rcxadm logctl".

In cases other than the above, correct the specified value or the content of the XML file, and then perform the operation again.

For details on XML files, refer to "Chapter 2 Resource Configuration Information and User Definition Information (XML Files)".

67135

FJSVrcx:ERROR:67135:*option*:invalid argument

[Description]

Refer to the explanation in "Message number 67135" in "ServerView Resource Coordinator VE Messages".

In Resource Orchestrator, "Network ManagementLanSubnet" or "Network AddressSet" may be displayed for *option*.

In these cases, both the admin LAN subnet and the public LAN subnet are specified.

[Corrective Action]

- When "Network ManagementLanSubnet" or "Network AddressSet" is displayed for *option*

  Both the admin LAN subnet and the public LAN subnet are specified.

  Based on the type of network resource to be created, specify either the admin LAN subnet or the public LAN subnet.

- When another message is displayed for *option*

  Refer to the corrective action in "Message number 67135" in "ServerView Resource Coordinator VE Messages".

67136

FJSVrcx:ERROR:67136:*filename*:invalid file format

[Description]

There is an error in the file format specified for *filename*.

[Corrective Action]

Check the specified file format.

When "activation.dat" is displayed in *filename*, check the format of the license information definition file referring to "8.2 Collecting a Cloning Image" of the "ServerView Resource Coordinator VE Setup Guide".

When "image_admin_hyperv.rcxprop" or "image_admin_hyperv_*user_group_name*.rcxprop" is displayed in *filename*, check the specified file format referring to "D.5 [OS] Tab" of the "ServerView Resource Orchestrator User's Guide".

When "server_spec.rcxprop" is displayed in *filename*, check the file format referring to "5.2.6 Servers Not Using Server Management Software" of the "ServerView Resource Orchestrator User's Guide".

67137

FJSVrcx:ERROR:67137:command is already running.

[Description]

The rcxbackup or the rcxrestore command is already being executed. The command is not executed.

[Corrective Action]

After the rcxbackup command or the rcxrestore command is completed, execute the command again when necessary.

67142

FJSVrcx:ERROR:67142:*filename*:read failed

[Description]

Refer to the explanation in "Message number 67142" in "ServerView Resource Coordinator VE Messages".

[Corrective Action]

Refer to the corrective action described in "Message number 67142" in "ServerView Resource Coordinator VE Messages".

There is also the following case for Resource Orchestrator.

- When "server_spec.rcxprop" is displayed in *filename*, check that reading of the file is allowed.

67146

FJSVrcx:ERROR:67146:*file_name*:file not found

[Description]

The process was canceled as the target file was not found.

[Corrective Action]

- When executing the rcxchkmismatch command and *file_name* is "fullbackup_info.xml"

  Perform the following corrective actions and then continue restoring the admin server:

  - There is an error in the directory name of the L-Server restoration log storage directory specified for the argument of the -logdir option.

    Specify a correct directory name for the argument of the -logdir option, and then execute the rcxchkmismatch command again.

- The rcxreserveid command has not been executed.

  Perform the operation for restoring the admin server again, from execution of the rcxreserveid command.

- In other cases

Specify a file as the target of operation, and perform the operation again.

67147

FJSVrcx:ERROR:67147:*file_name*:permission denied

[Description]

If *file_name* is a resource name, no permission has been granted for the specified resource.
If *file_name* is a file name, no access is available to file *name* of Resource Orchestrator.

[Corrective Action]

If *file_name* is a resource name, perform the operation as a user with permission for the specified resource.
If *file_name* is a file name, collect this message and troubleshooting data, and contact Fujitsu technical staff.

67153

FJSVrcx:ERROR:67153:*obj*:already exists

[Description]

Refer to the explanation in "Message number 67153" in "ServerView Resource Coordinator VE Messages".

There is also the following case for Resource Orchestrator.

- When *obj* is "vnet"

  A network resource with the same VLANID has already been created.

- When *obj* is "network_resource_name"

  A network resource with the same name already exists.

[Corrective Action]

Refer to the corrective action described in "Message number 67153" in "ServerView Resource Coordinator VE Messages".

- When *obj* is "vnet"

  Either specify a different VLAN ID, or delete the existing network resource, and then perform the operation again.

- When *obj* is "network_resource_name"

  Change the network resource name, and perform the operation again.

- When executing the rcxadm config import command

  Change the name of the object to import, or either delete or rename *obj*, and then perform the operation again.

67154

FJSVrcx:ERROR:67154:*obj*:not found

[Description]

The error may be the result of one of the following:

- The specified object name *obj* does not exist
- There is no object that meets the conditions
- The object that met the conditions was deleted deletion processing

- The specified object exists, but is not included in the access scope of the user group or user that performed the operation
- The target resource folder was not specified when a user with multiple access scopes performed an operation

  When a user with multiple access scopes performs the following operations, "Folder:not found" or "*Specified_resource_name*:not found" is displayed.

  - Creation of an L-Server, with no target resource folder name set
  - Creation of a tenant folder, resource folder, or resource pool, without specifying the name using the hierarchy
  - Moving of a tenant folder, resource folder, or resource pool, without specifying the -to option for the destination
- Creation of an L-Server from the RC console, specifying values in the definition file. The values are larger than the actual number of CPUs and CPU clock speed of a server for which server management software is not used

If this message is displayed when the command is executed, the resource type of the specified object name may differ from the type of resource that can be specified in the arguments for the command.

The specified object name or the resource type of the specified object name is displayed in *obj*.

If the object was deleted during the process, the resource type is displayed.

If the command was executed, "server OS", "vm_host", or *VM_host_name* is displayed for the resource type of the object name for a physical OS or VM host, "VM Guest" or *VM_guest_name* for a VM guest, *Management_software_name* for a management software, and "image" or "*obj*(image)" for a system image or cloning image, "library share" for a shared library, and "AuthManager" for a directory service.

When the resource type is "virtual_storage", there is a chance that there is not enough available space on the virtual storage resource.

- When *obj* begins with one of the following values, the operation has failed because the configuration of the VM host is not one that allows automatic network configuration.
  - SERVICE_NIC
  - TEAMED_NICS
  - INTERNAL_NIC
  - CHASSIS_SYSTEM
  - external port
  - nic
- When *obj* is one of the following values, the operation has failed because there is no internal resource table.
  - VnetRoute
  - CnmVirtualLanSwitch
  - CnmVirtualNetwork
- When *obj* starts with the following value, the operation has failed because there is no virtual network on the target server of L-Server creation.
  - VirtualNetwork

    When the target server is VMware, the virtual network indicates a port group on the virtual switch.

For details on conditions for automatic creation of virtual switches, refer to "Automatic Network Configuration for Blade Servers" of "1.2.6 Simplifying Network Settings" in the "ServerView Resource Orchestrator User's Guide".

- When *obj* starts with rcx-portset, the procedure of "NetApp FAS Storage Configuration" in "F.3.2 When Using NetApp FAS Storage" of the "ServerView Resource Orchestrator User's Guide" may not have been performed.
- When *obj* is "AuthManager", the operation has failed because a directory service is not registered.
- When *obj* begins with one of the following values, there is no target L-Server for the power operation.
  - LServer

    Check the status of the L-Server and whether the L-Server exists in the resource folder.

- When *obj* starts with the following value, there is no L-Server template for the operation.

  - L-Server Template

    Check that the specified L-Server template exists.

[Corrective Action]

After checking the following for the displayed object, perform the operation again.

- That the object exists
- That the object meets the conditions
- The access scope of the object has been set
- Specification of a target resource folder, when the user has multiple access scopes

  - When creating an L-Server, specify the name of the resource folder where the L-Server will be created in the XML file for the L-Server.

    For details on resource folder names, refer to the following information:

    - "2.3.1 For Physical L-Servers"

      "Element Name Resource folder name or tenant folder name" of "Example Creating an L-Server in a resource folder or a tenant folder"

    - "2.3.2 For Virtual L-Servers"

      "Element Name Resource folder name or tenant folder name" of "Example Creating an L-Server in a resource folder or a tenant folder"

  - When creating tenant folders, resource folders, or resource pools, specify the name using the folder hierarchy, including the destination resource folder name.

    For details on resource folder names, refer to the following information:

    - "1.3.6 rcxadm pool"
    - "1.3.7 rcxadm folder"
    - "2.5 Resource Folders"
    - "2.8 Tenant Folders"

  - When moving a tenant folder, a resource folder, or a resource pool, specify the destination resource folder.

    For details on destination resource folders, refer to the following information:

    - "1.3.6 rcxadm pool"
    - "1.3.7 rcxadm folder"
    - "1.3.11 rcxadm tenant"

- Check that the values specified in the definition file are less than the actual number of CPUs and CPU clock speed of a server for which server management software is not used.

If this message is displayed when the command is executed, perform the operation again after checking the resource type of the specified object.

If one of the following is output in *obj*, perform the appropriate corrective action.

- "library share" [Hyper-V]

  There is an error in the storage destination specified for the cloning image.

  Check if the specified shared library is available.

- "Selectable virtual_storage(*condition*)"

  - There is a chance that there is not enough available disk space on the selected virtual storage.

    Check the value of available space indicated by size=*%1* (GB), and perform the operation again.

    In *condition*, one of the following is displayed:

    - size=*%1*, vm_host=*%2*
    - size=*%1*, vm_host=*%2*, pool=*%3*
    - size=*%1*, vm_host=*%2*, virtual_storage=*%3*

  - When using RHEL5-Xen as server virtualization software, the contents of the storage connection definition file may be incorrect.

    Review the settings in the storage connection definition file.

    For details, refer to "G.3.4 Setup" of the "ServerView Resource Orchestrator User's Guide".

- "Selectable disk(condition)"

  There is no disk resource matching the specified size registered in the storage pool.

  Check whether or not an unused disk resource larger than size=*%1*(GB) has been registered in the storage pool, then perform the operation again.

  In *condition*, one of the following is displayed:

  - size=*%1*

- "Selectable vm_host(*condition*)"

  Perform the appropriate corrective action for each *condition*. In *condition*, one of the following is displayed:

  1. server status

     Perform the operation again after checking whether a VM host in the following state exists:

     - Power status is ON
     - Monitoring status is normal
     - Maintenance mode is not set
     - Maintenance mode has not been set for the server virtualization software

  2. current host

     When performing migration, if this message is output, take the following corrective action:

     - When specifying "Automatic Selection" for the destination VM host (For the command, when omitting the -to option)

       The resources used by the L-Server do not contain a VM host that satisfies the conditions in 1. except the one to migrate.

       Specify the destination VM host, and then perform the operation again.

       For details on how to check the resources to use, refer to the cautionary notes of "6.8 Moving an L-Server Between Servers (Migration)" of the "ServerView Resource Orchestrator User's Guide".

     - When specifying "VM host" for the destination VM host (For the command, when specifying the -to option)

       The specified VM host does not satisfy the conditions in 1. Specify another VM host, and then perform the operation again.

  3. capacity

     There is a chance that there are not enough available resources for the CPU or memory of a VM pool. Check the available resources for the CPU and memory of the VM pool.

     Perform the operation again after performing the following corrective actions:

     - If there is insufficient CPU performance or memory resources of the VM pool

       Add a VM host to the VM pool.

- If there is no VM host in the VM pool that meets CPU performance or the number of CPUs specified for an L-Server or an L-Server template

  Change the CPU performance or the number of CPUs specified for an L-Server or an L-Server template, or add a VM host meeting the necessary performance to the VM pool.

4. datastore

   Perform the operation again after checking whether a VM host sharing a datastore exists.

   If this message is displayed when performing migration, check whether the datastore is shared between the VM host where the L-Server is deployed and the "VM host" set for the L-Server using VM management software. If the datastore is not shared, specify a VM host that shares the datastore with the destination VM host, and then perform the operation again.

   When migrating between VM hosts that do not share a datastore, perform the operation using VM management software.

   For details on how to check the VM host to use, refer to "6.8 Moving an L-Server Between Servers (Migration)" of the "ServerView Resource Orchestrator User's Guide".

5. cluster

   Check and correct the following from the management window of the server virtualization software, and perform the operation again.

   - That there are two or more VM hosts in the same cluster on the server virtualization software.
   - That the HA function is enabled in the cluster configuration of the VM hosts.

6. pool

   Perform the operation again after checking whether a VM host that can be accessed exists, or a VM host exists in a VM pool.

   If using overcommit, check that both VM pools (the one that is set for overcommit and the one that is not) are in the access scope, and then perform the operation again.

   For details on the overcommit function, refer to "G.1.8 Overcommit" of the "ServerView Resource Orchestrator User's Guide".

7. unknown

   Perform the operation again after checking whether a VM host that can be accessed exists, or a VM host exists in a VM pool.

   If using overcommit, check that both VM pools (the one that is set for overcommit and the one that is not) are in the access scope, and then perform the operation again.

   For details on the overcommit function, refer to "G.1.8 Overcommit" of the "ServerView Resource Orchestrator User's Guide".

8. vm_type

   Specify or change the VM host to use and perform the operation again.

   If using overcommit, check the overcommit settings for resource pools and L-Servers.

9. reserved capacity

   There is a possibility that there is a VM host with sufficient reservation capacity for failover in the VM pool, and there are not enough available CPU or memory resources in the VM pool. Check the cluster configuration of the server virtualization software, correct the reservation capacity, and then perform the operation again.

   If the problem is still not resolved after performing the corrective actions above, perform the following corrective actions:

   - If there is insufficient CPU performance or memory resources of the VM pool

     Add a VM host to the VM pool.

- If there is no VM host in the VM pool that meets CPU performance or the number of CPUs specified for an L-Server or an L-Server template

  Change the CPU performance or the number of CPUs specified for an L-Server or an L-Server template, or add a VM host meeting the necessary performance to the VM pool.

10. image

    A template (Virtual Machine Template) corresponding to the cloning image to deploy and the VM host (Server) where the cloning image is deployed must belong to the Oracle VM server pool.

    On Oracle VM Manager, perform configuration so the VM host exists in the same Oracle VM server pool as the template corresponding to the cloning image to deploy.

    Also, register the VM host in a VM pool included in the access scope, and then perform the operation again.

If the problem is still not resolved after performing the above actions, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

For details on checking the status and free capacity of a VM host, refer to "A.4 Viewing a Resource Pool" in the "ServerView Resource Orchestrator User's Guide".

- "Selectable mac_address_set(*condition*)"

  Perform the appropriate corrective action for each *condition*. In *condition*, one of the following is displayed:

  1. free address

     Perform the operation again, after checking if there are vacant addresses in the address set resources (MAC addresses).

  2. resource

     There are no address set resources (MAC addresses). Perform the operation again, after registering the address set resources (MAC addresses) in accessible address pools.

- "resource" or "Pool"

  The resource to be registered with or canceled from the resource pool, or the resource pool, was not found. Check that the resource or the resource pool exists, and then perform the operation again.

- "DNSServer.nic=*X*"

  The NIC definition to set for the DNS server was not found. Check whether the NIC for *X* exists, review the NIC definition on DNS server, and then perform the operation again.

- "AuthManager"

  Perform the operation again after registering a directory service.

- When *obj* starts with one of the following values, refer to "5.2.5 Network Resources" of the "ServerView Resource Orchestrator User's Guide", and check the configuration of the VM hosts.

  - SERVICE_NIC
  - TEAMED_NICS
  - INTERNAL_NIC
  - CHASSIS_SYSTEM
  - external port
  - nic

- When *obj* starts with one of the following values, wait for a short while and then perform the operation again.

  - VnetRoute
  - CnmVirtualLanSwitch
  - CnmVirtualNetwork

- When *obj* starts with the following value, perform the operation again after creating a virtual network on the target server of L-Server creation.

  - VirtualNetwork

    When the target server is VMware, the virtual network indicates a port group on the virtual switch.

- When *obj* starts with rcx-portset, check the storage unit configuration referring to "NetApp FAS Storage Configuration" in "F.3.2 When Using NetApp FAS Storage" of the "ServerView Resource Orchestrator User's Guide".

- When *obj* begins with one of the following values, there is no target L-Server for the power operation. Check the status of the L-Server, and perform the appropriate operation or specify another resource folder, and then perform the operation again.

  - LServer

- When *obj* starts with the following value, there is no L-Server template for the operation. Specify another L-Server template, and then perform the operation again.

  - L-Server Template

- When *obj* starts with one the following values, check whether one of the items listed exist on the VM guest allocated to the L-Server: virtual disks that contain the path for *device_name*, networks that have one more network resource than *NIC_index*, or networks that have *MAC_address*.

  - VmGuestStorage(*device_name*)

  - VirtualNic(LNic index=*NIC_index*)

  - VirtualNic(LNic mac_address=*MAC_address*)

- When *obj* starts with the following values, check that the VM host, or the resource pool and the destination folder for L-Server creation belong to the same tenant. This assumes that there is a configured virtual machine on the VM host, and a physical server belongs to the resource pool.

  - TargetServer id=*Virtual_machine_ID*

  - PhysicalServer id=*Physical_server_ID*

  When the destination folder for L-Server creation does not belong to the same tenant as that of the resource pool, change the value of "Destination folder" (use the -to option for the command operation) to make them belong to the same tenant, and then perform the operation again.

  When a resource pool does not belong to a tenant, specify a folder not contained in a tenant as the destination for L-Server creation.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *obj*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

67155

FJSVrcx:ERROR:67155:*type obj*:already exists

[Description]

Refer to the explanation in "Message number 67155" in "ServerView Resource Coordinator VE Messages".

There is also the following case for Resource Orchestrator.

- When *type* is "VMHost" or "PhysicalServer"

  obj has already been registered in a resource pool.

- When "VM", "Server", "Storage", "Network", "Address", or "Image" is displayed for *type*, and this message is output during creation of resource pools

  obj has already been registered in a resource pool.

  When physical L-Servers were created, or network resource settings were changed, the IP addresses of the admin LANs, which are used by the physical L-Servers and the managed servers that are registered in the server tree, will overlap.

- When *type* is "server", and this message is output during creation of physical L-Servers

  The IP address of *obj* is overlapping with the IP address of the admin LAN used by the L-Servers and the managed servers.

- When "IP address" is displayed for *type*

  The IP address *obj* of the public LAN specified during creation of the physical L-Server is already in use.

- When *type* is "iSCSI.iqn"

  The IQN name in *obj* is already in use.

- When *type* is "iSCSI.ip"

  The IP address in *obj* is already in use.

[Corrective Action]

Refer to the corrective action described in "Message number 67155" in "ServerView Resource Coordinator VE Messages".

- When *type* is "VMHost" or "PhysicalServer", take the following corrective action:

  Perform the operation again after releasing registration of *obj* from the resource pool.

- When "VM", "Server", "Storage", "Network", "Address", or "Image" is displayed for *type*, and this message is output during creation of resource pools

  Check the resource pool of *obj*, and create it again if necessary.

  When physical L-Servers were created, or network resource settings were changed, change the IP address of the admin LAN used by the managed servers that are registered on physical L-Servers or the server tree, then perform the operation again.

- When *type* is "server", and this message is output during creation of physical L-Servers

  For the admin LAN IP address, specify an IP address not used by another resource, or change the IP address of the resource that is currently overlapping, and then perform the operation again.

- When "IP address" is displayed for *type*

  For the created physical L-Server, manually set the public LAN IP address, or review the network configuration after deleting the physical L-Server, and then perform the operation again.

- When *type* is "iSCSI.iqn"

  Perform the operation again after correcting the specified IQN name.

- When *type* is "iSCSI.ip"

  Perform the operation again after correcting the specified IP address.

67157

FJSVrcx:ERROR:67157:*obj*: user not privileged.

[Description]

A user who does not have sufficient privileges executed the command. The command is not executed.

[Corrective Action]

Execute the command again, with sufficient privileges.

67162

FJSVrcx:ERROR:67162:*option*:is required

[Description]

option must be specified. "usage" is displayed.

[Corrective Action]

After checking the parameter, perform the operation again.

- When *option* is "name"

  Specify the L-Server name for the -name option, and perform the operation again.

- When *option* is "NICGroups.NICGroup.NICLinks"

  Check that the NICLink tag appears twice in the XML file specified in creation or modification of the L-Server.

67167

FJSVrcx:ERROR:67167:*obj*:contains *type*

[Description]

The request could not be executed because *obj* contains a *type* object.

The object name is displayed in *obj*.

In *type*, "physical server" is displayed for physical servers, "LAN switch" is displayed for LAN switches, "VMHost" is displayed for VM hosts, "disk" is displayed for virtual disks, and "vstorage" is displayed for virtual storage.

[Corrective Action]

Perform the operation again after deleting the *type* object from *obj*.

If "disk" is displayed in *type*, delete the L-Server using the disk resource created from the virtual storage resource displayed in *obj*.

If "vstorage" is displayed in *type*, delete the L-Server using the virtual storage resource created under the physical storage unit resource displayed in *obj*.

67168

FJSVrcx:ERROR:67168:*obj*:no disk found

[Description]

There is no disk in the VM guest specified for cloning image collection.

If you omit specifying the storage location when collecting a cloning image for a VM guest, it will be stored in the same location as the disk of the VM guest, but in this case the storage location could not be determined because the VM guest does not have a disk.

[Corrective Action]

Perform the operation again after specifying the location to store the cloning image.

67178

FJSVrcx:ERROR:67178:*obj*:is *status* status

[Description]

The request could not be executed because *obj* is in the status *status*.

One of the following is displayed in *obj*:

- Virtual storage resource name
- Disk Resource Name
- VM name
- VM guest name
- Library server name
- L-Server Name

- Physical server name

One of the following is displayed in *status*:

- normal
- warning
- unknown
- stop
- error
- fatal
- power-on
- power-off
- not belonging to any storage pool
- not accessible
- not enough space for disk(name=*disk*)
- not enough free space
- defined
- preserved
- allocated
- shared
- reserved
- free
- excluded

"power-on" refers to when the power of the server is on.
"power-off" indicates the state in which a server is powered off, a VM guest that was operated on an L-Server has been deleted from server virtualization software, or an unregistered VM host has been moved to a VM pool.
"not belonging to any storage pool" refers to when the specified virtual storage resource is not registered in a storage pool.
"not accessible" refers to when no access is available from the specified VM host or server.
"not enough free space(name=*disk*)" refers to when there is insufficient free space on the virtual storage resource. The resource name of the disk is displayed in *disk*.
"not enough free space" refers to when there is insufficient free space on the virtual storage resource.
"defined" indicates that resources (VM guests, servers, and disks) have not been allocated.
"preserved" indicates that servers have not been allocated.
When *obj* is an IP address and *status* is "reserved", it indicates that the IP address is already reserved.
When *obj* is an IP address and *status* is "free", it indicates that the IP address has already been released.
When *obj* is an IP address and *status* is "excluded", it indicates that the IP address has already been excluded.

[Corrective Action]

Check the necessary requirements for the *obj* operation, and fulfill them. Perform the operation again after fulfilling the requirements.

During batch power ON operation, if *status* is displayed as "defined", perform the usual startup operations for the relevant L-Servers.

When *status* is the following, change the IP address of the L-Server or managed server, then perform the operation again:

- "reserved"
- "free"
- "excluded"

67181

FJSVrcx:ERROR:67181:*obj*:is not *mode* mode

[Description]

Execution of the request failed, as the specified *obj* is not *mode* mode.

- When *obj* is a disk resource

  In *mode*, one of the following is displayed:

  - shared (shared mode)
  - local (local mode)
  - Fibre Channel connection (Fibre Channel connection)
  - iSCSI connection (iSCSI connection)

When *obj* is something other than the above, refer to "Message number 67181" in the "ServerView Resource Coordinator VE Messages".

[Corrective Action]

- When *obj* is a disk resource

  - When "true" is specified for Sharing Configuration (Shared) in the L-Server XML, the disk can be shared between multiple L-Servers.
  - When "false" is specified for Sharing Configuration (Shared) in the L-Server XML, the disk can be restricted to one L-Server.

  Check the connection status of the specified *obj*.

  - When "FC" is specified for Disk connection type (Disk type) in the L-Server XML, a disk with a Fibre Channel connection is allocated to the L-Server.
  - When "iSCSI" is specified for Disk connection type (Disk type) in the L-Server XML, a disk with an iSCSI connection is allocated to the L-Server.

67182

FJSVrcx:ERROR:67182:*type*:is not the same between *obj1* and *obj2*

[Description]

Refer to the explanation in "Message number 67182" in "ServerView Resource Coordinator VE Messages".

However, the following is added to *type* for Resource Orchestrator:

- resource type
- VMType
- OSType

[Corrective Action]

Refer to the corrective action described in "Message number 67182" in "ServerView Resource Coordinator VE Messages".

Also, perform the following corrective action depending on the *type* value:

- If "resource type" is displayed:

  Check the resource pool type of *obj1* and the resource type of *obj2*, and perform the operation again after specifying a suitable combination of resource pool and resource.

  For details on resource pool types and the resources that can be stored, refer to "1.2.1 Resource Pool" in the "ServerView Resource Orchestrator User's Guide".

  If this message is output when registering the disk resource with a storage pool, check whether the disk is the one created in advance using the disk resource.

From the command-line, execute rcxadm disk show.

For details on the rcxadm disk show command, refer to "1.3.4 rcxadm disk".

- For VMType

  Check the VM type of the resource *obj1* and the VM type of the resource *obj2*, specify resources with the same VM type and then perform the operation again.

  The combination of an *obj1* resource and an *obj2* resource is incorrect. Specify an unused address resource for the combination to be supported, and perform the operation again.

- For OSType

  Check the OS type of the L-Server and the images specified in XML, specify resources with the same OS type and then perform the operation again.

67192

FJSVrcx:ERROR:67192:communication error.target=*target*

[Description]

An error occurred while communicating with *target*.

This message is output when a communication error occurs between the L-Server and the manager.

[Corrective Action]

- Check that an agent is installed on the L-Server.
- Check that there is no problem in the network path between the L-Server and the manager.
- Execute the command specifying the file for the argument. When *target* is "Resource Coordinator Manager", check whether or not the character code for the XML file is UTF-8.

Refer to the explanation in "Message number 67192" in "ServerView Resource Coordinator VE Messages".

67198

FJSVrcx:ERROR:67198:command execution error.*detail*

[Description]

An error occurred in the manager command.

The details of the message are displayed in *detail*.

- When "Failed to access database for backup." is displayed for *detail*

  Accessing of the database where configuration definition information is stored failed. The command is not executed.

[Corrective Action]

Perform corrective action for content output in *detail*.

Where there is nothing relevant to *detail*, refer to "Message number 67198" in the "ServerView Resource Coordinator VE Messages".

- When timeout is displayed in *detail*
  - When using PRIMECLUSTER GDS as storage management software
    - During the process, the connection between the admin server and the storage management software may have been lost.

      Check the power status and communication status of the storage management software.
    - There may be an error in the PRIMECLUSTER GDS settings.

      Review the PRIMECLUSTER GDS settings.

- The storage management software may be overloaded.

  Perform the operation again after completing the high-load processing.

- When "Failed to access database for backup." is displayed for *detail*

  Check the status of the database, resolve the cause of the access failure, and then execute the command again.

  If a string including double-byte characters is specified for the -dir option of the rcxbackup command, accessing of the database will fail.

67209

FJSVrcx:ERROR:67209:*obj*:already in use

[Description]

Refer to the explanation in "Message number 67209" in "ServerView Resource Coordinator VE Messages".

There is also the following case for Resource Orchestrator.

- *obj* is already in use.

  This also applies when an already excluded IP address (an admin server, a managed server, a network address, or a broadcast address) is specified for an exclusion IP address, when configuring a network resource.

- In *obj*, the MAC address written in "mac_address=" has already been used.

[Corrective Action]

Refer to the corrective action described in "Message number 67209" in "ServerView Resource Coordinator VE Messages".

- When *obj* is already in use

  Review the specified option argument, and perform the operation again.

- In *obj*, when the MAC address written in "mac_address=" has already been used

  Perform the operation again after correcting the specified MAC address.

67210

FJSVrcx:ERROR:67210:*obj*:is busy

[Description]

The requested process cannot be performed as another process is already being performed.

[Corrective Action]

- When *obj* is a network resource

  Wait for a short while and then repeat the operation. After deleting the L-Server connected to the network resource, perform the operation again.

- When *obj* is "Manager task"

  Check the status of the admin server, and perform the operation again after any operations being executed on the admin server are completed.

  If this message is displayed when the admin server is stopped, the operation being executed on the admin server may remain in the database. Start the admin server and complete the operation being executed on the admin server, or restore the configuration definition information already collected, then perform the operation again.

67214

FJSVrcx:ERROR:67214:*obj*:system image does not exist

[Description]

Either there is no system image of the managed server, or the specified version of the system image was not found. Or there is no snapshot of the managed server, or the specified version of the snapshot was not found.

[Corrective Action]

Check whether there is a system image or snapshot of the relevant managed server.
If an incorrect version was specified, specify the correct version, and perform the operation again.
There is also a chance that image files have not been synchronized. Restart the manager service referring to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

67220

FJSVrcx:ERROR:67220:spare server not found.

[Description]

There are no spare servers that fulfill the conditions. The specified spare server does not fulfill the following conditions.

Refer to the explanation in "Message number 67220" in "ServerView Resource Coordinator VE Messages".

- When a physical L-Server has been switched over

  There are no physical server resources available as spare servers in the specified spare server resource pool.

[Corrective Action]

- Check that the physical server in the server pool which was specified as a spare server meets or exceeds all of the following conditions.
  - Number of CPUs
  - CPU Clock Speed
  - Memory Size
  - Number of NICs
- Refer to the corrective action described in "Message number 67220" in "ServerView Resource Coordinator VE Messages".
- When a physical L-Server has been switched over

  Register an additional physical server resource in the spare server resource pool specified for the target L-Server.

67255

FJSVrcx:ERROR:67255:*option*:not supported

[Description]

The specified option *option* is not supported.

Refer to the explanation in "Message number 67255" in "ServerView Resource Coordinator VE Messages".

There is also the following case for Resource Orchestrator.

- When a physical L-Server was created, "NICs.NIC.NetworkLinkfor NICIndex(*num*)" is displayed in *option*

  Network resources cannot be specified for the displayed NIC.
  The number displayed for NICIndex(*num*) is a value one lower than the number specified when creating the L-Server.

- When "-system" or "-force" is displayed in *option*

  The storage unit to which the disk resource, for which an operation was attempted using the rcxadm lserver attach command or the rcxadm lserver detach command, belongs does not support the -system option or the -force option of the rcxadm lserver command used for the switchover of operating and standby storage. Therefore, the -system option and the -force option cannot be specified.

- When "resource" is displayed in "*option*"

  The specified resource is not the target of the movement, or the resource has not been registered in the orchestration tree.

[Corrective Action]

Perform the operation again after correcting the specified option.

Refer to the corrective action described in "Message number 67255" in "ServerView Resource Coordinator VE Messages".

There is also the following case for Resource Orchestrator.

- When a physical L-Server was created, "NICs.NIC.NetworkLinkfor NICIndex(*num*)" is displayed in *option*

  Change the network resource settings and perform the operation again.

- When "-system" or "-force" is displayed in *option*

  Check that switchover of operating or standby storage is being performed for the correct storage unit, or check the content of the replication definition file.

- When "resource" is displayed in "*option*"

  Specify a movable resource. Also, register resources that have not been registered in the resource orchestration tree into resource pools.

67280

FJSVrcx:ERROR:67280:*obj*:*function* not supported. *detail*

[Description]

Refer to the explanation in "Message number 67280" in "ServerView Resource Coordinator VE Messages".

In *detail*, the following detailed information is displayed:

- "power-off"

  The function displayed in *function* cannot be used with the current power state (power-off).

- "The last pool_type pool cannot be deleted."

  The target resource displayed in *obj* cannot be deleted because it is the last resource pool of resource pool type pool_type.

- "pool type mismatched"

  The target resource displayed in *obj* cannot be registered in the resource pool because it is a resource pool type that cannot be registered.

- "already exists in *pool name*"

  The target resource displayed in *obj* cannot be registered in the resource pool because it is already registered in *pool name*.

- "boot disk"

  The boot disk cannot be deleted.

- "invalid Redundancy"

  The function displayed in *function* cannot be used as L-Server has been located on a VM host with a disabled HA function.

  function cannot be executed, as VMware FT has been set for the target resource.

  Or *function* cannot be executed as VMware FT cannot be configured for the target resource.

- "Network pool,Address pool,and Image pool"

  The target resource cannot be included when calculating the number of L-Servers creatable for each L-Server template.

- "VirtualStorage[*virtual storage*...]","Pool[*storage pool*...]","VirtualStorage[*virtual storage*],Pool[*storage pool*]"

  The name of the virtual storage resource is displayed in *virtual storage*.

  The name of the storage pool name is displayed in *storage pool*.

For the function displayed for *function*, it is not possible to specify system disks and data disks with differing virtual storage or storage pools.

- "*vmhost*[*vmtype*]"

  In *vmhost*, the VM host name is displayed.

  The VM type for the *vmhost* is displayed in *vmtype*.

  Migration cannot be performed when the VM types of the L-Server and the VM host specified as the migrate destination are different.

- "spare server"

  Since the operation target resource is a spare server, registration in the server pool cannot be performed.

- "some settings exist"

  Registration in the server pool cannot be performed because the target operation resource already has an OS installed, or some settings such as I/O virtualization have been configured.

- "VMType","Model","CPU","Memory","Policy.Positioning","NICs","Shared","Disks.Disk.type","Policy.SpareSelection"

  The above tabs specified in the L-Server template cannot be imported, as they are not supported.

- "Not connected PhysicalServer"

  Operation cannot be performed, as the physical server is not connected due to changes to physical server usage.

- "VIOM"

  HBA address rename settings cannot be configured for the server displayed in *obj* as a virtualization method has been already configured using VIOM.

- "Not Physical Server"

  This command can only be performed for the physical L-Server.

  Execute this command for the physical L-Server.

- "setting VIOM server profile"

  In the chassis mounting the server displayed in *obj*, setting of VIOM is not possible because a server with a virtualization method configured using HBA address rename already exists.

- "Network Parameter Auto-Configuration is enabled"

  Failed to configure the IP address of the public LAN. The specified cloning images cannot be used, as RCVE network parameter settings are valid.

- "Invalid target network admin LAN"

  Failed to configure the IP address of the public LAN. IP addresses cannot be configured for the admin LAN.

- "Target network overlaps with admin LAN"

  Failed to configure the IP address of the public LAN. The same network as the admin LAN cannot be configured for the public LAN.

- "Invalid agent version"

  Failed to configure the IP address of the public LAN. As an agent of a version earlier than ServerView Resource Orchestrator V2.2.1 has been installed, it is not possible to configure a public LAN IP address on the specified cloning image.

  When creating a physical L-Server, the IP address cannot be automatically configured if a Red Hat Enterprise Linux image is specified.
  When using the created L-Server, manually configure the public LAN IP address.

- "disk share"

  The Shared tag cannot be specified in XML for disks with the disk number 0.

- "disk link"

  The DiskLink tag cannot be specified in XML for disks with the disk number 0.

- "disk copy"

  The DiskCopy tag cannot be specified in XML for disks with the disk number 0.

- "disk link, copy"

  The DiskLink tag and the DiskCopy tag cannot be specified in XML for a single disk at the same time.

- "disk *type*"

  The value specified for "type" cannot be set for disks other than disk number 0.

- "Shared","DiskLink","DiskCopy","MacAddress"

  An L-Server cannot be created, as the above tags are not supported when creating an L-Server.

- "Not Virtual Machine" or "Physical Server"

  Usage is not possible for physical L-Servers.

- "already in use"

  A disk that is already being used exclusively by an L-Server cannot be attached to another L-Server.

- "last","logical server not found"

  The function cannot be executed, since operations not supported by the target resources were specified.

- "hierarchizing of Tenant folder"

  As the hierarchizing of tenant folders is not supported, tenant folders cannot be created in, or moved into, a tenant folder.

- "invalid Repurpose"

  function cannot be executed, as the resource to be operated does not support the XML tag in *detail*.

- "already in use"

  A virtual machine, a physical server, or a disk that is already being used exclusively by an L-Server cannot be connected to another L-Server.

- "VM Type","VMType","VM type"

  The target resource displayed in *obj* is server virtualization software that does not support *function*.

  [VMware]
  For VMware ESXi, the following operation is not supported.

  - Backup

  [Hyper-V] [Xen]
  The following operation is not supported.

  - Overcommit

  [Oracle VM]
  The following operation is not supported.

  - Creation of an L-Server without specifying a cloning image

- "illegal disk type"

  The disk type is not supported.

- "not creatable storage"

  Disk resources cannot be automatically generated on the target storage device.

- "can not delete the static disk"

  The LUN created in advance cannot be deleted.

- "VIOM is required"

  When allocating disk resources to physical L-Servers from multiple storage chassis, VIOM is necessary.

- "subnet"

  The subnet address of the admin LAN resource that is directly connected from the manager cannot be changed.

- "mask"

  The subnet mask of the admin LAN resource that is directly connected from the manager cannot be changed.

- "DefaultGateway"

  The default gateway of the admin LAN resource that is directly connected from the manager cannot be changed.

- *obj* is "network_resource_name", and *detail* is "AddressSet".

  The subnet address of a resource of the admin LAN directly connected to a manager cannot be specified.

- *obj* is "network_resource_name", and *detail* is "ManagementLanSubnet".

  Subnet addresses of the admin LAN cannot be used for public LAN resources.

  The <ManagementLanSubnet> tag cannot be specified when the <Type> tag to specify the network resource type is not set.

- *obj* is "UserGroup", and *detail* is "supervisor group"

  The "supervisor" group cannot be edited and deleted.

- "Pool"

  The resource pool cannot be specified.

- "Type"

  The network resource type cannot be specified.

- "Vlanid"

  The VLAN ID cannot be specified.

- "other tenant folder"

  A resource that is being used by a powered on L-Server cannot be moved to another tenant.

  Stop the L-Server before moving the resource.

  The following resources cannot be moved:

  - Powered on L-Servers
  - Folders that contain powered on L-Servers
  - Resource pools used by powered on L-Servers
  - Folders or resource pools that contain resource pools used by powered on L-Servers

- "The resources used are permission denied."

  Access authority is necessary for some resources displayed in *obj*, which are used by the L-Server.

  Check the status of the resources used by the L-Server.

- "storage is not configured properly"

  The function displayed in *function* cannot be used as the storage has not been configured properly.

- "ExternalPorts"

  Only the following operation can be performed for external networks.

  - Addition of external connection ports of a chassis attached to the target external network, when one or more external networks exist

- "unknown disk"

  function cannot be executed, as there is an unknown disk on the resource to be operated.

- "converted vm" or "converted server"

  function cannot be executed, as the resource to be operated is an L-Server linked to either a configured physical server or a virtual machine.

- "secondary vm of VMware FT"

  function cannot be executed, as the resource to be operated is a VMware FT secondary virtual machine.

- "exist spare server settings"

  function cannot be executed, as the resource to be operated is a physical server for which a spare server has been configured.

- "agent is not registered"

  function cannot be executed, as there is no registered agent.

- "Server pool,Storage pool,Network pool,Address pool,and Image pool"

  The operation is valid for VM pools.

  The elements in the resources registered in the resource pool cannot be displayed for the resource to be operated.

  Reserve information for configuring HA cannot be displayed, as the resource to be operated is not a VM pool.

- "Storage pool,Network pool,Address pool,and Image pool"

  The resource to be operated cannot be displayed linked to L-Servers. The operation is valid for VM pools and server pools.

- When registering resources to a resource pool, and "force" is displayed

  function cannot be executed, as the force option is not supported for resources other than server pools.

- "Dynamic Memory is enabled"

  Dynamic memory settings are enabled for the target resource.

  Memory capacity cannot be changed for L-Servers for which dynamic memory settings are enabled.

[Corrective Action]

- When *obj* is "Target network overlaps with admin LAN"

  After creating a physical L-Server, configure the IP address manually. Configure the admin LAN and the public LAN in different networks.

- When *obj* is something other than "Target network overlaps with admin LAN"

  The message was displayed because you are trying to use a function that is not supported by *obj*, or a function that cannot be used because the status is invalid. No action is necessary.

- When *obj* is "network_resource_name" and *detail* is "AddressSet"

  Specify the subnet name of the admin LAN, and perform the operation again.

- When *obj* is "network_resource_name" and *detail* is "ManagementLanSubnet"

  Specify a different value for the subnets of the admin LAN and public LAN, and perform the operation again.

  When creating a network resource for the admin LAN using the public LAN subnet, add the <Type>admin</Type> tag, and specify the <ManagementLanSubnet> tag.

- When obj is "DafaultGateway" and *detail* is "ManagementLanSubnet name = "" , Type = admin"

  For the admin LAN connected directly to a manager, do not specify the default gateway.

- When *function* is "convert L-Server" and *detail* is "storage is not configured properly":

  Check that the storage has been configured for linking the configured physical server to the L-Server.

- When *obj* is "network_resource_name" and *detail* is "ExternalPorts"

  Check the information for the specified external connection port and define all new information of the settings after modification.

  When the following conditions are met, perform the addition of external connection ports using the command.

  - The target network resource has been created using a command
  - If this message is displayed when adding an external connection port from the GUI

- When *detail* is "some settings exist"

  When registering a configured physical server to a resource pool, specify the -force option and perform the operation again.

- When *detail* is "Dynamic Memory is enabled":

  If changing the memory capacity when dynamic memory is enabled, perform the operation using VM management software.

  The changed values are reflected on the configuration of the L-Server by periodic queries made to the VM management software.

  For details on the reflection of L-Server configuration by periodic queries, refer to "6.3 Modifying an L-Server" of the "ServerView Resource Orchestrator User's Guide".

  When changing the memory capacity using Resource Orchestrator, change the settings of the target virtual machine to static memory using VM management software.

  After the change has been reflected on the L-Server, perform the operation again.

67295

FJSVrcx:ERROR:67295:*obj*:duplicate resource name found

[Description]

Refer to the explanation in "Message number 67295" in "ServerView Resource Coordinator VE Messages".

There is also the following case for Resource Orchestrator.

- When registering resources to resource pools

  obj has already been registered in a resource pool.

- When performing user authentication using directory service

  obj has already been registered in the root folder, the same resource folder, the same tenant folder, or the same resource pool. The names are not case-sensitive.

- When importing the configuration information for the operation of Disaster Recovery environments.

  There are multiple VM guests or VM hosts specified in *obj*.

  When the name on management software has been changed, reverse the change, and perform the operation again.

[Corrective Action]

Refer to the corrective action described in "Message number 67295" in "ServerView Resource Coordinator VE Messages".

- When registering resources to resource pools

  With Resource Orchestrator, if *obj* has already been registered in a resource pool, it is displayed because currently registered resources cannot be registered. No action is necessary.

- When performing user authentication using directory service

  A resource with the same name as an already registered resource is displayed, because it cannot be registered at the same time. Change the resource name, and then perform the operation again.

67320

FJSVrcx:ERROR:67320:power control error. target=*target* detail=*detail*

[Description]

An error occurred while performing with *target* power control.

[Corrective Action]

- If "duplicate resource name" is displayed in *detail*:

  The power state of the VM guest cannot be controlled because multiple VM names on the VM host conflict. Change the names so that they differ because there is an error in the VM host settings.

- If *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)" format:

  An error has occurred in the control of the VM host/VM management software for the displayed *IP_address*. Perform the corrective action according to the *error_number*.

  - If *error_number* 6, 7, 8, or 9 is displayed:

    Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

    For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

  - If *error_number* 15 is displayed:

    There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

  - If *error_number* 16 is displayed:

    The VM host could not be found. Check the following:

    - Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM host has been deleted

    [Hyper-V]

    - Hyper-V may be installed, or roles may be enabled.

  - If *error_number* 17 is displayed:

    The VM guest could not be found. Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM guest has been deleted.

    Also, check whether the VM guest is set to be moved when its power status is changed using the VM management console.

  - If *error_number* 99 is displayed:

    Due to temporary inconsistencies in the information held by VM host/VM management software resulting from multiple operations, operations of VM host/VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

  - If *error_number* 100 or 115 is displayed:

    The login account information for the VM host/VM management software entered during registration may not have the required privileges.

    Check the privilege status from the VM management software. If the account does not have the required privileges, change the entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM host/VM management software.

    For details on changing the entered values, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

  - If *error_number* 101, 110, 111, 112, 114, or 116 is displayed:

    Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the admin server/VM host/VM management software.

  - If *error_number* 104, 105, 135, or 136 is displayed:

    The task processing of the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software. If operations performed from the VM management software are not executed, there is a

problem with the VM host/VM management software. Perform the operation again after resolving the problem with the VM host/VM management software.

When CPU or memory to be allocated to a VM guest is insufficient, depending on your environment, either migrate the VM guest to another VM host, or stop the VM guest.

[VMware]
When VMware DPM is enabled and there is a VM host in standby mode in a VMware cluster with a VM guest, start the VM guest from VM management software.

If the target server is not using server management software, there may be differences between the values in the definition files and the actual configuration information of that server. Check that the correct values have been entered.

For details on the definition file, refer to "5.2.6 Servers Not Using Server Management Software" of "ServerView Resource Orchestrator User's Guide".

- If *error_number* 113 is displayed:

  The login account information for the VM host/VM management software that was entered during registration cannot be used to communicate with the VM host/VM management software. The login account information for the VM host/VM management software may have been changed after registration.

  Change the entered values (user name and password) for the login account information to the correct values.

  For details on changing the entered values, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 122 is displayed:

  Perform one of the following corrective actions:

  - The VM maintenance mode is set for the VM host. Perform the operation again after disabling the VM maintenance mode for the VM host.
  - Operation cannot be performed with the current power state. Check the power state of the VM guest.

- If *error_number* 123 is displayed:

  The error may be the result of one of the following:

  - The necessary power control settings for the VM guest may not have been configured. For details on the necessary power control settings for the VM guest, refer to "A.2 Configuration Requirements" in the "ServerView Resource Coordinator VE Setup Guide".
  - The software required for power control on the VM guest may not have been started. Perform the operation again after referring to the server virtualization software manual and checking whether the required software has been started.

- If *error_number* 124 is displayed:

  The error may be the result of one of the following:

  - The necessary power control settings for the VM guest may not have been configured.

    Check whether the necessary power control settings for the VM guest have been configured. If the settings have not been configured, perform the operation again after configuring the necessary settings.

    For details on the necessary power control settings for the VM guest, refer to "A.2 Configuration Requirements" in the "ServerView Resource Coordinator VE Setup Guide".

  - You may not have the required licenses for operation of the VM host/VM management software.

    Check the license status from the VM management software.

  - The login account information for the VM host/VM management software entered during registration may not have the required privileges.

    Check the privilege status from the VM management software. If the account does not have the required privileges, change the entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM host/VM management software.

For details on changing the entered values, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 125 is displayed:

  The VM host is processing another task. Perform the operation again after checking whether other clients are performing operations simultaneously.

- If *error_number* 127 is displayed:

  Power control operation of the VM guest failed. Check the following:

  - Check the operation status and network settings of the VM host/VM management software.
    If operations performed from the VM management software are not executed, there is a problem with the VM host/VM management software. Perform the operation again after resolving the problem with the VM host/VM management software.

  [Hyper-V]

  - Check whether or not a virtual machine OS has been installed and if the OS has been started.

    If an OS has not been installed on a virtual machine, install and start one.

    If the OS is not running on the virtual machine, perform the operation after starting up the OS.

- If *error_number* 400 is displayed:

  The remote command processing of the VM host failed.

  Check the operation status and network settings of the VM host. If operations performed on the VM host are not executed, there is a problem with the VM host. Perform the operation again after resolving the problem with the VM host.

- If *error_number* 547 is displayed:

  VM host/VM management software may not meet the requirements necessary for starting the target VM guest. Use SCVMM to check whether the VM host/VM management software meet the requirements.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *detail*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

67333

FJSVrcx:ERROR:67333:failed to get information from *vmhost*. detail=*detail*

[Description]

Information could not be obtained from a VM host.

In *vmhost*, the VM host name is displayed.
In *detail*, the following detailed information is displayed:

- OS list

  The list information of operating systems that can be specified could not be retrieved when creating a VM guest.

[Corrective Action]

Perform the corrective action according to the detailed information.

- OS list

  Refer to the management screen of the server virtualization software, and check whether the VM host displayed in *vmhost* is set to the VM maintenance mode. If the VM host is set to the VM maintenance mode, disable the maintenance mode.

67334

FJSVrcx:ERROR:67334:failed to restore image. detail=*detail*

[Description]

Failed to restore a VM guest.

[Corrective Action]

- If *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)" format or the "(*message*,vmerrno=*error_number*,ip=*IP_address*,host=*VM_host_IP_address*)" format:

  An error has occurred in the control of the VM host/VM management software for the displayed *IP_address*. Perform the corrective action according to the *error_number*.

  - If *error_number* 6, 7, 8, or 9 is displayed:

    Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

    For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

  - If *error_number* 15 is displayed:

    There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

  - If *error_number* 17 is displayed:

    The VM guest/image could not be found. Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM guest/image has been deleted.

  - If *error_number* 19 is displayed:

    The image could not be found. Wait for around three minutes and then repeat the operation.

  - If *error_number* 99 is displayed:

    Due to temporary inconsistencies in the information held by VM host/VM management software resulting from multiple operations, operations of VM host/VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

  - If *error_number* 100 or 115 is displayed:

    The login account information for the VM host/VM management software entered during registration may not have the required privileges.
    Check the privilege status from the VM management console. If the account does not have the required privileges, change the entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM host/VM management software.

    For details, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

  - If *error_number* 101, 110, 111, 112, 114, 116, or 148 is displayed:

    Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the admin server/VM host/VM management software.

  - If *error_number* 104, 105, 135, 136, or 508 is displayed:

    The task processing of the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software. If operations performed from the VM management software are not executed, there is a problem with the VM host/VM management software. Perform the operation again after resolving the problem with the VM host/VM management software.

    Depending on the VM management software, a recovery operation may be required before performing the operation again. For details on the recovery method, refer to the manual of the VM management software.

  - If *error_number* 113 is displayed:

    The login account information for the VM host/VM management software that was entered during registration cannot be used to communicate with the VM host/VM management software. The login account information for the VM host/VM management software may have been changed after registration.
    Change the entered values (user name and password) for the login account information to the correct values.

For details, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 141, 143, 144, 145, 146, or 147 is displayed:

  The VM guest could not be restored using an image. Check the cause of the error in the VM host/VM management software, and resolve the error.

- If *error_number* 142 is displayed:

  Failed to restore an image because another operation was performed on the VM guest to restore. Perform the operation again after waiting a while.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *detail*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

67350

FJSVrcx:ERROR:67350:configuration error. target=*target*

[Description]

There may be an error in the configuration file for communication with the destination *target*.

[Corrective Action]

When *target* is "storage unit", refer to "5.2.4 Storage Resources" in the "ServerView Resource Orchestrator User's Guide" and correctly describe the port combination definition file of the SAN storage.

If *target* is something other than the above, collect this message and troubleshooting data, and contact Fujitsu technical staff.

67359

FJSVrcx:ERROR:67359:*obj*: VM host registration failed detail=*detail*

[Description]

An error occurred in the control of the VM host, so registration of the VM host *obj* failed.

[Corrective Action]

Refer to the explanation in "Message number 67359" in "ServerView Resource Coordinator VE Messages".

When using Resource Orchestrator, if *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)"format, the following may also be relevant:

- If *error_number* 6, 7, 8, or 9 is displayed:

  Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

  For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 99 is displayed:

  Due to temporary inconsistencies in the information held by VM host/VM management software resulting from multiple operations, operations of VM host/VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

67360

FJSVrcx:ERROR:67360:stopping spare server failed target=*target* detail=*detail*

[Description]

Stopping of the spare server *target* failed.

[Corrective Action]

Refer to the explanation in "Message number 67360" in "ServerView Resource Coordinator VE Messages".

When using Resource Orchestrator, if *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)"format, the following may also be relevant:

- If *error_number* 6, 7, 8, or 9 is displayed:

  Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

  For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 99 is displayed:

  Due to temporary inconsistencies in the information held by VM host/VM management software resulting from multiple operations, operations of VM host/VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

67363

FJSVrcx:ERROR:67363:*obj*:changing VM host login account information failed detail=*detail*

[Description]

An error occurred in communication with the VM host, so changing of the login account information of the VM host *obj* failed.

[Corrective Action]

Refer to the explanation in "Message number 67363" in "ServerView Resource Coordinator VE Messages".

When using Resource Orchestrator, if *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)"format, the following may also be relevant:

- If *error_number* 6, 7, 8, or 9 is displayed:

  Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

  For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 99 is displayed:

  Due to temporary inconsistencies in the information held by VM host/VM management software resulting from multiple operations, operations of VM host/VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

67368

FJSVrcx:ERROR:67368:*obj*:entering VM host maintenance mode failed. detail=*detail*

[Description]

Setting of VM maintenance mode for the VM host *obj* failed.

[Corrective Action]

Refer to the explanation in "Message number 67368" in "ServerView Resource Coordinator VE Messages".

When using Resource Orchestrator, if *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)"format, the following may also be relevant:

- If *error_number* 6, 7, 8, or 9 is displayed:

  Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

  For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 99 is displayed:

  Due to temporary inconsistencies in the information held by VM host/VM management software resulting from multiple operations, operations of VM host/VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

- If *error_number* 534 is displayed:

  Check if the target VM host name is correct.

- If *error_number* 535 is displayed:

  Check if the VM management server can communicate correctly with the DNS server. If this does not resolve the problem, contact Fujitsu technical staff.

67369

FJSVrcx:ERROR:67369:*obj*:exiting VM host maintenance mode failed. detail=*detail*

[Description]

Releasing of VM maintenance mode for the VM host *obj* failed.

[Corrective Action]

Refer to the explanation in "Message number 67369" in "ServerView Resource Coordinator VE Messages".

When using Resource Orchestrator, if *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)"format, the following may also be relevant:

- If *error_number* 6, 7, 8, or 9 is displayed:

  Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

  For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 99 is displayed:

  Due to temporary inconsistencies in the information held by VM host/VM management software resulting from multiple operations, operations of VM host/VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

- If *error_number* 534 is displayed:

  Check if the target VM host name is correct.

- If *error_number* 535 is displayed:

  Check if the VM management server can communicate correctly with the DNS server. If this does not resolve the problem, contact Fujitsu technical staff.

67371

FJSVrcx:ERROR:67371:*obj*:does not have a CD/DVD drive.

[Description]

As the VM guest *obj* does not have a CD/DVD drive, connection of the VM guest tool is not possible.

[Corrective Action]

Add a CD/DVD drive using the VM management software.

67372

FJSVrcx:ERROR:67372:*obj*:failed to connect to VM guest tool. detail=*detail*

[Description]

Connection of the VM guest *obj* to the VM guest tool failed.

[Corrective Action]

- If *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)" format:

  An error has occurred in the control of the VM host/VM management software for the displayed *IP_address*. Perform the corrective action according to the *error_number*.

  - If *error_number* 6, 7, 8, or 9 is displayed:

    As the manager was restarted during processing, the process has failed. Check that the manager has started properly, and then perform the operation again.

    For details on how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

  - If *error_number* 15 is displayed:

    There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

  - If *error_number* 16 is displayed:

    The VM host could not be found. On the management software tree of the RC console, select the VM management software used to manage the VM host, and perform [Update].

    After that, display the server resource tree, and check whether the VM guest has been moved to another VM host.

  - If *error_number* 17 is displayed:

    The VM guest could not be found. On the management software tree of the RC console, select the VM management software used to manage the VM host, and perform [Update].

    After that, display the server resource tree, and check whether the VM guest has been deleted.

    Also, check whether the VM guest is set to be moved when its power status is changed using the VM management console.

  - If *error_number* 101, 110, 111, 112, 114, 116, or 473 is displayed:

    Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the admin server/VM host/VM management software.

  - If *error_number* 113 is displayed:

    The login account information for the VM host/VM management software that was entered during registration cannot be used to communicate with the VM host/VM management software. The login account information for the VM host/VM management software may have been changed after registration.

    Change the entered values (user name and password) for the login account information to the correct values.

    For details, refer to "6.3.2.7 Changing VM Host Login Account Information" in the "ServerView Resource Coordinator VE Setup Guide".

  - If *error_number* 100, 115, or 471 is displayed:

    The login account information for the VM host/VM management software entered during registration may not have the required privileges.

    Check the privilege status from the VM management console. If the account does not have the required privileges, change the entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM host/VM management software.

    For details, refer to "6.3.2.7 Changing VM Host Login Account Information" in the "ServerView Resource Coordinator VE Setup Guide".

  - If *error_number* 104, 105, 135, or 136 is displayed:

    The task processing of the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software. If operations performed from the VM management software are not executed, there is a

problem with the VM host/VM management software. Perform the operation again after resolving the problem with the VM host/VM management software.

Depending on the VM management software, a recovery operation may be required before performing the operation again. For details on the recovery method, refer to the manual of the VM management software.

- If *error_number* 472 is displayed:

  Due to the occurrence of an error on the VM host or VM management software, connection with the VM guest tool was not possible.

  Check the cause of the error in the VM host/VM management software, and resolve the error.

- If "timeout occurred" is displayed in *detail*:

  There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *detail*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

67380

FJSVrcx:ERROR:67380:*obj*:VM management software registration failed. detail=*detail*

[Description]

An error occurred in the control of the VM management software, so registration of the VM management software *obj* failed.

[Corrective Action]

Refer to the explanation in "Message number 67380" in "ServerView Resource Coordinator VE Messages".

When using Resource Orchestrator, if *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)"format, the following may also be relevant:

- If *error_number* 6, 7, 8, or 9 is displayed:

  Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

  For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 99 is displayed:

  Due to temporary inconsistencies in the information held by VM host/ VM management software resulting from multiple operations, obtaining of information from VM host/ VM management software failed. Check the operating status of the VM host/ VM management software, and perform the operation again.

67381

FJSVrcx:ERROR:67381:*obj*:changing VM management software information failed. detail=*detail*

[Description]

An error occurred in the control of the VM management software, so changing the settings of the VM management software *obj* failed.

[Corrective Action]

Refer to the explanation in "Message number 67381" in "ServerView Resource Coordinator VE Messages".

When using Resource Orchestrator, if *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)"format, the following may also be relevant:

- If *error_number* 6, 7, 8, or 9 is displayed:

  Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 99 is displayed:

  Due to temporary inconsistencies in the information held by VM host/VM management software resulting from multiple operations, operations of VM host/VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

67385

FJSVrcx:ERROR:67385:migrating VM guest failed. *vmguest* migrate from *vmhost1* to *vmhost2*. detail=*detail*

[Description]

Migration of the VM guest *vmguest* failed. Server *vmhost1* is the source and server *vmhost2* is the destination.

[Corrective Action]

Refer to the explanation in "Message number 67385" in "ServerView Resource Coordinator VE Messages".

When using Resource Orchestrator, if *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)"format, the following may also be relevant:

- If *error_number* 6, 7, 8, or 9 is displayed:

  Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

  For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 17 is displayed:

  The VM guest could not be found. Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM guest has been deleted.

  Also, check whether the VM guest is set to be moved when its power status is changed using the VM management console.

- If *error_number* 99 is displayed:

  Due to temporary inconsistencies in the information held by VM host/VM management software resulting from multiple operations, operations of VM host/VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

- If *error_number* 104 or 152 is displayed:

  The task processing of the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software. If operations performed from the VM management software are not executed, there is a problem with the VM host/VM management software. Perform the operation again after resolving the problem with the VM host/VM management software.

  Depending on the VM management software, a recovery operation may be required before performing the operation again. For details on the recovery method, refer to the manual of the VM management software.

- If *error_number* 150 or 164 is displayed:

  The VM host specified as the destination does not meet the requirements for the migration destination of VM guests. Specify a VM host that meets the requirements for the destination.

  For environments where overcommit is being used, also refer to the cautionary notes of "6.8 Moving an L-Server Between Servers (Migration)" of the "ServerView Resource Orchestrator User's Guide".

  For details on the overcommit function, refer to "G.1.8 Overcommit" of the "ServerView Resource Orchestrator User's Guide".

- If *error_number* 534 is displayed:

  Check if the target VM host name is correct.

- If *error_number* 535 is displayed:

  Check whether the server specified as the destination has a configuration that allows migration referring to "Appendix A Server Virtualization Products" of the "ServerView Resource Coordinator VE Setup Guide". Check if the VM management server can communicate correctly with the DNS server. If this does not resolve the problem, contact Fujitsu technical staff.

67389

FJSVrcx:ERROR:67389:*image* is already in use on *obj*

[Description]

The specified cloning image name *image* is already in use by another VM management software *obj*.

[Corrective Action]

Perform the operation again after specifying another cloning image name.

67390

FJSVrcx:ERROR:67390:creating VM guest failed. detail=*detail*

[Description]

Failed to create a VM guest.

[Corrective Action]

- If *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)" format or the "(*message*,vmerrno=*error_number*,ip=*IP_address*,host=*VM_host_IP_address*)" format:

  An error has occurred in the control of the VM host/VM management software for the displayed *IP_address*. Perform the corrective action according to the *error_number*.

  - If *error_number* 6, 7, 8, or 9 is displayed:

    Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

    For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

  - If *error_number* 15 is displayed:

    There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

  - If *error_number* 16 is displayed:

    The VM host could not be found. Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM host has been deleted.

  - If *error_number* 17 is displayed:

    The image could not be found. Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the image has been deleted.

  - If *error_number* 99 is displayed:

    Due to temporary inconsistencies in the information held by VM host/ VM management software resulting from multiple operations, obtaining of information from VM host/ VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

  - If *error_number* 100, 115, 178, 337, or 381 is displayed:

    The login account information for the VM host/VM management software entered during registration may not have the required privileges.
    Check the privilege status from the VM management console. If the account does not have the required privileges, change the

entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM host/VM management software.

For details, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 101, 110, 111, 112, 114, 116, 181, 249, 341, or 382 is displayed:

  Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the admin server/VM host/VM management software.

- If *error_number* 104, 105, 135, 136, 178, 509, 510, 511, 512, 513, 519, 520, 521, 531, or 532 is displayed:

  The task processing of the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software. If operations performed from the VM management software are not executed, there is a problem with the VM host/VM management software. Perform the operation again after resolving the problem with the VM host/VM management software.

  Depending on the VM management software, a recovery operation may be required before performing the operation again. For details on the recovery method, refer to the manual of the VM management software.

  [Hyper-V]
  If *error_number* is 104, and the guest OS type is Windows, the product key may be not correct. Check that the correct product key has been specified. The product key cannot be omitted.

  [VMware]
  If the error number is 104 and the target server is not using server management software, there may be differences between the values in the definition files and the actual configuration information of that server. Check that the correct values have been entered.

  For details on the definition file, refer to "5.2.6 Servers Not Using Server Management Software" of "ServerView Resource Orchestrator User's Guide".

- If *error_number* 113 is displayed:

  The login account information for the VM host/VM management software that was entered during registration cannot be used to communicate with the VM host/VM management software. The login account information for the VM host/VM management software may have been changed after registration.
  Change the entered values (user name and password) for the login account information to the correct values.

  For details, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 170, 171, 172, 173, 174, 175, 176, 177, 179, or 180 is displayed:

  The VM guest could not be created using an image. Check the cause of the error in the VM host/VM management software, and resolve the error.

- If *error_number* 240, 335, or 603 is displayed:

  Failed to create a VM guest because the VM guest name is already in use. Change the VM guest name or the destination VM host.

- If *error_number* 241, 242, 244, or 332 is displayed:

  Could not create a VM guest in the definition file storage location of the VM guest. Check the status of the definition file storage location of the VM guest.

- If *error_number* 245 is displayed:

  The VM guest name is invalid. Change the VM guest name.

- If *error_number* 246 is displayed:

  The specified VM host cannot create a VM guest. Change the destination VM host.

- If *error_number* 330, 331, 333, 334, 336, 340, or 342 is displayed:

  Failed to modify the VM guest. Check the cause of the error in the VM host/VM management software, and resolve the error.

- If *error_number* 338 is displayed:

  Failed to modify the configuration because another operation was performed on the created VM guest. Perform the operation again after waiting a while.

- If *error_number* 339 is displayed:

  Too many devices were specified for creation in the VM guest. Perform the operation again after decreasing the numbers of disks or NIC.

- If *error_number* 380 is displayed:

  Failed to set the OS unique information for the VM guest again. Set the OS unique information for the created VM guest again.

- If *error_number* 400 is displayed:

  The remote command processing of the VM host failed. Check the operation status and network settings of the VM host.
  If operations performed on the VM host are not executed, there is a problem with the VM host. Perform the operation again after resolving the problem with the VM host.

- If *error_number* 501 or 608 is displayed:

  Make sure that the specified virtual network name exists on the VM host.

- If *error_number* 503 is displayed:

  There is no target operation image on VM management software.

  Perform the operation again after checking that there are no differences between image information on Resource Orchestrator and the VM management software.

- If *error_number* 514 is displayed:

  After confirming if there is no trouble with the administrator account information, perform the operation again.

- If *error_number* 515 or 607 is displayed:

  Perform the operation again, after specifying a supported OS for VM host.

- If *error_number* 534 is displayed:

  Check if the target VM host name is correct.

- If *error_number* 535 is displayed:

  Check if the VM management server can communicate correctly with the DNS server. If this does not resolve the problem, contact Fujitsu technical staff.

- If *error_number* 536, 538, or 546 is displayed:

  There is a problem with the library of System Center Virtual Machine Manager. Check that the status of the library server or shared library is normal, then perform the operation again after waiting for a short time.

- If *error_number* 537 or 539 is displayed:

  Operation of the System Center Virtual Machine Manager library failed. Check the result of the job using System Center Virtual Machine Manager.

- If *error_number* 604 is displayed:

  Specify a value smaller than the physical memory size of the VM host.

  If the target server is not using server management software, there may be differences between the values in the definition files and the actual configuration information of that server. Check that the correct values have been entered.

  For details on the definition file, refer to "5.2.6 Servers Not Using Server Management Software" of "ServerView Resource Orchestrator User's Guide".

- If *error_number* 605 is displayed:

  Specify a value smaller than the number of CPU cores of the VM host.

  If the target server is not using server management software, there may be differences between the values in the definition files and the actual configuration information of that server. Check that the correct values have been entered.

For details on the definition file, refer to "5.2.6 Servers Not Using Server Management Software" of "ServerView Resource Orchestrator User's Guide".

- If *error_number* 606 is displayed:

  The number exceeds the number of available CPUs. Specify a value in the available range.

- If *error_number* 609 is displayed:

  The VLAN ID value is not in the available range of values. Specify the available range of values.

- If *error_number* 614 is displayed:

  The specified value exceeds the available CPU performance. Specify the available range of values.

  If the target server is not using server management software, there may be differences between the values in the definition files and the actual configuration information of that server. Check that the correct values have been entered.

  For details on the definition file, refer to "5.2.6 Servers Not Using Server Management Software" of "ServerView Resource Orchestrator User's Guide".

- If *error_number* 616 is displayed:

  The specification format for the time zone is incorrect. Specify the correct format.

- If *error_number* 617 is displayed:

  The product ID specification format is incorrect. Specify the correct format.

- If *error_number* 618 is displayed:

  Administrator information is invalid. Specify valid information.

- If *error_number* 621 is displayed:

  The format of the specified IP address is incorrect. Specify an IP address in the correct format.

- If *error_number* 624 is displayed:

  The template of System Center Virtual Machine Manager corresponding to the specified image is either invalid or damaged. Check the image using System Center Virtual Machine Manager.

- If *detail* is displayed in the "invalid parameter:*parameter*:*value*" format:

  The *parameter* value is invalid. Perform the operation again after modifying the entered *value*.

- If "timeout occurred" is displayed in *detail*:

  There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *detail*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

67391

FJSVrcx:ERROR:67391:deleting VM guest failed. detail=*detail*

[Description]

Failed to delete the VM guest.

[Corrective Action]

- If *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)" format or the "(*message*,vmerrno=*error_number*,ip=*IP_address*,host=*VM_host_IP_address*)" format:

  An error has occurred in the control of the VM host/VM management software for the displayed *IP_address*. Perform the corrective action according to the *error_number*.

  - If *error_number* 6, 7, 8, or 9 is displayed:

    Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 15 is displayed:

  There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

- If *error_number* 16 is displayed:

  The VM host could not be found. Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM host has been deleted.

- If *error_number* 17 is displayed:

  The VM guest could not be found. Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM guest has been deleted.
  Also, check whether the VM guest is set to be moved when its power status is changed using the VM management console.

- If *error_number* 99 is displayed:

  Due to temporary inconsistencies in the information held by VM host/VM management software resulting from multiple operations, operations of VM host/VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

- If *error_number* 100, 115, 260, or 337 is displayed:

  The login account information for the VM host/VM management software entered during registration may not have the required privileges.
  Check the privilege status from the VM management console. If the account does not have the required privileges, change the entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM host/VM management software.

  For details, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 101, 110, 111, 112, 114, 116, 263, or 341 is displayed:

  Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the admin server/VM host/VM management software.

- If *error_number* 104, 105, 135, 136, or 527 is displayed:

  The task processing of the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software. If operations performed from the VM management software are not executed, there is a problem with the VM host/VM management software. Perform the operation again after resolving the problem with the VM host/VM management software.

  Depending on the VM management software, a recovery operation may be required before performing the operation again. For details on the recovery method, refer to the manual of the VM management software.

- If *error_number* 113 is displayed:

  The login account information for the VM host/VM management software that was entered during registration cannot be used to communicate with the VM host/VM management software. The login account information for the VM host/VM management software may have been changed after registration.
  Change the entered values (user name and password) for the login account information to the correct values.

  For details, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 261 is displayed:

  Failed to delete the VM guest. Check the cause of the error in the VM host/VM management software, and resolve the error.

- If *error_number* 262 is displayed:

  Failed to delete the VM guest. VM guests cannot be deleted while their power is ON. Check the power state of the VM guest.

- If *error_number* 330, 331, 332, 333, 334, 335, 336, 339, 340, or 342 is displayed:

  Failed to modify the VM guest. Check the cause of the error in the VM host/VM management software, and resolve the error.

- If *error_number* 338 is displayed:

  Failed to modify the configuration because another operation was performed on the VM guest. Perform the operation again after waiting a while.

- If *error_number* 400 is displayed:

  The remote command processing of the VM host failed. Check the operation status and network settings of the VM host.
  If operations performed on the VM host are not executed, there is a problem with the VM host. Perform the operation again after resolving the problem with the VM host.

- If "timeout occurred" is displayed in *detail*:

  There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *detail*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

67392

FJSVrcx:ERROR:67392:modifying VM guest failed. detail=*detail*

[Description]

Failed to modify the configuration of the VM guest.

[Corrective Action]

- If *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)" format or the "(*message*,vmerrno=*error_number*,ip=*IP_address*,host=*VM_host_IP_address*)" format:

  An error has occurred in the control of the VM host/VM management software for the displayed *IP_address*. Perform the corrective action according to the *error_number*.

  - If *error_number* 6, 7, 8, or 9 is displayed:

    Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

    For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

  - If *error_number* 15 is displayed:

    There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

  - If *error_number* 16 is displayed:

    The VM host could not be found. Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM host has been deleted.

  - If *error_number* 17 is displayed:

    The VM guest could not be found. Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM guest has been deleted.
    Also, check whether the VM guest is set to be moved when its power status is changed using the VM management console.

  - If *error_number* 20 is displayed:

    The port group of the specified virtual switch was not found on VM management software.

    Check that the port group exists on VM management software.

    - If no port groups exist:

      Create a port group for the virtual switch on VM management software.

- If port groups exist:

  When using the virtual network definition file, check that all definitions are described correctly.

  After checking the definition file, perform the operation again.

- If *error_number* 99 is displayed:

  Due to temporary inconsistencies in the information held by VM host/ VM management software resulting from multiple operations, obtaining of information from VM host/ VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

- If *error_number* 100, 115, or 337 is displayed:

  The login account information for the VM host/VM management software entered during registration may not have the required privileges.
  Check the privilege status from the VM management console. If the account does not have the required privileges, change the entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM host/VM management software.

  For details, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 101, 110, 111, 112, 114, 116, or 341 is displayed:

  Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the admin server/VM host/VM management software.

- If *error_number* 104, 105, 135, 136, 512, 519, 520, 521, 523, 524, 525, 526, or 528 is displayed:

  The task processing of the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software. If operations performed from the VM management software are not executed, there is a problem with the VM host/VM management software. Perform the operation again after resolving the problem with the VM host/VM management software.

  Depending on the VM management software, a recovery operation may be required before performing the operation again. For details on the recovery method, refer to the manual of the VM management software.

- If *error_number* 113 is displayed:

  The login account information for the VM host/VM management software that was entered during registration cannot be used to communicate with the VM host/VM management software. The login account information for the VM host/VM management software may have been changed after registration.
  Change the entered values (user name and password) for the login account information to the correct values.

  For details, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 330, 331, 332, 333, 334, 335, 336, 339, 340, or 342 is displayed:

  Failed to modify the VM guest. Check the cause of the error in the VM host/VM management software, and resolve the error.

- If *error_number* 338 is displayed:

  Failed to modify the configuration because another operation was performed on the VM guest. Perform the operation again after waiting a while.

- If *error_number* 400 is displayed:

  The remote command processing of the VM host failed. Check the operation status and network settings of the VM host.
  If operations performed on the VM host are not executed, there is a problem with the VM host. Perform the operation again after resolving the problem with the VM host.

- If *error_number* 501 or 608 is displayed:

  Make sure that the specified virtual network name exists on the VM host.

- If *error_number* 515 or 607 is displayed:

  Select an OS supported by the VM host and then perform the operation again.

- If *error_number* 522 is displayed:

  There is no target VM guest virtual disk on VM management software.

  Perform the operation again after checking that there are no differences between virtual disk information on Resource Orchestrator and the VM management software.

- If *error_number* 533 is displayed:

  There is no virtual network adapter of the target VM guest on VM management software.

  Perform the operation again after checking that there are no differences between virtual network adapter information on Resource Orchestrator and the VM management software.

- If *error_number* 604 is displayed:

  Specify a value smaller than the physical memory size of the VM host.

  If the target server is not using server management software, there may be differences between the values in the definition files and the actual configuration information of that server. Check that the correct values have been entered.

  For details on the definition file, refer to "5.2.6 Servers Not Using Server Management Software" of "ServerView Resource Orchestrator User's Guide".

- If *error_number* 605 is displayed:

  Specify a value smaller than the number of CPU cores of the VM host.

- If *error_number* 606 is displayed:

  The number exceeds the number of available CPUs. Specify the available range of values.

- If *error_number* 609 is displayed:

  The VLAN ID value is not in the available range of values. Specify the available range of values.

- If *error_number* 611 is displayed:

  This operation cannot be performed on VM guests that have not been stopped. Stop the specified VM guest and then perform the operation again.

- If *error_number* 612 or 613 is displayed:

  Waiting for a while, then perform the operation or check again.

- If *error_number* 614 is displayed:

  The specified value exceeds the available CPU performance. Specify the available range of values.

- If *detail* is displayed in the "invalid parameter:*parameter*:*value*" format:

  The *parameter* value is invalid. Perform the operation again after modifying the entered *value*.

- If "timeout occurred" is displayed in *detail*:

  There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

- If "operation failed:customizing vm guest (cpu settings)" is displayed in *detail*:

  Failed to modify the CPU count/CPU performance of the VM guest.

  - Check the operation status, network settings, and login account information of the admin server/VM host/VM management software from the RC console or VM management console.

    The manager may not be able to communicate with the VM host/VM management software. Check the status of the manager, and after restoring communication, perform the operation again.

  - Check the VM guest exists, and its operating status from the RC console or the VM management console.

    When another operation is being performed on the VM guest, wait for a while and then perform the operation again.

  If no problems are found when checking the above, check the cause of the error on the VM host/VM management software from the VM management console. If operations performed from the VM management software are not executed, there is a problem

with the VM host/VM management software. Perform the operation again after resolving the problem with the VM host/VM management software.

- If "operation failed:customizing vm guest (memory settings)" is displayed in *detail*:

  Failed to modify the memory size of the VM guest.

  Refer to "If "operation failed:customizing vm guest (cpu settings)" is displayed in *detail*".

- If "operation failed:customizing vm guest (properties settings)" is displayed in *detail*:

  Failed to modify the name or OS type of the VM guest.

  Refer to "If "operation failed:customizing vm guest (cpu settings)" is displayed in *detail*".

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *detail*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

67397

FJSVrcx:ERROR:67397:failed to create image. detail=*detail*

[Description]

Failed to collect the image of the VM guest.

[Corrective Action]

- If *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)" format or the "(*message*,vmerrno=*error_number*,ip=*IP_address*,host=*VM_host_IP_address*)" format:

  An error has occurred in the control of the VM host/VM management software for the displayed *IP_address*. Perform the corrective action according to the *error_number*.

  - If *error_number* 6, 7, 8, or 9 is displayed:

    Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

    For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

  - If *error_number* 15 is displayed:

    There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

  - If *error_number* 17 is displayed:

    The VM guest could not be found. Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM guest has been deleted.
    Also, check whether the VM guest is set to be moved when its power status is changed using the VM management console.

  - If *error_number* 19 is displayed:

    There is no target operation image on server virtualization software.
    Perform the operation again after checking that there are no differences between image information on the manager and snapshot information on the server virtualization software.

  - If *error_number* 99 is displayed:

    Due to temporary inconsistencies in the information held by VM host/VM management software resulting from multiple operations, operations of VM host/VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

  - If *error_number* 100, 115, or 178 is displayed:

    The login account information for the VM management software entered during registration may not have the required privileges.
    Check the privilege status from the VM management software. If the account does not have the required privileges, change

the entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM management software.

For details, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 101, 110, 111, 112, 114, 116, 148, 181, or 263 is displayed:

  Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the admin server/VM host/VM management software.

- If *error_number* 104, 105, 135, 136, 147, 178, 506, 516, 518, 531, or 532 is displayed:

  The task processing of the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software. If operations performed from the VM management software are not executed, there is a problem with the VM host/VM management software. Perform the operation again after resolving the problem with the VM host/VM management software.

  [Hyper-V]

  When using MAK license authentication for activation of Windows Server 2008 guest OS's, there is a chance that an error has occurred due to the limit on execution of Sysprep. For these guest OS's, Sysprep can be executed a maximum of three times. As Sysprep is executed when collecting cloning images, it is not possible to collect cloning images or create L-Servers with images specified more than three times. When Sysprep has already been executed three times, it is not possible to collect cloning images from that L-Server.
  When a template created using VM management software has been registered as a cloning image, Sysprep will also be executed when the template is created using the VM management software.

- If *error_number* 113 is displayed:

  The specified login account information for the VM management software cannot be used to communicate with the VM management software.
  Change the entered values (user name and password) for the login account information to the correct values.

- If *error_number* 141, 143, 144, 145, 146, 170, 171, 172, 173, 174, 175, 176, 177, 180, or 261 is displayed:

  An error occurred while collecting the image. Check the cause of the error in the VM host/VM management software, and resolve the error.

- If *error_number* 142 or 179 is displayed:

  Failed to collect the image because another operation was performed on the target VM guest. Perform the operation again after waiting a while.

- If *error_number* 400 is displayed:

  The remote command processing of the VM host failed. Check the operation status and network settings of the VM host.
  If operations performed on the VM host are not executed, there is a problem with the VM host. Perform the operation again after resolving the problem with the VM host.

- If *error_number* 500 or 602 is displayed:

  Check if the specified library server has been started.

  Check if the specified library server can perform name resolution.

  Check the firewall configuration.

- If *error_number* 529 is displayed:

  Specify the shared volume of the cluster.

- If *error_number* 530 is displayed:

  Check the available space on the disk.

- If *error_number* 534 is displayed:

  Check if the target VM host name is correct.

- If *error_number* 535 is displayed:

  Check if the VM management server can communicate correctly with the DNS server. If this does not resolve the problem, contact Fujitsu technical staff.

- If *error_number* 600 is displayed:

  Collection of cloning images cannot be performed from VM guests which are holding snapshots. Delete the snapshots of the specified VM guest and perform the operation again. Cloning images also cannot be collected when there are snapshots or check points created by VM management software.

  [Hyper-V]
  When there are snapshots that have been collected using Resource Orchestrator or checkpoints created using VM management software, it is not possible to collect cloning images as VMs are operated on difference disks. For combining of difference disks, it is necessary to delete not only all snapshots collected using Resource Orchestrator, but also all checkpoints created using VM management software. Combining of the disk is automatically performed by SCVMM, but depending on the status of the VM guest the operation may take a long time, because it is only performed while the target VM guest is stopped.

- If *error_number* 601 is displayed:

  This operation cannot be performed on VM guests that have not been stopped. Stop the specified VM guest and then perform the operation again.

- If *error_number* 619 is displayed:

  Operations cannot be performed for VM guests using RAW disks.

- If *error_number* 620 is displayed:

  Operations cannot be performed for VM guests with no system volumes.

- If *error_number* 642 is displayed:

  A cloning image with the specified name already exists. Specify a new name.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *detail*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

67398

FJSVrcx:ERROR:67398:failed to delete image. detail=*detail*

[Description]

Failed to delete the VM guest image.

[Corrective Action]

- If *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)" format or the "(*message*,vmerrno=*error_number*,ip=*IP_address*,host=*VM_host_IP_address*)" format:

  An error has occurred in the control of the VM host/VM management software for the displayed *IP_address*. Perform the corrective action according to the *error_number*.

  - If *error_number* 6, 7, 8, or 9 is displayed:

    Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

    For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

  - If *error_number* 15 is displayed:

    There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

  - If *error_number* 17 is displayed:

    The image could not be found. Click the <Update> button on the image list screen of the RC console to refresh the screen, and check whether the image has been deleted.

- If *error_number* 19, 503, or 504 is displayed:

  There is no target operation image on VM management software.

  Perform the operation again after checking that there are no differences between image information on Resource Orchestrator and the VM management software.

- If *error_number* 99 is displayed:

  Due to temporary inconsistencies in the information held by VM host/VM management software resulting from multiple operations, operations of VM host/VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

- If *error_number* 100, 115, 147, or 260 is displayed:

  The login account information for the VM management software entered during registration may not have the required privileges.
  Check the privilege status from the VM management software. If the account does not have the required privileges, change the entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM management software.

  For details, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

- If *error_number* 101, 110, 111, 112, 114, 116, 148, or 263 is displayed:

  Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the admin server/VM host/VM management software.

- If *error_number* 104, 105, 135, 136, 505, or 507 is displayed:

  The task processing of the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software. If operations performed from the VM management software are not executed, there is a problem with the VM host/VM management software. Perform the operation again after resolving the problem with the VM host/VM management software.

- If *error_number* 113 is displayed:

  The specified login account information for the VM management software cannot be used to communicate with the VM management software.
  Change the entered values (user name and password) for the login account information to the correct values.

- If *error_number* 261 is displayed:

  An error occurred while deleting the image. Check the cause of the error in the VM host/VM management software, and resolve the error.

- If *error_number* 544 is displayed:

  Obtaining the information of the VHD file, which is a related file of the target image to be deleted, failed. Use System Center Virtual Machine Manager to check that the status of the shared library is normal. After waiting for a short time, perform the operation again.

- If *error_number* 545 is displayed:

  Deletion of the related files of the target image to be deleted failed. Check the result of the job using System Center Virtual Machine Manager.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *detail*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

67399

FJSVrcx:ERROR:67399:failed to deploy image. detail=*detail*

[Description]

Failed to deploy the cloning image of the VM guest.

[Corrective Action]

- If *detail* is displayed in the "(*message*,vmerrno=*error_number*,ip=*IP_address*)" format:

  An error has occurred in the control of the VM host/VM management software for the displayed *IP_address*. Perform the corrective action according to the *error_number*.

  - If *error_number* 6, 7, 8, or 9 is displayed:

    Make sure that the manager is running. If the manager has been stopped, start it and perform the operation again.

    For details on how to start the manager and how to check its running state, refer to "5.1 Manager" in the "ServerView Resource Coordinator VE Setup Guide".

  - If *error_number* 15 is displayed:

    There is no response from the VM host/VM management software to the admin server request. Check the operation status and network settings of the VM host/VM management software.

  - If *error_number* 17 is displayed:

    The VM guest/image could not be found. Select [Operation]-[Update] from the RC console menu to refresh the screen, and check whether the VM guest has been deleted. Click the <Update> button on the cloning image list screen of the RC console to refresh the screen, and check whether the image has been deleted.
    Also, check whether the VM guest is set to be moved when its power status is changed using the VM management console.

  - If *error_number* 99 is displayed:

    Due to temporary inconsistencies in the information held by VM host/VM management software resulting from multiple operations, operations of VM host/VM management software failed. Check the operating status of the VM host/VM management software, and perform the operation again.

  - If *error_number* 100, 115, 178, 260, 337, or 381 is displayed:

    The login account information for the VM management software entered during registration may not have the required privileges.
    Check the privilege status from the VM management software. If the account does not have the required privileges, change the entered values (user name and password) for the login account information to the values for a user with administrative privileges for the VM management software.

    For details, refer to "6.3.2.7 Changing VM Host Login Account Information" or "6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide".

  - If *error_number* 101, 110, 111, 112, 114, 116, 181, 263, 341, or 382 is displayed:

    Communication between the admin server and the VM host/VM management software failed. Check the operation status and network settings of the admin server/VM host/VM management software.

  - If *error_number* 104, 105, 135, or 136 is displayed:

    The task processing of the VM host/VM management software failed. Check the operation status and network settings of the VM host/VM management software. If operations performed from the VM management software are not executed, there is a problem with the VM host/VM management software. Perform the operation again after resolving the problem with the VM host/VM management software.

  - If *error_number* 113 is displayed:

    The specified login account information for the VM management software cannot be used to communicate with the VM management software.
    Change the entered values (user name and password) for the login account information to the correct values.

  - If *error_number* 170, 171, 172, 173, 174, 175, 176, 177, or 180 is displayed:

    An error occurred while deploying the image. Check the cause of the error in the VM host/VM management software, and resolve the error.

- If *error_number* 179 is displayed:

  Failed to deploy the image. The requested process could not be executed because the VM guest/image is being used by another process.
  Check whether the VM guest/image is being used by another process from the VM management software.

- If *error_number* 261 is displayed:

  An error occurred while deleting the image. Check the cause of the error in the VM host/VM management software, and resolve the error.

- If *error_number* 262 is displayed:

  Failed to delete the VM guest. VM guests cannot be deleted while their power is ON. Check the power state of the VM guest.

- If *error_number* 330, 332, 333, 334, 336, 340, 342, or 380 is displayed:

  Failed to modify the VM guest. Check the cause of the error in the VM host/VM management software, and resolve the error.

- If *error_number* 338 is displayed:

  Failed to modify the configuration because another operation was performed on the created VM guest or the destination VM guest for deployment. Perform the operation again after waiting a while.

- If *error_number* 339 is displayed:

  The total number of devices for the destination VM guest for deployment and the image to deploy is too great. Perform the operation again after decreasing the numbers of disks or NIC in the image to deploy or the destination VM guest for deployment.

If the problem is still not resolved after performing the above actions or if a value not indicated above is displayed in *detail*, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

67801

FJSVrcx:ERROR:67801:The user (*user*) doesn't belong to any group.

[Description]

User authentication failed because the user registered in a directory service does not belong to a user group. In *user*, the user name is displayed.

When this message is displayed during operation, the directory service information may have been modified.

[Corrective Action]

Check the user information and user group information registered in the directory service, then set the displayed user as a member of an appropriate user group.

67802

FJSVrcx:ERROR:67802:The user (*user*) belongs to two or more groups. detail=*detail*

[Description]

User authentication failed because the user registered in a directory service belongs to multiple user groups.

In *user*, the user name is displayed.

In *detail*, up to two user group names are displayed.

When this message is displayed during operation, the directory service information may have been modified.

[Corrective Action]

Check the user information and use group information registered in the directory service. Operation by a user belonging to multiple user groups is not possible. Set the displayed user as a member of an appropriate user group.

67803

FJSVrcx:ERROR:67803:Resource information of the directory service is inconsistent with the manager's internal information. detail=*detail*

[Description]

The resource information of a directory service does not match the manager internal information. In *detail*, the name of a problematic resource is displayed.

[Corrective Action]

Execute the rcxadm authctl sync command.

67804

FJSVrcx:ERROR:67804:Two or more roles in the same scope have been assigned to the user (*user*). detail=*detail*

[Description]

There is an error in the assignment of the role registered in the directory service. Multiple roles assigned to one user are pointing to the same access scope.

In *user*, the user name or the name of the user group that the user belongs to is displayed.

In *detail*, the access scope is displayed in DN format.

[Corrective Action]

Check the role of the user registered in the directory service.

Operations using multiple roles that are assigned to one user and pointing to the same access scope cannot be allowed. Set a proper role for the user who is being displayed.

67992

FJSVrcx:ERROR:67992:timeout error

[Description]

A timeout error occurred during command execution.

[Corrective Action]

When this message is displayed during execution of the rcxbackup command or the rcxrestore command, there are the following possibilities:

- An operation being executed on the admin server remains in the database.
- The manager was stopped or started during command execution.

Perform the following corrective actions for each command:

- When executing the rcxbackup command:

  Start the admin server and complete the operation being executed on the admin server, or restore the configuration definition information already collected, then perform the operation again.

  Check that the manager has not been stopped or started, then perform the operation again.

- When executing the rcxrestore command:

  Check that the manager has not been stopped or started, then perform the operation again.

If the problem is still not resolved after performing the above actions, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

67999

FJSVrcx:ERROR:67999:internal error, *details*.

[Description]

An error occurred in the following cases:

- Either an internal error has occurred or the XML file specified during the following operations has been loaded:
  - L-Server creation or configuration modification
  - Importing an L-Server template
  - Importing for DR
  - Creating network resources
- When executing backup and restoration of configuration definition information

[Corrective Action]

- When executing the following operations:
  - L-Server creation or configuration modification
  - Importing an L-Server template
  - Importing for DR
  - Creating network resources

  Review the content of the XML specified during operations, then perform the operation again.
- When executing backup and restoration of configuration definition information
  - There is the possibility that the manager was stopped or started during execution of the rcxbackup command or the rcxrestore command.

    Check that the manager is not stopped or not started, then perform the operation again.
  - There is a possibility that the database could not be accessed.

    Execute the rcxbackup command or the rcxrestore command again.
  - This message may be output after cancelling execution of rcxbackup command or the rcxrestore command by pressing "Ctrl + C".

    Corrective action is not necessary because the execution has been canceled correctly.

If the problem is still not resolved after performing the above actions, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

68253

FJSVrcx:ERROR:68253:A timeout occurred during *process* the server(*physicalserver*) in the image operation. *detail*

[Description]

process timed out during an image operation.

Refer to the explanation in "Message number 68253" in "ServerView Resource Coordinator VE Messages".

[Corrective Action]

Refer to the corrective action described in "Message number 68253" in "ServerView Resource Coordinator VE Messages".

When *process* is *reboot*, check the corrective action for "Message number 68259".

68259

FJSVrcx:ERROR:68259:Disk *process* was aborted on *physical_server*. *detail*

[Description]

The *process* for the disk was aborted.

Refer to the explanation in "Message number 68259" in "ServerView Resource Coordinator VE Messages".

[Corrective Action]

Refer to the corrective action described in "Message number 68259" in "ServerView Resource Coordinator VE Messages".

There is also the following case for Resource Orchestrator.

- When a managed server is configured for iSCSI boot

  Check that there are no problems in the connection between the storage unit and the managed server.

68296

FJSVrcx:ERROR:68296:deployment engine cli error:*detail*

[Description]

An error occurred in the manager command.

Refer to the explanation in "Message number 68296" in "ServerView Resource Coordinator VE Messages".

There is also the following case for Resource Orchestrator.

- When creating a physical L-Server

  Deployment of the cloning image failed. The backup/restore procedure for the admin server may have been performed incorrectly.

[Corrective Action]

Refer to the corrective action described in "Message number 68296" in "ServerView Resource Coordinator VE Messages".

There is also the following case for Resource Orchestrator.

- When creating a physical L-Server

  If a message not related to the above actions is output, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

69111

FJSVrcx:ERROR:69111:communication error. target=*target* detail=*detail*

[Description]

An error occurred while communicating with *target*.

[Corrective Action]

Refer to the corrective action described in "Message number 69111" in "ServerView Resource Coordinator VE Messages". Also, perform the following corrective action depending on the *target* value.

- If the IP address of the VM management software is displayed in *target*, check whether or not communication with VM management software is possible.

  - Use a ping command, etc. to check whether there is a problem with the network environment between the admin server and the VM management software.
  - If a LAN cable has become disconnected, reconnect it.
  - If the VM management product has VM management software, check whether there is a problem with connecting to the VM management product from the VM management software.

  If the IP address of the VM management software is displayed in *target*, perform the following corrective action depending on the *detail* value.

- For "VMware vCenter Server communication error(*Virtual_storage_resource_name*)"

  Check the status of the virtual storage resources registered in the storage pool.

  When the status is something other than "unknown", corrective action is not necessary as a communication error has occurred but recovery is complete.

  When the status is "unknown", update virtual storage resources.

  If the status does not change, perform the following corrective action:

  - Check that "VMware vCenter Server" is operating correctly on the IP address output for *target*.

    For details on the check method, refer to the manual of the "VMware vCenter Server".

  - Check that communication is possible with the IP address output for *target*.

    For the recovery procedure, refer to "Message number 67192".

- For "VMware vCenter Server communication error"

  - Check that VMware vCenter Server is operating correctly on the IP address output for *target*.

    For details on the check and configuration method, refer to the VMware vCenter Server manual.

  - Check that communication is possible with the IP address output for *target*.

    For the recovery procedure, refer to "Message number 67192".

- For "System Center Virtual Machine Manager communication error(*Virtual_storage_resource_name*)"

  Check the status of the virtual storage resources registered in the storage pool.

  When the status is something other than "unknown", corrective action is not necessary as a communication error has occurred but recovery is complete.

  When the status is "unknown", update virtual storage resources. If the status does not change, take the following corrective action.

  - Check that SCVMM is operating correctly on the IP address output for *target*.

    For details on the check method, refer to the SCVMM manual.

  - Check that communication is possible with the IP address output for *target*.

    For the recovery procedure, refer to "Message number 67192".

- For "System Center Virtual Machine Manager communication error"

  Perform the following corrective actions:

  - Check that SCVMM is operating correctly on the IP address output for *target*.

    For details on the check method, refer to the SCVMM manual.

  - Check that communication is possible with the IP address output for *target*.

    For the recovery procedure, refer to "Message number 67192".

- For "Oracle VM Manager communication error(*Virtual_storage_resource_name*)"

  Check the status of the virtual storage resources registered in the storage pool.

  When the status is something other than "unknown", corrective action is not necessary as a communication error has occurred but recovery is complete.

  When the status is "unknown", update virtual storage resources.

  If the status does not change, perform the following corrective action:

  - Check that Oracle VM Manager is operating correctly on the IP address output for *target*.

    For details on the check and configuration method, refer to the Oracle VM Manager manual.

  - Check that communication is possible with the IP address output for *target*.

    For the recovery procedure, refer to "Message number 67192".

- For "Oracle VM Manager communication error"
  - Check that Oracle VM Manager is operating correctly on the IP address output for *target*.

    For details on the check and configuration method, refer to the Oracle VM Manager manual.
  - Check that communication is possible with the IP address output for *target*.

    For the recovery procedure, refer to "Message number 67192".
- If the IP address of the storage management software is displayed in *target*, perform the following corrective actions:
  - The necessary settings for the storage management software may not have been completed. For details, refer to "Appendix F Configuration when Creating a Physical L-Server" in the "ServerView Resource Orchestrator User's Guide".
  - Check that communication is possible with the IP address output for *target*.

    For the recovery procedure, refer to "Message number 67192".

If the problem is still not resolved after performing the above actions, collect the corresponding message and troubleshooting data, and contact Fujitsu technical staff.

3.2 Messages Beginning with swsag or ssmgr

This section explains the messages that are output or displayed due to EMC.

Replace the following terms with the expressions given below for each storage model as you read through this section.

Term	EMC CLARiiON	EMC Symmetrix DMX
HostAffinity	The connection path between the HBA of the host to be registered in Storage Group and SP ports	The connection path between HBA of the host to be registered in device group and SP ports
RAID group	RAID group	disk group
Volume	ALU	Device
AffinityGroup	Storage Group	device group
Port	SP port	DIRECTOR port

swsag0491

syntax error. detail=*%DETAIL*

[Description]

There is an error in the format of the command. usage is displayed.

One of the following is displayed in *%DETAIL*:

- command is not specified.

  The command has not been specified.
- command[*value*] is invalid.

  The specified command is incorrect, or was not found.
- parameter is invalid.

  There is an error in the specified parameter.
- option[*value*] is invalid or duplicated.

  The specified option is incorrect, not found, or defined repeatedly.
- option[*value*] is invalid value or format.

  The value specified for the option is incorrect, or the format is wrong.

[Corrective Action]

Collect troubleshooting data, then contact Fujitsu technical staff.

For details on how to collect troubleshooting data, refer to "4.1 Collecting Troubleshooting Data".

---

swsag2320

No access path has been set up.

[Description]

The access path has not been specified.

[Corrective Action]

The error may be the result of one of the following:

- The Navisphere CLI security file does not exist

  Create the Navisphere CLI security file, and then perform the operation again.

- The Navisphere CLI security file does not contain user information

  Register the user information in the Navisphere CLI security file, and then perform the operation again.

- HostAffinity cannot be registered because the number of HostAffinity that can be registered in the port has reached its limit

  Check the number of HostAffinity registered in the port. To register a new HostAffinity, specify other ports, or delete unnecessary HostAffinity.

If the problem is still not resolved after performing the above actions, collect troubleshooting data, and contact Fujitsu technical staff.

For details on how to collect troubleshooting data, refer to "4.1 Collecting Troubleshooting Data".

---

ssmgr3302

Failed to obtain the raidgroup information.

[Description]

Failed to obtain the RAID group.

[Corrective Action]

The error may be the result of one of the following:

- The Navisphere CLI security file does not exist

  Create the Navisphere CLI security file, and then perform the operation again.

- The Navisphere CLI security file does not contain user information

  Register the user information in the Navisphere CLI security file, and then perform the operation again.

If the problem is still not resolved after performing the above actions, collect troubleshooting data, and contact Fujitsu technical staff.

For details on how to collect troubleshooting data, refer to "4.1 Collecting Troubleshooting Data".

---

ssmgr3305

Failed to obtain the volume.

[Description]

Failed to obtain the volume.

[Corrective Action]

The error may be the result of one of the following:

- The Navisphere CLI security file does not exist

  Create the Navisphere CLI security file, and then perform the operation again.

- The Navisphere CLI security file does not contain user information

  Register the user information in the Navisphere CLI security file, and then perform the operation again.

If the problem is still not resolved after performing the above actions, collect troubleshooting data, and contact Fujitsu technical staff.

For details on how to collect troubleshooting data, refer to "4.1 Collecting Troubleshooting Data".

---

ssmgr3309

Failed to obtain the affinitygroup.

[Description]

Failed to obtain the AffinityGroup.

[Corrective Action]

The error may be the result of one of the following:

- The Navisphere CLI security file does not exist

  Create the Navisphere CLI security file, and then perform the operation again.

- The Navisphere CLI security file does not contain user information

  Register the user information in the Navisphere CLI security file, and then perform the operation again.

If the problem is still not resolved after performing the above actions, collect troubleshooting data, and contact Fujitsu technical staff.

For details on how to collect troubleshooting data, refer to "4.1 Collecting Troubleshooting Data".

---

ssmgr3310

Failed to create the affinitygroup.

[Description]

Failed to create the AffinityGroup.

[Corrective Action]

The error may be the result of one of the following:

- The Navisphere CLI security file does not exist

  Create the Navisphere CLI security file, and then perform the operation again.

- The Navisphere CLI security file does not contain user information

  Register the user information in the Navisphere CLI security file, and then perform the operation again.

- A new AffinityGroup cannot be created because the number of AffinityGroup has reached its upper limit

  To create a new AffinityGroup, delete an existing AffinityGroup, then perform the operation again.

If the problem is still not resolved after performing the above actions, collect troubleshooting data, and contact Fujitsu technical staff.

For details on how to collect troubleshooting data, refer to "4.1 Collecting Troubleshooting Data".

---

ssmgr3311

Failed to delete the affinitygroup.

[Description]

Failed to delete the AffinityGroup.

[Corrective Action]

The error may be the result of one of the following:

- The Navisphere CLI security file does not exist

  Create the Navisphere CLI security file, and then perform the operation again.

- The Navisphere CLI security file does not contain user information

  Register the user information in the Navisphere CLI security file, and then perform the operation again.

If the problem is still not resolved after performing the above actions, collect troubleshooting data, and contact Fujitsu technical staff.

For details on how to collect troubleshooting data, refer to "4.1 Collecting Troubleshooting Data".

---

ssmgr3312

Failed to modify the affinitygroup.

[Description]

Failed to modify the AffinityGroup.

[Corrective Action]

The error may be the result of one of the following:

- The Navisphere CLI security file does not exist

  Create the Navisphere CLI security file, and then perform the operation again.

- The Navisphere CLI security file does not contain user information

  Register the user information in the Navisphere CLI security file, and then perform the operation again.

If the problem is still not resolved after performing the above actions, collect troubleshooting data, and contact Fujitsu technical staff.

For details on how to collect troubleshooting data, refer to "4.1 Collecting Troubleshooting Data".

---

ssmgr3320

Failed to obtain the port information.

[Description]

Failed to obtain the port information.

[Corrective Action]

The error may be the result of one of the following:

- The Navisphere CLI security file does not exist

  Create the Navisphere CLI security file, and then perform the operation again.

- The Navisphere CLI security file does not contain user information

  Register the user information in the Navisphere CLI security file, and then perform the operation again.

If the problem is still not resolved after performing the above actions, collect troubleshooting data, and contact Fujitsu technical staff.

For details on how to collect troubleshooting data, refer to "4.1 Collecting Troubleshooting Data".

---

ssmgr3322

Failed to obtain the device information.

[Description]

Failed to obtain the device information.

[Corrective Action]

The error may be the result of one of the following:

- The Navisphere CLI security file does not exist

  Create the Navisphere CLI security file, and then perform the operation again.

- The Navisphere CLI security file does not contain user information

  Register the user information in the Navisphere CLI security file, and then perform the operation again.

If the problem is still not resolved after performing the above actions, collect troubleshooting data, and contact Fujitsu technical staff.

For details on how to collect troubleshooting data, refer to "4.1 Collecting Troubleshooting Data".

---

ssmgr3420

Specified AffinityGroup(*{0}*) doesn't exist.

[Description]

The specified AffinityGroup does not exist.

The AffinityGroup number is displayed in *{0}*.

[Corrective Action]

Collect troubleshooting data, then contact Fujitsu technical staff.

For details on how to collect troubleshooting data, refer to "4.1 Collecting Troubleshooting Data".

---

ssmgr3424

As for volume *{0}* of specified AffinityGroup(*{1}*), the mapping is not done.

[Description]

Mapping is not performed for volume *{0}* of the specified AffinityGroup *{1}*.

The AffinityGroup number is displayed in *{1}*.

The volume number is displayed in *{0}*.

[Corrective Action]

Collect troubleshooting data, then contact Fujitsu technical staff.

For details on how to collect troubleshooting data, refer to "4.1 Collecting Troubleshooting Data".

---

ssmgr3426

All mappings of specified AffinityGroup(*{0}*) cannot be deleted.

[Description]

All mappings of the specified AffinityGroup cannot be deleted.

The AffinityGroup number is displayed in *{0}*.

[Corrective Action]

Collect troubleshooting data, then contact Fujitsu technical staff.

For details on how to collect troubleshooting data, refer to "4.1 Collecting Troubleshooting Data".

Chapter 4 Troubleshooting

This chapter explains how to solve problems and gather troubleshooting data for a technical investigation.

4.1 Collecting Troubleshooting Data

This section explains how to collect the data required to diagnose the causes of problems.

Use the following method to collect data with the rcxadm mgrctl snap command or the rcxadm agtctl snap command, and collect VM management software data.

Collection Method

Perform the following procedure on the server from which data is to be collected:

1. Log on to the server with OS administrator privileges.

   OS administrative privileges are required to collect troubleshooting data.

2. Execute the rcxadm mgrctl snap -full command or the rcxadm agtctl snap -full command.

   Note that the command differs depending on the server from which data is collected.

   - For admin servers:

     [Windows]

     >"*Installation_folder***Manager\bin\rcxadm" mgrctl snap [-dir** *dir***] -full** <RETURN>

     [Linux]

     # **/opt/FJSVrcvmr/bin/rcxadm mgrctl snap [-dir** *dir***] -full** <RETURN>

   - For managed servers:

     [Windows/Hyper-V]

     >"*Installation_folder***Agent\bin\rcxadm" agtctl snap [-dir** *dir***] -full** <RETURN>

     [Linux/VMware]

     # **/opt/FJSVrcxat/bin/rcxadm agtctl snap [-dir** *dir***] -full** <RETURN>

   Note

   The command to collect the data cannot be executed with VMware ESXi because an agent of Resource Orchestrator cannot be installed.

3. Collect the storage management software and VM management software data.

   For details on the collection method, refer to the manuals of each storage management software and VM management software.

   [VMware]
   If the VM management software is VMware vCenter Server, perform the following operations. Check that sufficient disk space is available in the storage location as the size of the collected troubleshooting data file is large.

   a. Start the VMware vSphere (TM) Client and connect to VMware vCenter Server as a user with system administrator privileges.

   b. From the menu, select [Administration]-[Export System Logs].

   c. For the collection target, specify VMware vCenter Server.

   d. Specify the storage location, and click <OK>.

Send the collected troubleshooting data to Fujitsu technical staff.

For details on troubleshooting data, refer to "Chapter 15 Troubleshooting" of the "ServerView Resource Coordinator VE Operation Guide".

If problems that are not described in this section occur, refer to "Chapter 15 Troubleshooting" of the "ServerView Resource Coordinator VE Operation Guide".

4.2 Overview

This section provides an overview of problems that can occur when operating ServerView Resource Orchestrator.

The types of problems are listed below.

Operations for Creating or Starting L-Servers

- The Guest OS Associated with the L-Server Does Not Start Properly When the L-Server Assigned with an Image is Started for the First Time.
- When System Failure Occurs on the Admin Server or Manager, or Job Cancellation or Timeout Occurs on the VM Management Software, Creating or Starting the L-Server Fails, and VM Guests in the Process of Being Created Using Server Virtualization Software Remains.
- When System Failure Occurs on the VM Management Server or VM Management Software during L-Server Creation, Creating or Starting the L-Server Fails but VM Guests Being Created on Server Virtualization Software may Remain.
- When Creation of an L-Server Takes a Long Time, or L-Server Creation Fails and "Message number 67390" is Displayed.
- When Starting an L-Server, "Message number 67320" is Displayed, and Starting of the L-Server Fails.
- When a Physical L-Server is Created or Started, "Message number 61162" is Displayed, then Creation or Startup of the L-Server Fails.
- When an L-Server is Created or Started, "Message number 62511" is Displayed, then Creation or Startup of the L-Server Fails.
- When Creating an L-Server using a Specific Type of Image, Login is Impossible when using VMs which use Japanese Keyboard Environments.
- Creation of an L-Server for Windows Using VMware Fails, and "Message number 67390" is Displayed.
- When Creating a Physical L-Server, Configuration of the Network Information Fails.
- When Opening the Physical L-Server Console Screen, the iRMC Management Window may be Opened.

General Operations for L-Servers

- When Trying to Open the [Migrate an L-Server] Dialog for an L-Server with unknown Status, it may Indicate Loading but not become Operable.
- The Status of an L-Server is Displayed as unknown, and "Message number 67154" or "Message number 67178" is Displayed Even if Operations Other Than L-Server Deletion are Performed.
- When Deleting an L-Server, "Message number 67391", "Message number 67210" or "Message number 67280" are Displayed and Deletion Fails.
- Migrating an L-Server between Servers Fails, and "Message number 67385" is Displayed.
- When a Virtual L-Server is Stopped, "Message number 69122" is Displayed, and Stopping of the L-Server Fails.
- When a Disk Resource is Connected to an L-Server, "Message number 62511" is Displayed and Connection Fails.
- When "Message number 67320" is Displayed after Recovery of the Manager from System Failure Due to L-Server Power Operations.
- When an RHEL-Xen Agent is Registered, "Message number 67359" is Displayed, and Registration of the Agent Fails.

Operations for Images or Cloning Images

- After Collection of Images Fails, Images Not Registered in the Image Pool Remain on VM Management Software.
- When Collecting a Cloning Image, "Message number 21161" or "Message number 21162" is Displayed.
- When Creation of an L-Server Specifying Images Fails and "Message number 67390" is Displayed.
- When Collecting a Cloning Image on an L-Server with the VM Type "RHEL-Xen", "Message number 67999" is Displayed, and Cloning Image Collection may Fail.

Operations for Snapshots

- After Collection of Images Fails, Snapshots Which Cannot be Referred to or Operated from Resource Orchestrator Remain on VM Management Software.
- When Restarting vCenter Server Services, Snapshots of L-Server may not be Managed.

Operations for VM Management Software or Server Virtualization Software

- "Message number 21162" is Displayed When the Configuration of the Server Virtualization Software (VMware) is Changed.
- When Job Cancellation or Timeout Occurs on VM Management Software, Collection of Cloning Images Fails and VM Guests in the Process of Being Copied Remain on the VM Management Software.
- When Server Switchover is Performed Using Redundancy Software of the Admin Server, Creation of L-Servers Fails, and Incomplete VM Guests will Remain on Server Virtualization Software.
- For RHEL-Xen, when a VM Host (Admin OS) is Restarted when Reboot or Panic Occurs, Creation, Deletion, Movement between Servers (Migration), and Collection of Cloning Images may not Complete.

Operations for RC console

- On the RC Console, the Values on the [Resource List] tab are "?", and on other tabs, "There is no information to display." is Displayed.
- On the RC Console, When Clicking <OK> Repeatedly, the Same Definition is Added across Multiple Lines.
- When Cookies Stored in a Web Browser Displaying the RC Console are Deleted, the Screen Layout may Collapse, or the Error Dialog "ERROR,Establishing connection with admin server failed." may be Displayed.
- When Restarting a Manager or Admin Server, the Recent Operations on the RC Console may Display Completed for all Operations Including the Operation Being Executed.

4.3 Operations for Creating or Starting L-Servers

The Guest OS Associated with the L-Server Does Not Start Properly When the L-Server Assigned with an Image is Started for the First Time.

[Description]

When an L-Server assigned with an image is started for the first time or when the guest OS is being started, one of the following messages is displayed on the guest OS console and the guest OS fails to startup.

a. "The computer restarted unexpectedly or encountered an unexpected error." is displayed

b. "Windows could not parse or process the unattend answer file for pass [specialize]" is displayed

c. "Your Product Key uniquely identifies your copy of windows." is displayed on the product key entry screen

d. "The system could not log you on. Make sure your User name and domain are correct, then type your password again. Passwords are case-sensitive." is displayed

[Corrective Action]

The parameters set for the OS specified when creating an L-Server may be incorrect. Set the correct values and perform the operation again.

- For a. through c.:

  Check the product key value. If the value is not correct, set the correct value.

- For d.:

  Check the administrator password value. If the value is not correct, set the correct value.

For details on the parameters set for the OS, refer to "D.5 [OS] Tab" of the "ServerView Resource Orchestrator User's Guide".

When System Failure Occurs on the Admin Server or Manager, or Job Cancellation or Timeout Occurs on the VM Management Software, Creating or Starting the L-Server Fails, and VM Guests in the Process of Being Created Using Server Virtualization Software Remains.

[Description]

When the following events occur while creating or starting the L-Server, one of the following messages may be output in the event log, and creating or starting of the L-Server will fail.

- Occurred problems
  - System failure, or reboot of the admin server or manager
  - Job cancel or time out on VM management software
  - Server switchover in which managers are operating using the HA function of cluster software or server virtualization software
- Messages

  - FJSVrcx:ERROR:67390:creating VM guest failed. detail=(*message*,vmerrno=9,ip=*IP_address*)
  - FJSVrcx:ERROR:67392:modifying VM guest failed. detail=(*message*,vmerrno=9,ip=*IP_address*)
  - FJSVrcx:ERROR:67390:creating VM guest failed. detail=(PowerShell script execution error : create_vmguest:task result error,vmerrno=104,ip=*IP_address*, host=*VM_host_IP_address*)
  - FJSVrcx:ERROR:67390:creating VM guest failed. detail=(PowerShell script execution error : create_vmguest:task result timeout,vmerrno=105,ip=*IP_address*,host=*VM_host_IP_address*)

After starting the manager again, one of the following messages is output in the event log, and creating or starting the L-Server that was being created before the manager stopped may fail.

- FJSVrcx:ERROR:67390:creating VM guest failed. detail=(clone *image_name*:task result error,vmerrno=104,ip=*IP_address*)
- FJSVrcx:ERROR:67390:creating VM guest failed. detail=(create *VM_guest_name*:task result error,vmerrno=104,ip=*IP_address*)
- FJSVrcx:ERROR:67390:creating VM guest failed. detail=(*Message*:task result error,vmerrno=104,ip=*IP_address*,host=*VM_host_IP_address*)
- FJSVrcx:ERROR:67390:creating VM guest failed. detail=(PowerShell script execution error : create_vmguest:VM guest already exists,vmerrno=603,ip=*IP_address*,host=*VM_host_IP_address*)

For details on the messages, refer to "Message number 67390" and "Message number 67392".

When the message above is output, VM guest in process of creation may remain on server virtualization software.

[Corrective Action]

Make sure that the manager is running, and use the following procedure for restoration:

1. Check the VM guest name related to the error message above with the event log on the RC console. The VM guest name is displayed for the resource name in the event log.
2. Display the VM management console, and check if the VM guest checked in 1. exists.

3. If there was a VM guest in 2., delete it from the VM management console. For details on how to delete VM guests, refer to the server virtualization software manual. (*1)

   *1: When server virtualization software is VMware, select "Delete from Disk", when deleting VM guests.

4. After confirming from the server tree or orchestration tree on the RC console that the VM guest that was checked in 1. does not exist, create or start the L-Server again.

When System Failure Occurs on the VM Management Server or VM Management Software during L-Server Creation, Creating or Starting the L-Server Fails but VM Guests Being Created on Server Virtualization Software may Remain.

[Description]

If system failure occurs on the VM management software server or VM management software while creating or starting the L-Server, one of the following messages may be output in the event log, and creating or starting of the L-Server will fail.

- FJSVrcx:ERROR:67390:creating VM guest failed. detail=(vmware remote error,vmerrno=101,ip=*IP_address*)
- FJSVrcx:ERROR:67390:creating VM guest failed. detail=(logout failed(remote error),vmerrno=116,ip=*IP_address*)
- FJSVrcx:ERROR:67390:creating VM guest failed. detail=timeout occurred
- FJSVrcx:ERROR:67392:modifying VM guest failed. detail=(vmware remote error,vmerrno=101,ip=*IP_address*)
- FJSVrcx:ERROR:67392:modifying VM guest failed. detail=(logout failed(remote error),vmerrno=116,ip=*IP_address*)

For details on the messages, refer to "Message number 67390" and "Message number 67392".

When the message above is output, VM guests in the process of creation may remain on server virtualization software.

[Corrective Action]

Make sure that the VM management software is running, and use the following procedure for restoration.

1. Check the resource name related to the error message above with the event log on the RC console. The VM guest name is displayed for the resource name.
2. Display the VM management console, and check if the VM guest checked in 1. exists.
3. If there was a VM guest in 2., delete it from the VM management console.

   For details on how to delete VM guests, refer to the server virtualization software manual. (*1)

   *1: When server virtualization software is VMware, select "Delete from Disk", when deleting VM guests.

4. Check if the VM management software can communicate with the manager. Select the VM management software in the server resource tree of the RC console, and check if the status displayed on the main panel is "normal".
5. After confirming from the server tree or orchestration tree on the RC console that the VM guest that was checked in 1. does not exist, create or start the L-Server again.

When Creation of an L-Server Takes a Long Time, or L-Server Creation Fails and "Message number 67390" is Displayed.

[Description]

Due to hardware failure, L-Server creation may take an excessive amount of time.

When it does take a long time, the following message is output and L-Server creation may fail.

FJSVrcx:ERROR:67390:creating VM guest failed. detail=timeout occurred

For details on the message, refer to "Message number 67390".

[Corrective Action]

There is a possibility that the hardware of the server used for L-Server creation has failed.

Check the following:

a. When the server used to create the L-Server is a blade server, if failure of the Fibre Channel switch blade has occurred.

b. When the server used to create the L-Server is a blade server, if failure of the LAN switch blade has occurred.

When hardware failure has occurred, update the hardware information held by the server virtualization software.

For details on how to update hardware information, refer to the server virtualization software manual.

When Starting an L-Server, "Message number 67320" is Displayed, and Starting of the L-Server Fails.

[Description]

When starting the L-Server, the following message is displayed, and starting of the L-Server may fail.

- ERROR:67320:power control error.target=*target* detail=(*VM guest*:vmguest not found,vmerrno=17,ip=*IP_address*)
- ERROR:67320:power control error.target=*target* detail=(poweron:task result error,vmerrno=104,ip=*IP_address*)

The following causes are possible:

a. Migration has been performed on VMware.

b. VMware DRS has been enabled.

c. VMware DPM has been enabled and a VM host in standby mode exists in the same cluster as the target VM host of L-Server creation.

For details on the message, refer to "Message number 67320".

[Corrective Action]

- For a. and b:

  In the RC console orchestration tree, right-click the target L-Server, and select [Update] from the popup menu. Check if the resource status of the updated L-Server is normal.

- For c:

  Start the L-Server from VM management software.

When a Physical L-Server is Created or Started, "Message number 61162" is Displayed, then Creation or Startup of the L-Server Fails.

[Description]

When a physical L-Server for which "Resource release" has been set in the [Server] tab of the [Create an L-Server] dialog or of the [Modify an L-Server] dialog is created or started, the following message may be displayed and the operation fails.

FJSVrcx:ERROR:61162:resource state(s) differ from actual state(s) in VIOM.

[Corrective Action]

A VIOM server profile may still remain.

To recover from the error, manually delete the VIOM server profile.

The name of the server profile is given as "L-Server name_admin ID".

Check the relevant server profile, delete the VIOM profile, and then restart the physical L-Server.

When an L-Server is Created or Started, "Message number 62511" is Displayed, then Creation or Startup of the L-Server Fails.

[Description]

When creating or starting the L-Server, the following message is displayed, and creation or startup of the L-Server may fail.

```
FJSVrcx:ERROR:62511:failed to control obj. IF=%1, message="ERROR:ssmgr3419:The specified alias name has already been registered."
```

In *obj*, the resource name of the storage management software is displayed.

In *%1*, the internal function name is displayed.

Creation or startup of the L-Server failed because the alias name of the affinity group has already been defined when ETERNUS storage was created.

[Corrective Action]

Using the following procedure, identify the overlapping affinity group, delete the unnecessary affinity group or the unnecessary affinity group and the Volume defined in the unnecessary affinity group, and then create the L-Server again.

1. Check the resource name of the unused address set resource (WWN) with the smallest number.

   a. Execute the following command:

   > *Installation_folder***Manager\bin\rcxadm addrset show -name** *Resource_name_of_the_Address_Set_Resource(WWN)*
   <RETURN>

   b. Identify the unused address set resource (WWN) with the smallest number.

   The range of the "start" and "end" inside the AddressSet tag becomes the range of the Address set resource (WWN).

   In the range of address set resources (WWN), all addresses other than those below are considered unused address set resources (WWN).

   - Addresses which are not used for management by Resource Orchestrator, and are displayed in the Exclude tag
   - Addresses which have been allocated, and are displayed in the Reserve tag

   From the unused address set resources, identify the one with the smallest number.

   

   Example

   When the output result is the one below, the resource name of the unused address set resource (WWN) with the smallest number will be "20:01:00:17:42:50:00:02".

```
<?xml version="1.0" encoding="utf-8"?>
  <AddressSet name="wwndata1" id="540" label="wwn1" subnet="" mask=""
start="20:01:00:17:42:50:00:00" end="20:01:00:17:42:50:00:0f">
    <Comment>wwn-test-data-1</Comment>
    <Exclude>
      20:01:00:17:42:50:00:00
    </Exclude>
    <Reserve>
      20:01:00:17:42:50:00:01
    </Reserve>
  </AddressSet>
```

2. Identify the alias name of the affinity group created when creating ETERNUS storage during L-Server creation.

   Extract the characters corresponding to "XX" below from the resource name of the unused address set resource (WWN) with the smallest number. These characters become the alias name of the affinity group created when creating ETERNUS storage.

```
"YY:XX:YY:YY:YY:XX:XX:XX"
```

Example

For "20:01:00:17:42:50:00:02" it would be "01500002".

3. Identify the affinity group to delete.

   Execute the following command to display the affinity groups of each ETERNUS storage that is managed using ESC.

   > *ESC_manager_installation_folder***Manager\opt\FJSVssmgr\sbin\storageadm affinity info -ipaddr** *ETERNUS_IP_address* <RETURN>

   Check if the alias name of the affinity group identified in 2. is included in the affinity group alias names displayed in "NAME".

   - If the alias name is included, the relevant affinity group will be the target of deletion.
   - If the alias name is not included, collect troubleshooting data, and contact Fujitsu technical staff.

   Check the affinity group number that is displayed for "NUMBER" of the relevant affinity group.

4. Check if the HBA to use the affinity group exists.

   Executing the following command displays the affinity group number, which is used from the host and from the WWPN of the HBA that uses ETERNUS.

   > *ESC_manager_installation_folder***Manager\opt\FJSVssmgr\sbin\storageadm zone info -hex** <RETURN>

   The lines after the output result of "<<< FC CA Zone Information >>>", the affinity group numbers that are used from the VM host and from the WWPN of the HBA that uses ETERNUS are collectively displayed for each storage unit.

   For the target ETERNUS, check if the affinity group number identified in step 3. is included.

   There may be multiple relevant lines.

   - If an affinity group number is contained, the HBA that uses the relevant affinity group number exists.

     When access to ETERNUS from the VM host using the relevant HBA is not necessary, check the WWPN of the CA that is displayed for "CA_WWPN" and the WWPN of the HBA that is displayed for "HBA_WWPN", then execute the following procedure.

     When access to ETERNUS from the VM host using the relevant HBA is necessary, collect troubleshooting data, and contact Fujitsu technical staff.

   - If an affinity group number is not contained, execute step 6.

5. Delete the definition of the HBA that uses the affinity group number.

   Executing the following command deletes all definitions of HBAs that were checked in step 4.

   > *ESC_manager_installation_folder***Manager\opt\FJSVssmgr\sbin\storageadm zone delete -storage** *CA_WWPN,Affinity_group_number* **-hba** *HBA_WWPN* **-update all** <RETURN>

6. Identify the volume to delete.

   Execute the following command to display the volume numbers of each Volume defined in the affinity group identified in step 3.

   > *ESC_manager_installation_folder***Manager\opt\FJSVssmgr\sbin\storageadm affinity info -ipaddr** *ETERNUS_IP_address* **-affinitygroup** *Affinity_group_number* <RETURN>

   The Volume with the volume number matching that displayed in "VOLUME" becomes the target of deletion.

7. Deletes the affinity group.

   Execute the following command to delete the affinity group identified in step 3.

   > *ESC_manager_installation_folder***Manager\opt\FJSVssmgr\sbin\storageadm affinity delete -ipaddr** *ETERNUS_IP_address* **-affinitygroup** *Affinity_group_number* <RETURN>

8. Decide whether or not the Volume should be deleted.

   Do not delete the Volume when the volume number identified in step 6. corresponds to the LUN created in advance.

   The LUN created in advance can be checked by the following method.

   Execute the following command: Check that the IP address of ETERNUS is displayed for "UNIT_NAME", and examine the line where "VOLUME_ID" contains the volume number confirmed in step 6.

   ```
   > Installation_folder\Manager\bin\rcxadm disk list -verbose <RETURN>
   ```

   - When "Yes" is displayed for "PRE_CREATED" in the relevant line, it is not necessary to delete the Volume, as the Volume is the LUN created in advance.
   - When "No" is displayed for "PRE_CREATED" in the relevant line, it is necessary to delete the Volume, as the Volume is not the LUN created in advance. Proceed to the following procedure.

9. Deletes Volume.

   Execute the following command to delete the Volume identified in step 6.

   ```
   > ESC_manager_installation_folder\Manager\opt\FJSVssmgr\sbin\storageadm volume delete -ipaddr
   ETERNUS_IP_address -volume Volume_number[,Volume_number,...] <RETURN>
   ```

When any other message is displayed from the storage management software, refer to the manual of the storage management software, take the necessary corrective action for the message, and then perform the operation again.

When Creating an L-Server using a Specific Type of Image, Login is Impossible when using VMs which use Japanese Keyboard Environments.

[Description]

When creating an L-Server using images with the following OS types, login to VMs using Japanese keyboard environments may fail.

- Windows Server 2008
- Windows 7
- Windows Vista

[Corrective Action]

Log in to a VM guest using a software keyboard, by opening "Regional and Language Options" on the Control Panel, and set the appropriate language.

Creation of an L-Server for Windows Using VMware Fails, and "Message number 67390" is Displayed.

[Description]

When creating an L-Server specifying an image for Windows using VMware, the following message is displayed, and creation of the L-Server may fail.

```
FJSVrcx:ERROR:67390:creating VM guest failed. detail= (customize VM guest name:task result error,vmerrno=104,ip=IP address)
```

The following causes are possible:

a. Sysprep is not located on VMware vCenter Server.

   If the OS type for the VM guest is Windows, installation of Sysprep is required.

b. The Sysprep located on VMware vCenter Server is incorrect.

   The correct Sysprep file, decided according to the OS version for the VM guest (Windows 2000, Windows XP, and Windows 2003) and the CPU architecture (x86 and x64) is necessary.

When using Windows Server 2008, Sysprep is not required because it is set up in the OS. For details on the message, refer to "Message number 67390".

[Corrective Action]

Perform the following corrective actions:

- For a.:

  Locate Sysprep on VMware vCenter Server.

- For b.:

  Confirm the OS version for the VM guest and CPU architecture, and locate Sysprep on VMware vCenter Server.

For details on the location for Sysprep, refer to the description for the Microsoft Sysprep tool in the "vSphere Virtual Machine Administration Guide" manual released by VMware, Inc.

Refer to the relevant version of document, referring to the following URL:

URL: http://www.vmware.com/support/pubs/vs_pubs.html (As of July 2011)

When Creating a Physical L-Server, Configuration of the Network Information Fails.

[Description]

During physical L-Server creation, if the following message is output, configuration of the network information has failed.

FJSVrcx:ERROR:67192:communication error.target=*target*

[Corrective Action]

When configuration of the network information fails, the physical L-Server cannot be deleted.

Perform the corrective action according to "Corrective Action" for the message.

Then configure the network information using the following method.

- Configure the network environment

  Execute the rcxadm lserver setup command to send the network information to an L-Server.

  For details on the command, refer to "1.3.1 rcxadm lserver".

When Opening the Physical L-Server Console Screen, the iRMC Management Window may be Opened.

[Description]

When right-clicking the target physical L-Server in the orchestration tree, and selecting [Console Screen] from the popup menu, the L-Server console screen is opened. After this is done once, this operation may open the iRMC management window instead of the physical L-Server console screen.

In this case, the following message is displayed on the iRMC management window.

Login required to continue. Please login with a valid username and password

[Corrective Action]

Perform the following corrective actions:

1. In the displayed iRMC screen, click <Login>.
2. In the dialog for authentication information, enter an iRMC user name and password, and click <OK>.
3. After logging in, close the web browser window displaying the iRMC management window.

4. Then open the physical L-Server console screen again from the RC console.

4.4 General Operations for L-Servers

When Trying to Open the [Migrate an L-Server] Dialog for an L-Server with unknown Status, it may Indicate Loading but not become Operable.

[Description]

When trying to open the [Migrate an L-Server] dialog for an L-Server with unknown status, it may indicate loading but not become operable. The following causes are possible:

a. A VM guest used on the L-Server has been deleted from server virtualization software.

b. During L-Server deletion, system failure of the VM management software server or VM management software has occurred.

c. During L-Server deletion, system failure of admin server or manager occurs.

[Corrective Action]

Close the [Migrate an L-Server] dialog, when loading takes a very long time.
After that, check that the admin server, manager, VM management software server, or VM management software have been started, and perform the relevant operation.

- For a.:

  Delete the L-Server.

- For b. or c.:

  Delete the L-Server again.

The Status of an L-Server is Displayed as unknown, and "Message number 67154" or "Message number 67178" is Displayed Even if Operations Other Than L-Server Deletion are Performed.

[Description]

The status of an L-Server is displayed as unknown, and even if operations other than L-Server deletion are performed, the following message is displayed.

```
FJSVrcx:ERROR:67154:server OS:not found
FJSVrcx:ERROR:67154:vm_host:not found
FJSVrcx:ERROR:67154:VM_guest_name:not found
FJSVrcx:ERROR:67178:L-Server_name is power-off status
```

The following causes are possible:

a. A VM guest used on the L-Server has been deleted from server virtualization software.

b. During L-Server deletion, system failure of the VM management software server or VM management software has occurred.

c. During L-Server deletion, system failure of admin server or manager occurs.

d. A VM guest used on the L-Server has been moved from server virtualization software to a VM host which is unregistered in VM pool.

For details on the messages, refer to "Message number 67154" or "Message number 67178".

[Corrective Action]

Check that the admin server, manager, VM management software server, or VM management software have been started, and perform the relevant operation.

- For a.:

  Delete the L-Server.

- For b. or c.:

  Delete the L-Server again.

- For d.:

  Migrate VM guests being used on the L-Server to VM hosts which are already registered in the VM pool.

When Deleting an L-Server, "Message number 67391", "Message number 67210" or "Message number 67280" are Displayed and Deletion Fails.

[Description]

The VM host, which the L-Server is running on, detects that the VM guest of the L-Server does not exist, so the following messages are output and L-Server deletion fails.

- FJSVrcx:ERROR:67391:deleting VM guest failed. detail=(*VM_guest_name*:vmguest not found,vmerrno=17,ip=*IP_address*)
- FJSVrcx:ERROR:67210:VM_guest_name(VM guest):is busy
- FJSVrcx:ERROR:67280:VM_guest_name:deleting VM guest not supported. (VM type)

For details on the messages, refer to "Message number 67391", "Message number 67210" and "Message number 67280".

[Corrective Action]

Check the name of the VM guest of the L-Server using the GUI or the CLI.

- When using the GUI:

  1. Display the RC console.
  2. Select the L-Server on the orchestration tree.
  3. Select the [Resource Details] tab on the main panel, and check the guest name of the resource.

- When using the CLI:

  1. Execute the following command:

     >**rcxadm lserver show -name** *L-Server_name* <RETURN>

  2. Check the display of "VmGuest:".

If the VM guest name is not displayed, delete the L-Server again.

If the VM guest name is displayed, check that migration is not being performed from the management screen of the VM management software, and then delete the L-Server again.

When any message is output during deletion of the L-Server, check that the VM guest name of the L-Server is not displayed, and then delete the L-Server again.

Migrating an L-Server between Servers Fails, and "Message number 67385" is Displayed.

[Description]

After starting an L-Server operating on a VMware VM host, when migration between servers is performed before completion of starting of the OS, the following message is output and migration fails.

FJSVrcx:ERROR:67385:migrating VM guest failed. *VM_guest_name* migrate from *source_server* to *destination_server*. detail=(*message*,vmerrno=150,ip=*IP_address*)

For details on the message, refer to "Message number 67385" in the "ServerView Resource Coordinator VE Messages".

[Corrective Action]

Perform the operation again after starting of the L-Server's OS is complete.

When a Virtual L-Server is Stopped, "Message number 69122" is Displayed, and Stopping of the L-Server Fails.

[Description]

When stopping the L-Server, the following message may be displayed, and stopping of the L-Server will fail.

```
FJSVrcx:ERROR:69122:timeout occurred while executing power control modules.
```

Timeout occurs because shutdown of the OS running on the L-Server takes a long time.

[Corrective Action]

Use the following procedure to change the wait time for stopping the L-Server.

1. Change the wait time.

   Change the parameter value given in the following file, according to your environment.

   Specify the parameter value in seconds. Do not change other parameters.

   - The target file

     [Windows]
     *Installation_folder***Manager\rails\config\rcx\vm_guest_params.rb**

     [Linux]
     /opt/FJSVrcvmr/rails/config/rcx/vm_guest_params.rb

   - Parameter

     SHUTDOWN_TIMEOUT

   Example

   When you change the wait time from 5 minutes to 15 minutes

   Before changing: SHUTDOWN_TIMEOUT = 300

   After changing: SHUTDOWN_TIMEOUT = 900

2. Restart the Manager.

   The changed value is enabled.

   [Windows]

   ```
   > Installation_folder\Manager\bin\rcxadm mgrctl stop <RETURN>
   > Installation_folder\Manager\bin\rcxadm mgrctl start <RETURN>
   ```

   [Linux]

   ```
   # /opt/FJSVrcvmr/bin/rcxadm mgrctl stop <RETURN>
   # /opt/FJSVrcvmr/bin/rcxadm mgrctl start <RETURN>
   ```

When a Disk Resource is Connected to an L-Server, "Message number 62511" is Displayed and Connection Fails.

[Description]

When a disk resource is connected to an L-Server, the following message may be displayed, and connection fails.

FJSVrcx:ERROR:62511:failed to control *obj*. IF=*%1*, message="ERROR:ssmgr3422:As for specified volume *Volume_number*, the LUN mapping is done."

In *obj*, the resource name of the storage management software is displayed.

In *%1*, the internal function name is displayed.

Connecting a disk resource to an L-Server has failed, because the Volume corresponding to the disk resource has already been mapped.

[Corrective Action]

The disk resource may be being used by another server.

If a Volume corresponding to a disk resource that has wrongly been specified from another server was being used, delete the mapping definition of the Volume to cancel the relation to the server. After that, connect the disk resource to the L-Server again.

1. Check the affinity group number of each ETERNUS storage.

   Execute the following command to display the affinity groups of each ETERNUS storage that is managed using ESC.

   >*ESC_manager_installation_folder***Manager\opt\FJSVssmgr\sbin\storageadm affinity info -ipaddr** *ETERNUS_IP_address* <RETURN>

   Check all affinity group numbers that are displayed for "NUMBER".

2. Check the details of each affinity group to identify the affinity group numbers that have been defined for the mapped Volume.

   Using the affinity group numbers checked in 1., view the Volume number defined for each affinity group. Find the affinity group with the volume number "VOLUME" displayed in the message.

   >*ESC_manager_installation_folder***Manager\opt\FJSVssmgr\sbin\storageadm affinity info -ipaddr** *ETERNUS_IP_address* **-affinitygroup** *Affinity_group_number* <RETURN>

3. Delete a Volume from the affinity group.

   - When the affinity group has multiple mapping definitions

     Execute the following command to delete the Volume from the affinity group that was checked in 2., which corresponds to the volume number that is displayed in the message.

     >*ESC_manager_installation_folder***Manager\opt\FJSVssmgr\sbin\storageadm affinity update -ipaddr** *ETERNUS_IP_address* **-affinitygroup** *Affinity_group_number* **-delete -volume** *Volume_number* <RETURN>

   - When the affinity group has only one mapping definition

     Check HBAs that use the affinity group, then delete the definition of the HBA.

     After that, delete the affinity group.

     Executing the following command displays the affinity group number, which is used from the WWPN of the CA of ETERNUS, from the WWPN of the HBA that uses ETERNUS, and from the server.

     >*ESC_manager_installation_folder***Manager\opt\FJSVssmgr\sbin\storageadm zone info -hex** <RETURN>

     In the lines after the output result of "<<< FC CA Zone Information >>>", the affinity group numbers that are used from the WWPN of the CA of ETERNUS, from the WWPN of the HBA that uses ETERNUS, and from the server are collectively displayed for each storage unit.

     Check the WWPN of the CA and HBA which correspond to the affinity group.

     Execute the following command to delete the definition of an HBA.

     >*ESC_manager_installation_folder***Manager\opt\FJSVssmgr\sbin\storageadm zone delete -storage** *CA_WWPN,Affinity_group_number* **-hba** *HBA_WWPN* **-update all** <RETURN>

     Execute the following command to delete an affinity group.

> *ESC_manager_installation_folder***Manager\opt\FJSVssmgr\sbin\storageadm affinity delete -ipaddr** *ETERNUS_IP_address* **-affinitygroup** *Affinity_group_number* <RETURN>

When "Message number 67320" is Displayed after Recovery of the Manager from System Failure Due to L-Server Power Operations.

[Description]

If system failure occurs on the manager after L-Server power operations (power on or off, or reboot), restoring the manager automatically performs the power operation, and it may fail. In this case, the following messages will be output in the event log.

- When the power is turned ON

  FJSVrcx:ERROR:67320:power control error. target=*target* detail=(xm create::Error: VM name '*VM_guest_name*' already in use by domain *Number*,vmerrno=400,ip=*IP_address*)

- When the power is turned OFF

  FJSVrcx:ERROR:67320:power control error. target=*target* detail=(xm shutdown::Error: Domain '*VM_guest_name*' does not exist.,vmerrno=400,ip=*IP_address*)

[Corrective Action]

As a power operation is being performed on the L-Server, ignore the error.

When an RHEL-Xen Agent is Registered, "Message number 67359" is Displayed, and Registration of the Agent Fails.

[Description]

When registering an RHEL-Xen agent, the following message is displayed, and registration of the agent may fail.

RcxError (FJSVrcx:ERROR:67359: *VM_host_name*: VM host registration failed detail=(get_host_info::/opt/FJSVrcxxen/bin/xen_plugin: line *Number*: *Number* – *Number* - (*Number* -): syntax error: operand expected (error tok...,vmerrno=400,ip=*VM_host_IP_address*))

For details on the message, refer to "Message number 67359".

[Corrective Action]

The parameters set for the following file in the VM host for registration may be incorrect:

/etc/xen/xend-config.sxp

Open the file and check that parameters are correct.

For details on the parameters, refer to the "Red Hat Enterprise Linux 5 Virtualization Guide".

Red Hat Enterprise Linux 5 Virtualization Guide

URL: http://docs.redhat.com/docs/en-US/Red_Hat_Enterprise_Linux/5/html/Virtualization/index.html (As of July 2011)

Example

Check that the following parameter in the VM host, defining the minimum amount of memory to reserve, is described along a format.

(dom0-min-mem *Memory_capacity*)

4.5 Operations for Images or Cloning Images

After Collection of Images Fails, Images Not Registered in the Image Pool Remain on VM Management Software.

[Description]

When image creation fails due to the following problems during image collection, images which are not registered in the image pool may remain on VM management software. In this case, the following messages will be output in the event log.

- Occurred problems
  - System failure, or reboot of the admin server or manager
  - Server switchover in which managers are operating using the HA function of cluster software or server virtualization software
- Messages

  - FJSVrcx:ERROR:61143:creating cloning image:failed
  - FJSVrcx:ERROR:67397:failed to create image. detail=(clone *VM_guest_name*:task result error,vmerrno=104,ip=*IP_address*)
  - FJSVrcx:ERROR:67397:failed to create image. detail=(*Message*,vmerrno=104,ip=*IP_address*,host=*VM_host_IP_address*)
  - FJSVrcx:ERROR:67397:failed to create image. detail=(PowerShell script execution error : create_image:create image failed. See details in the job result in System Center Virtual Machine Manager.,vmerrno=518,ip=*IP_address*,host=*VM_host_IP_address*)

For details on these messages, refer to "Message number 67397" and "Message number 61143" in the "ServerView Resource Coordinator VE Messages".

[Corrective Action]

Make sure that the manager is running, and use the following procedure for restoration:

1. Check the resource name related to the error message above with the event log on the RC console. The image name is displayed for the resource name of "Message number 61143" in the "ServerView Resource Coordinator VE Messages".
2. Wait until a "Message number 21161" containing the image name confirmed in 1. is output in the event log. This message displays the image name and generation.
3. Display the VM management console and check if the image of *Image_name@Generation* exists.
4. If there was an image in 3., delete it from the VM management console.

   For details on how to delete images, refer to the server virtualization software manual.
5. Wait until a "Message number 21162" containing the image name deleted in 4. is output in the event log. After that, perform the collection of the image again.

When Collecting a Cloning Image, "Message number 21161" or "Message number 21162" is Displayed.

[Description]

When collection of a cloning image is performed for an L-Server with the virtual L-Server of the Hyper-V VM type, one of the following messages may be output in the event log. The VM guest name whose name starts with "!temp_ror" is displayed for *obj*.

- FJSVrcx:INFO:21161:obj:VM guest is detected.
- FJSVrcx:INFO:21162:obj:VM guest is lost.

For details on the messages, refer to "Message number 21161" and "Message number 21162".

[Corrective Action]

No action is necessary.

When Creation of an L-Server Specifying Images Fails and "Message number 67390" is Displayed.

[Description]

Creation of an L-Server specifying images fails, and the following message is output.

FJSVrcx:ERROR:67390:creating VM guest failed. detail=(customize *VM_guest_name*:task result error,vmerrno=104,ip=*IP_address*)

For details on the message, refer to "Message number 67390".

[Corrective Action]

The OS type specified for images when creating L-Servers and the installed OS type may be different.

The OS type for images is inherited from the L-Server that is the source of image collection. Check if the OS type of the L-Server that is the source of collection and the installed OS type are the same.

If the OS types are not the same, collect images again after configuring the correct OS type of L-Server as the source for collection, and create an L-Server.

However, the type of OS for an L-Server created specifying images cannot be changed. When the OS type of the L-Server cannot be changed, use server virtualization software to collect images again after configuring the correct OS type for the VM guest, and then create the L-Server.

Delete collected images that have the wrong configurations.

For details on how to change OS type for L-Servers, refer to "6.3.1 Modifying Specifications" of the "ServerView Resource Orchestrator User's Guide".

For details on how to change the OS types of VM guests using server virtualization software, refer to the server virtualization software manual.

When Collecting a Cloning Image on an L-Server with the VM Type "RHEL-Xen", "Message number 67999" is Displayed, and Cloning Image Collection may Fail.

[Description]

When collecting a cloning image on an L-Server with the VM Type "RHEL-Xen", the following message is displayed, and cloning image collection may fail.

FJSVrcx:ERROR:67999:internal error, database conflict

[Corrective Action]

The character string specified for the -name option when collecting the cloning image may exceed the specifiable number of characters. Specify the name correctly and perform the operation again.

For details on the -name option, refer to "1.4.1 rcxadm image".

4.6 Operations for Snapshots

After Collection of Images Fails, Snapshots Which Cannot be Referred to or Operated from Resource Orchestrator Remain on VM Management Software.

[Description]

Even if snapshot collection fails due to problems other than those involving VM management software, such as the manager stopping, collected snapshots may exist on VM management software.

[Corrective Action]

Start the manager, make sure that the collection of snapshots has been completed, and then use the following procedure for restoration:

1. Display the VM management console and check if there are multiple snapshots whose *L-Server_host_name* and *generation* are the same among the snapshots whose name is RCX_*L-Server_host_name*@*Generation*.

2. If there were multiple snapshots in 1., delete snapshots other than latest ones from the VM management console.

   For details on how to delete snapshots, refer to the server virtualization software manual.

When Restarting vCenter Server Services, Snapshots of L-Server may not be Managed.

[Description]

When restarting services of vCenter Server registered as VM management software, L-Server snapshots using the vCenter Server may no longer be managed by Resource Orchestrator.

FJSVrcx:INFO:21162:(version=*version*):snapshot image is lost.

The version of the snapshot which is not managed is displayed in *version*.

The snapshot identification information notified by vCenter Server before and after restarting of the vCenter Server services may differ. Therefore, Resource Orchestrator determines that the snapshots are no longer managed by vCenter Server, and deletes the snapshot identification information. Snapshots which are not managed by Resource Orchestrator cannot be recognized. However, snapshots exist on vCenter Server.

[Corrective Action]

Operate snapshots which cannot be recognized from the vSphere Client (GUI for vCenter Server). When operation is not possible, contact your vCenter Server administrator.

To determine the relevant snapshots, check VM guest snapshots managed by the vCenter Server which had its services restarted. Snapshots created by Resource Orchestrator are named as follows: Snapshots with names in this format that are not recognized by Resource Orchestrator are the relevant snapshots.

RCX_*L-Server_host_name*@*version*

L-Server_host_name: a host name for the L-Server which holds relevant snapshots
version: Snapshot versions displayed in messages

Delete unnecessary snapshots from vSphere Client.

4.7 Operations for VM Management Software or Server Virtualization Software

"Message number 21162" is Displayed When the Configuration of the Server Virtualization Software (VMware) is Changed.

[Description]

In environments where VMware vCenter Server is registered as the VM management software, the message below is output and the cloning image is deleted if you delete a VM host from VMware vCenter Server.

FJSVrcx:INFO:21162:*image*(version=*version*):cloning image is lost.

For details on the message, refer to "Message number 21162".

[Corrective Action]

- Refer to the server virtualization software manual for how to restore the L-Server template. Next, check whether the following message is output:

FJSVrcx:INFO:21161:*image*(version=*version*):cloning image is detected.

- If the cloning images were registered in a resource pool, refer to "1.3.6 rcxadm pool" to register each cloning image in a resource pool.

  Example Command

```
>rcxadm pool register -name ImagePool -resource master_image -type vm_image <RETURN>
```

- If the cloning image was being used with an L-Server, refer to "1.3.1 rcxadm lserver" to modify the L-Server. Use the following format when specifying the XML file:

```
<?xml version="1.0" encoding="utf-8"?>
<Resources>
  <LServer name="L-Server name">
    <ServerImageLink name="cloning_image_name" version="generation" />
  </LServer>
</Resources>
```

Example

```
<?xml version="1.0" encoding="utf-8"?>
<Resources>
  <LServer name="L-Server1">
    <ServerImageLink name="master_image" version="3" />
  </LServer>
</Resources>
```

Example Command

```
>rcxadm lserver modify -name L-Server1 -file c:\temp\modify.xml <RETURN>
```

When Job Cancellation or Timeout Occurs on VM Management Software, Collection of Cloning Images Fails and VM Guests in the Process of Being Copied Remain on the VM Management Software.

[Description]

During cloning image collection, if job cancellation or timeout occurs on the VM management software, one of the following messages will be output in the event log, and cloning image collection may fail.

```
FJSVrcx:ERROR:67397:failed to create image. detail=(PowerShell script execution error : create_image:duplicate vmguest failed. See details in the job result in System Center Virtual Machine Manager.,vmerrno=516,ip=IP_address,host=VM_host_IP_address)
```

For details on the message, refer to "Message number 67397".

When the message above is output, VM guests in process of being copied may remain on VM management software.

[Corrective Action]

Use the following procedure to perform recovery.

1. Display the VM management console, and check if a VM guest whose name starts with "!temp_ror" exists.
2. If there is a VM guest that meets the condition in 1., delete it from the VM management console. For details on how to delete VM guests, refer to the server virtualization software manual.
3. Collect cloning images again.

When Server Switchover is Performed Using Redundancy Software of the Admin Server, Creation of L-Servers Fails, and Incomplete VM Guests will Remain on Server Virtualization Software.

[Description]

This event occurs at the same time as "When System Failure Occurs on the Admin Server or Manager, or Job Cancellation or Timeout Occurs on the VM Management Software, Creating or Starting the L-Server Fails, and VM Guests in the Process of Being Created Using Server Virtualization Software Remains.".

[Corrective Action]

For details on corrective actions, refer to "When System Failure Occurs on the Admin Server or Manager, or Job Cancellation or Timeout Occurs on the VM Management Software, Creating or Starting the L-Server Fails, and VM Guests in the Process of Being Created Using Server Virtualization Software Remains.".

For RHEL-Xen, when a VM Host (Admin OS) is Restarted when Reboot or Panic Occurs, Creation, Deletion, Movement between Servers (Migration), and Collection of Cloning Images may not Complete.

[Description]

When a VM host (admin OS) is restarted when reboot or panic occurs, creation, deletion, movement between servers (migration), and collection of cloning images may not complete.

[Corrective Action]

Restart the Resource Orchestrator manager.

4.8 Operations for RC Console

On the RC Console, the Values on the [Resource List] tab are "?", and on other tabs, "There is no information to display." is Displayed.

[Description]

In the following cases, on the RC console, the values of resources on the [Resource List] tab will be "?", and on the other tabs, "There is no information to display." is displayed.

a. When a user who has had all of their access scope settings deleted logs in to the RC console.

b. When a user who has had all of the resources in their set access scope deleted logs in to the RC console.

c. When the access scope settings of a user are all deleted while the user is logged in to the RC console.

d. When all the resources in the access scope settings of a user are all deleted while the user is logged in to the RC console.

 Example

Example of Panel Display Trouble

- [Resource List] tab
  The value of resources will be "?".
- Other tabs
  "There is no information to display." is displayed.

[Corrective Action]

Log off from the RC console as the relevant user, then configure the range of the access for the user so that the relevant resources exist. Log in to the RC console again and the information is displayed correctly.

For details on the access scope settings, refer to "Appendix C Roles and User Groups" of the "ServerView Resource Orchestrator User's Guide".

On the RC Console, When Clicking <OK> Repeatedly, the Same Definition is Added across Multiple Lines.

[Description]

On the RC console, when <OK> is clicked repeatedly, the same definition may be added across multiple lines on the screen.

- When <OK> is clicked repeatedly in the [Disk Definitions] dialog. This dialog is displayed from the [Disk] tab in the [Create an L-Server] dialog or the [Modify L-Server's definition] dialog
- When <OK> is clicked repeatedly in the [Add a NIC] dialog. This dialog is displayed from the [Network] tab in the [Create an L-Server] dialog or in the [Modify L-Server's definition] dialog
- When <OK> is clicked repeatedly in the [Excluded IP Setting] dialog. This dialog is displayed from the [Create a network resource] dialog or the [Modify a network resource] dialog

[Corrective Action]

When unnecessary definitions are added, delete them from the dialog.

- For the [Disk] tab in the [Create an L-Server] dialog or in the [Modify L-Server's definition] dialog

  1. Select the radio button corresponding to the unnecessary disk definitions.
  2. Click <Delete>.

     The unnecessary definitions are deleted.

- For the [Network] tab in the [Create an L-Server] dialog or in the [Modify L-Server's definition] dialog

  Clicking <Delete> deletes the unnecessary definitions.

- For the [Create a network resource] dialog or the [Modify a network resource] dialog

  1. Select the unnecessary definitions from the "Exclusion IP range" list.
  2. Click <Delete>.

     The unnecessary definitions are deleted.

When Cookies Stored in a Web Browser Displaying the RC Console are Deleted, the Screen Layout may Collapse, or the Error Dialog "ERROR,Establishing connection with admin server failed." may be Displayed.

[Description]

While using a web browser logging in the RC console, if the cookies stored in the browser are deleted, the session information (such as user IDs) of the RC console contained in the cookies also deleted.

As a result, the screen layout may collapse, or the error dialog "Establishing connection with admin server failed." may be displayed.

[Corrective Action]

Perform the following corrective actions:

1. Press F5, or click <Refresh> on the web browser.
2. Log in again from the Login window.
   The RC console is displayed.

When Restarting a Manager or Admin Server, the Recent Operations on the RC Console may Display Completed for all Operations Including the Operation Being Executed.

[Description]

When restarting a manager or admin server, the Recent Operations on the RC console may display Completed for all operations including the operation being executed.

As a result, operations in the completed state may output the following message and abort.

FJSVrcx:ERROR:67210:*Resource_name*:is busy

[Corrective Action]

Since there is no way to check the progress of ongoing processes displayed as Completed, restart the manager or admin server, wait for a short time, and then perform the operation again.

Chapter 5 Recording User Operations

This chapter explains how to record operation logs of Resource Orchestrator.

Note

- This function should be used by only special administrators or administrators, as all user operations of Resource Orchestrator can be viewed.
- Displaying resource names arranged in hierarchies is not supported.

5.1 Overview

Provides the functions to record user operations as operation logs in Resource Orchestrator.

Using this function, administrators can monitor the following information:

- Time events were recorded in the operation logs
- User name
- User group name
- IP address
- Status
- Resource name
- Operations

Note

Audit and billing functions are not provided in Resource Orchestrator.

The operation logs are output in the following formats:

```
Date  User  Group  IP          Progress  Resource  Event
----- ----- ------ ----------- --------- --------- -------
```

Element Name	Description	Remarks
Date	Time events were recorded in the operation logs	The time events recorded in the operation logs are output in the local time. If daylight savings time (a regulation of time in summer) is set on the operating system, the time events are output in daylight savings time. Time events are output in the following format: YYYY-MM-DD HH:MM:SS.XXX
User	User name	The user name of the logged in user is output. When a special administrator uses the command, a hyphen ("-") is output.
Group	User group name	The name of the user group name the logged in user belongs to is output. When the logged in user does not belong to a user group, a hyphen ("-") is output.
IP	IP address	The IP addresses of the connected clients are output.
Progress	Status	Starting and stopping of operations, and errors are output. The following statuses are output: - Starting: "Starting(*Operation_identifier*)"

Element Name	Description	Remarks
		- Stopping: "Completed(*Operation_identifier*)" - Errors: "Error(*Operation_identifier*)"
Resource	Resource name	A resource name and a resource identifier are output in the following format: - "Resource identifier(*Resource_name*)"
Event	Operations	The parameters received by the manager are output. For the information that will be output, refer to "5.5 Information Displayed in the Event Column".

Note

- A hyphen ("-") may be output for an operation identifier.
- For operations involving multiple resources, the same resource name as the one displayed in the Recent Operations on the RC console and the event log is output in "Resource".

Example

Output the latest 1 day's worth of data.

For details on how to operate operation logs, refer to "1.7.14 rcxadm logctl". For the information to be output, refer to "5.5 Information Displayed in the Event Column".

```
>rcxadm logctl list -latest -duration 1D <RETURN>
Date                  User   Group   IP            Progress             Resource
Event
----------------------  -----  ------  --------------  ----------------------
----------------------  --------------------
2011-03-10 21:15:00.390  -      -       10.20.30.53     Starting(BX620-1_21)    BX620-1_473(snap)
l_servers create
2011-03-10 21:15:06.250  -      -       10.20.30.53     Error(BX620-1_21)       BX620-1_473(snap)
l_servers create
2011-03-10 21:26:05.953  -      -       10.20.30.73     Starting(BX620-1_25)    BX620-1_510(snap)
l_servers create
2011-03-10 21:29:21.150  -      -       10.20.30.73     Completed(BX620-1_25)   BX620-1_510(snap)
l_servers create
2011-03-10 23:15:39.750  admin  -       10.20.30.53     Starting(BX620-1_35)    BX620-1_510(snap)
server_images snapshot
2011-03-10 23:15:46.781  admin  -       10.20.30.53     Completed(BX620-1_35)   BX620-1_510(snap)
server_images snapshot
2011-03-10 23:16:23.625  admin  -       10.20.30.53     Starting(BX620-1_36)    BX620-1_510(snap)
server_images restore
2011-03-10 23:16:28.484  admin  -       10.20.30.53     Completed(BX620-1_36)   BX620-1_510(snap)
server_images restore
2011-03-10 23:17:00.859  admin  -       10.20.30.53     Starting(BX620-1_37)    BX620-1_510(snap)
server_images destroy
2011-03-10 23:17:04.718  admin  -       10.20.30.53     Completed(BX620-1_37)   BX620-1_510(snap)
server_images destroy
2011-03-10 23:19:25.734  admin  -       10.20.30.53     Starting(BX620-1_38)    BX620-1_744(image_test)
server_images create
2011-03-10 23:27:29.640  admin  -       10.20.30.53     Completed(BX620-1_38)   BX620-1_744(image_test)
server_images create
2011-03-10 23:42:37.171  admin  -       10.20.30.53     Starting(BX620-1_40)    BX620-1_578(image_test)
server_images destroy
2011-03-10 23:42:47.460  admin  -       10.20.30.53     Completed(BX620-1_40)   BX620-1_578(image_test)
server_images destroy
```

```
2011-03-10 23:51:06.620  userA  groupA  127.0.0.1      Starting(BX620-1_41)    BX620-1_806(LS_RT_A001)
l_servers create
2011-03-10 23:53:06.437  userA  groupA  127.0.0.1      Completed(BX620-1_41)   BX620-1_806(LS_RT_A001)
l_servers create
2011-03-10 23:53:39.265  userA  groupA  127.0.0.1      Starting(BX620-1_42)    BX620-1_806(LS_RT_A001)
l_servers start
2011-03-10 23:54:26.640  userA  groupA  127.0.0.1      Completed(BX620-1_42)   BX620-1_806(LS_RT_A001)
l_servers start
2011-03-10 23:54:45.531  userA  groupA  127.0.0.1      Starting(BX620-1_43)    BX620-1_806(LS_RT_A001)
l_servers restart
2011-03-10 23:55:26.859  userA  groupA  127.0.0.1      Completed(BX620-1_43)   BX620-1_806(LS_RT_A001)
l_servers restart
2011-03-10 23:55:48.953  userA  groupA  127.0.0.1      Starting(BX620-1_44)    BX620-1_806(LS_RT_A001)
l_servers stop
2011-03-10 23:56:26.390  userA  groupA  127.0.0.1      Completed(BX620-1_44)   BX620-1_806(LS_RT_A001)
l_servers stop
2011-03-10 23:57:11.968  userA  groupA  127.0.0.1      Starting(BX620-1_46)    BX620-1_806(LS_RT_A001)
l_servers attach
2011-03-10 23:58:21.359  userA  groupA  127.0.0.1      Completed(BX620-1_46)   BX620-1_806(LS_RT_A001)
l_servers attach
2011-03-10 23:58:35.620  userA  groupA  127.0.0.1      Starting(BX620-1_47)    BX620-1_806(LS_RT_A001)
l_servers detach
2011-03-10 23:59:23.343  userA  groupA  127.0.0.1      Completed(BX620-1_47)   BX620-1_806(LS_RT_A001)
l_servers detach
2011-03-10 23:59:40.265  userA  groupA  127.0.0.1      Starting(BX620-1_48)    BX620-1_806(LS_RT_A001)
l_servers migrate
2011-03-11 00:00:53.984  userA  groupA  127.0.0.1      Completed(BX620-1_48)   BX620-1_806(LS_RT_A001)
l_servers migrate
2011-03-11 00:01:09.296  userA  groupA  127.0.0.1      Starting(BX620-1_50)    BX620-1_806(LS_RT_A001)
l_servers update
2011-03-11 00:02:58.125  userA  groupA  127.0.0.1      Completed(BX620-1_50)   BX620-1_806(LS_RT_A001)
l_servers update
2011-03-11 00:04:42.640  userA  groupA  127.0.0.1      Starting(BX620-1_57)    BX620-1_806(LS_RT_A001)
l_servers destroy
2011-03-11 00:05:22.921  userA  groupA  127.0.0.1      Completed(BX620-1_57)   BX620-1_806(LS_RT_A001)
l_servers destroy
2011-03-11 00:35:44.250  userA  groupA  127.0.0.1      Starting(BX620-1_117)   BX620-1_954(LS_RT_A001)
folders move_resource
2011-03-11 00:35:44.625  userA  groupA  127.0.0.1      Completed(BX620-1_117)  BX620-1_954(LS_RT_A001)
folders move_resource
2011-03-11 01:04:34.880  admin  -       10.20.30.53    Starting(BX620-1_570)   BX620-1_2193(master-52)
l_servers convert
2011-03-11 01:04:36.650  admin  -       10.20.30.53    Completed(BX620-1_570)  BX620-1_2193(master-52)
l_servers convert
2011-03-11 01:05:05.568  admin  -       10.20.30.53    Starting(BX620-1_571)   BX620-1_2193(master-52)
l_servers revert
2011-03-11 01:05:06.451  admin  -       10.20.30.53    Completed(BX620-1_571)  BX620-1_2193(master-52)
l_servers revert
```

Note

The starting point (Starting) of recording for each operation is when the operation is displayed in the Recent Operations on the RC console.

5.2 Usage Method

This section explains the methods for configuring and operating operation logs.

Perform the following procedure:

- Infrastructure administrator (infra_admin)

  1. Disk space estimation

     Infrastructure administrator (infra_admin) estimates the disk size to use for storing operation logs.

     Estimate the amount of disk space using the following formula, and then decide the number of days to retain operation logs.

{(*Number_of_operations_of_the_resource_in_1_day*) * (*Number_of_target_resources*) * 1(KB)} * (*retention_period)*

     Example

     Disk space when estimating that the retention period is 180 days (by default), the target resource is operated 4 times, and the number of target resources is 256

Retention period	Necessary Disk Space	Formula
180 days worth	Approx. 185 MB	4 * 256 * 1 * 180 = 184320 (KB)

  2. Check the settings in the [Date and Time properties] dialog of the operating system

     Check that the [Date & Time], the [Time Zone], and the [Internet Time (or Network Time Protocol)] tabs are set correctly. If the settings are incorrect, set them correctly.

  3. Configure the retention period of operation logs

     Execute the rcxadm logctl set command, to configure the retention period for operation logs.

     For details on the rcxadm logctl set command, refer to "1.7.14 rcxadm logctl".

  4. Start recording of the operation log

     Execute the rcxadm logctl start command to start recording the operation log.

     When the rcxadm logctl start command is executed, the operation logs will be recorded for the configured retention period from the date recording of operation logs is started.

     Days when no events occur, or days when recording is not possible due to the manager being stopped are not counted as dates for recording.

     Note

     - Display and deletion of operation logs may not be performed correctly if the settings in the [Date and Time properties] dialog of the operating system are changed after recording of operation logs is started.
     - When changing the settings in the [Date and Time properties] dialog after starting the recording of operation logs, refer to "5.3 Retention".

5.3 Retention

This section explains the retention of operation logs.

- Periodic deletion

  Due to extended periods of operation or modification of retention periods, operation logs which have exceeded a certain retention period are periodically deleted.

  The timing of deletion (based on retention period checks) is set to take place as the first operation after the date changes.

  Note

  - The recording period is the retention period + 1. After periodic deletion is performed, the recording period will be equal to the retention period.

  - Periodic deletion is executed when the next recording is started (the first recording after the date changes), and operation logs will be deleted in chronological order.

- Deletion

  Users can delete unnecessary operation logs by defining a retention period.

- Backup and Restore

  Use the following procedure for backup and restoration of operation logs.

  - Backup

    1. Confirm the "retention folder" for the operation logs.
    2. Stop recording operation logs.
    3. Back up the "retention folder" confirmed in 1.
    4. Start recording operation logs.

  - Restoration

    1. Confirm the "retention folder" for the operation logs.
    2. Stop recording operation logs.
    3. Restore the backed-up folder into the "retention folder" confirmed in 1.
    4. Start recording operation logs.

- Modification of the settings in the [Date and Time properties] dialog after starting the recording of operation logs

  Use the following procedure to modify the settings.

  1. Stop recording operation logs.
  2. Display the operation logs and back up the necessary portions from the records.
  3. Confirm the "retention folder" for the operation logs.
  4. Empty the "retention folder" by moving all files in the "retention folder" checked in 3. to a new location.
  5. Modify the settings in the [Date and Time properties] dialog.
  6. Start recording operation logs.

For the operations of operation logs (display, deletion, retention folder confirmation, recording period confirmation, stopping, and starting), refer to "1.7.14 rcxadm logctl".

Note

- Once recording operations are stopped, user operations are not recorded until the recording of logs is started again.
- Performing this procedure resets the recording period of operation logs to 0.

5.4 Scope of Operations Recorded in Operation Logs

The scope of operations recorded in operation logs is as indicated below.

Table 5.1 Scope of Operations

Types	Commands	Subcommands	GUI Operations
Resource Operations	rcxadm lserver	create	[Settings]-[Create]-[L-Server]
		delete	[Settings]-[Delete]
		modify	[Settings]-[Modify]

Types	Commands	Subcommands	GUI Operations
		start	[Operation]-[Power]-[ON]
		stop	[Operation]-[Power]-[OFF] [Operation]-[Power]-[OFF (Forced)]
		restart	[Operation]-[Power]-[Reboot] [Operation]-[Power]-[Reboot (Forced)]
		move	[Settings]-[Move to Folder]
		attach	[Settings]-[Modify]-[Attach Disk]
		detach	[Settings]-[Modify]-[Detach Disk]
		migrate	[Operation]-[Migrate VM Guest]
		set	-
		setup	-
		convert	[Settings]-[L-Server Conversion]-[Convert]
		revert	[Settings]-[L-Server Conversion]-[Revert]
Image Operations	rcxadm image	create	[Operation]-[Cloning]-[Collect]
		delete	Select a cloning image from the resource list, then select [Delete] [Operation]-[Snapshot]-[Delete]
		restore	[Operation]-[Snapshot]-[Restore]
		snapshot	[Operation]-[Snapshot]-[Collect]

5.5 Information Displayed in the Event Column

The information displayed in the Event column is as follows.

Table 5.2 Information Displayed in the Event Column

Operations	Commands	Subcommands	Character strings in the Event column
Resource Operations	rcxadm lserver	create	l_servers create
		delete	l_servers destroy
		modify	l_servers update
		start	l_servers start
		stop	l_servers stop
		restart	l_servers restart
		move	folders move_resource
		attach	l_servers attach
		detach	l_servers detach
		migrate	l_servers migrate
		set	l_servers set_attrs
		setup	l_servers setup
		convert	l_servers convert
		revert	l_servers revert
Image Operations	rcxadm image	create	server_images create
		delete	server_images destroy
		restore	server_images restore

Operations	Commands	Subcommands	Character strings in the Event column
		snapshot	server_images snapshot

Appendix A GUI/CLI

This appendix provides references for operation using the GUI/CLI based on functions.

Table A.1 L-Server

Function	Operations	
	GUI	CLI
Creating a resource folder	"6.1 Creation Using an L-Server Template" of the "ServerView Resource Orchestrator User's Guide"	"1.3.1 rcxadm lserver" create
Deleting a cloning image	"6.5 Deleting an L-Server" of the "ServerView Resource Orchestrator User's Guide"	"1.3.1 rcxadm lserver" delete
Modifying basic information	"6.3.2 Modifying the Basic Information" of the "ServerView Resource Orchestrator User's Guide"	"1.3.1 rcxadm lserver" modify
Modifying specifications	"6.3.1 Modifying Specifications" of the "ServerView Resource Orchestrator User's Guide"	"1.3.1 rcxadm lserver" modify
Viewing lists	Operate using the [Resource List] tab in the orchestration tree, shown in "2.1 RC Console" of the "ServerView Resource Orchestrator User's Guide". Displays only an L-Server in the selected resource folder, when a resource folder is selected.	"1.3.1 rcxadm lserver" list
Viewing detailed information	Operate using the [Resource Details] tab in the orchestration tree, shown in "2.1 RC Console" of the "ServerView Resource Orchestrator User's Guide".	"1.3.1 rcxadm lserver" show
Attaching and detaching disks	"6.3.3 Attaching and Detaching Disks" of the "ServerView Resource Orchestrator User's Guide"	"1.3.1 rcxadm lserver" attach "1.3.1 rcxadm lserver" detach
Starting an L-Server	"6.2.1 Starting an L-Server" of the "ServerView Resource Orchestrator User's Guide"	"1.3.1 rcxadm lserver" start
Stopping an L-Server	"6.2.2 Stopping an L-Server" of the "ServerView Resource Orchestrator User's Guide"	"1.3.1 rcxadm lserver" stop
Restarting an L-Server	"6.2.3 Restarting an L-Server" of the "ServerView Resource Orchestrator User's Guide"	"1.3.1 rcxadm lserver" restart
Migration of L-Servers between servers	"6.8 Moving an L-Server Between Servers (Migration)" of the "ServerView Resource Orchestrator User's Guide"	"1.3.1 rcxadm lserver" migrate
Snapshot collection (Virtual servers only)	"6.7.1 Snapshot" of the "ServerView Resource Orchestrator User's Guide"	"1.4.1 rcxadm image" snapshot
Snapshot restoration (Virtual servers only)	"6.7.1 Snapshot" of the "ServerView Resource Orchestrator User's Guide"	"1.4.1 rcxadm image" restore
Snapshot deletion (Virtual servers only)	"6.7.1 Snapshot" of the "ServerView Resource Orchestrator User's Guide"	"1.4.1 rcxadm image" delete
System image backup (Physical servers)	"6.7.2 Backup and Restore" in the "ServerView Resource Orchestrator User's Guide"	"4.1 rcxadm image" in the "ServerView Resource Coordinator VE Command Reference"
System image restoration (physical servers)	"6.7.2 Backup and Restore" in the "ServerView Resource Orchestrator User's Guide"	"4.1 rcxadm image" in the "ServerView Resource Coordinator VE Command Reference"
Changing physical server usage	"6.10 Changing Physical Server Usage" of the "ServerView Resource Orchestrator User's Guide"	**When only the configuration definition is created**

Function	Operations	
	GUI	CLI
	When only the configuration definition is created - Settings "6.1 Creation Using an L-Server Template" or "Appendix D L-Server Parameter Details" in the "ServerView Resource Orchestrator User's Guide" - Operations - For method 1. "6.2.1 Starting an L-Server" and "6.2.2 Stopping an L-Server" in the "ServerView Resource Orchestrator User's Guide" - For method 2. "6.2.1 Starting an L-Server" of the "ServerView Resource Orchestrator User's Guide" **When resources are already allocated** - Settings - First L-Server "6.1 Creation Using an L-Server Template" or "Appendix D L-Server Parameter Details" in the "ServerView Resource Orchestrator User's Guide" - Modifications "6.1 Creation Using an L-Server Template" or "Appendix D L-Server Parameter Details" in the "ServerView Resource Orchestrator User's Guide" "6.2.2 Stopping an L-Server" of the "ServerView Resource Orchestrator User's Guide" - Operations - For method 1. "6.2.1 Starting an L-Server" and "6.2.2 Stopping an L-Server" in the "ServerView Resource Orchestrator User's Guide" - For method 2. "6.2.1 Starting an L-Server" of the "ServerView Resource Orchestrator User's Guide"	- Settings "1.3.1 rcxadm lserver" create - Operations - For method 1. "1.3.1 rcxadm lserver" stop "1.3.1 rcxadm lserver" start - For method 2. "1.3.1 rcxadm lserver" start **When resources are already allocated** - Settings - First L-Server "1.3.1 rcxadm lserver" create - Modifications "1.3.1 rcxadm lserver" create "1.3.1 rcxadm lserver" stop - Operations - For method 1. "1.3.1 rcxadm lserver" stop "1.3.1 rcxadm lserver" start - For method 2. "1.3.1 rcxadm lserver" start
Server redundancy (HA) (Server switchover for physical servers)	"D.2 [Server] Tab" of the "ServerView Resource Orchestrator User's Guide"	"2.2 L-Server Template" and "2.3 L-Servers"
Positioning (Virtual servers only)	"D.2 [Server] Tab" of the "ServerView Resource Orchestrator User's Guide"	"2.2 L-Server Template" and "2.3 L-Servers"

Function	Operations	
	GUI	CLI
Exclusion (Virtual servers only)	"D.2 [Server] Tab" of the "ServerView Resource Orchestrator User's Guide"	"2.3 L-Servers"
Collecting cloning images	"6.6.1 Collecting a Cloning Image" of the "ServerView Resource Orchestrator User's Guide"	"1.4.1 rcxadm image" create
Deleting cloning images	"6.6.4 Deleting a Cloning Image" of the "ServerView Resource Orchestrator User's Guide"	"1.4.1 rcxadm image" delete
Displaying cloning images	"6.6.2 Viewing a Cloning Image" of the "ServerView Resource Orchestrator User's Guide"	"1.4.1 rcxadm image" list

-: Not supported

Table A.2 Resource Pool

Function	Operations	
	GUI	CLI
Creating a Resource Folder	"A.2 Resource Pool Operations" of the "ServerView Resource Orchestrator User's Guide"	"1.3.6 rcxadm pool" create
Viewing lists	Operate using the [Resource List] tab described in "A. 4 Viewing a Resource Pool" of the "ServerView Resource Orchestrator User's Guide".	"1.3.6 rcxadm pool" list
Viewing detailed information	Operate using the [Resource List] tab described in "A. 4 Viewing a Resource Pool" of the "ServerView Resource Orchestrator User's Guide".	"1.3.6 rcxadm pool" show
Registering resources	"A.3 Resource Operations" of the "ServerView Resource Orchestrator User's Guide"	"1.3.6 rcxadm pool" register
Releasing resource registration	"A.3 Resource Operations" of the "ServerView Resource Orchestrator User's Guide"	"1.3.6 rcxadm pool" unregister
Changing names, labels, comments, and priorities	"A.2 Resource Pool Operations" of the "ServerView Resource Orchestrator User's Guide"	"1.3.6 rcxadm pool" modify
Moving resource pools	"A.2 Resource Pool Operations" of the "ServerView Resource Orchestrator User's Guide"	"1.3.6 rcxadm pool" move
Deleting a Cloning Image	"A.2 Resource Pool Operations" of the "ServerView Resource Orchestrator User's Guide"	"1.3.6 rcxadm pool" delete
Viewing available pools	Operate using the [Available Pool] tab described in "A.4 Viewing a Resource Pool" of the "ServerView Resource Orchestrator User's Guide".	The same type of information can be obtained by combining commands. - Resource pool list "1.3.6 rcxadm pool" list - Resource lists under resource pools "1.3.6 rcxadm pool" list -name *name*
Max. number of possible L-Servers View	Sections related to the L-Server conversion view described in "A.4 Viewing a Resource Pool" of the "ServerView Resource Orchestrator User's Guide"	"1.3.6 rcxadm pool" list -name *name* -template *template_name*

-: Not supported

Table A.3 Resource Folder

Function	Operations	
	GUI	CLI
Creating a Resource Folder	"B.2.1 Creating a Resource Folder" of the "ServerView Resource Orchestrator User's Guide"	"1.3.7 rcxadm folder" create
Viewing lists	Operate using the [Resource List] tab in "B.2.2 Viewing a Resource Folder" of the "ServerView Resource Orchestrator User's Guide".	"1.3.7 rcxadm folder" list
Viewing detailed information	Operate using the [Resource List] tab in "B.2.2 Viewing a Resource Folder" of the "ServerView Resource Orchestrator User's Guide".	"1.3.7 rcxadm folder" show
Changing names, labels, comments, and priorities	"B.2.3 Modifying the Basic Information" of the "ServerView Resource Orchestrator User's Guide"	"1.3.7 rcxadm folder" modify
Moving resource folders	"B.2.6 Moving Resource Folders" of the "ServerView Resource Orchestrator User's Guide"	"1.3.7 rcxadm folder" move
Deleting a Cloning Image	"B.2.4 Deleting Resource Folders" of the "ServerView Resource Orchestrator User's Guide"	"1.3.7 rcxadm folder" delete

-: Not supported

Table A.4 Physical Storage Unit Resources

Function	Operations	
	GUI	CLI
Viewing lists	Operate using the [Resource List] tab in the storage tree shown in "2.1 RC Console" of the "ServerView Resource Orchestrator User's Guide".	"1.3.3 rcxadm storage" list
Viewing detailed information	"2.1 RC Console" of the "ServerView Resource Orchestrator User's Guide" Operate using the [Resource Details] tab in the storage tree.	"1.3.3 rcxadm storage" show
Changing labels and comments	No	"1.3.3 rcxadm storage" modify

-: Not supported

Table A.5 Virtual Storage Resources (RAID Groups, Aggregates, and VMFS)

Function	Operations	
	GUI	CLI
Creating resources	No	No
Viewing lists	Operate using the [Resource List] tab in "A.4 Viewing a Resource Pool" of the "ServerView Resource Orchestrator User's Guide", or the [Resource List] tab of the storage tree.	"1.3.2 rcxadm vstorage" list
Viewing detailed information	Operate using the [Resource Details] tab in "A.4 Viewing a Resource Pool" of the "ServerView Resource Orchestrator User's Guide", or the [Resource Details] tab in the storage tree.	"1.3.2 rcxadm vstorage" show
Moving virtual storage resources to specified resource pools	"A.3 Resource Operations" of the "ServerView Resource Orchestrator User's Guide"	"1.3.2 rcxadm vstorage" move

Function	Operations	
	GUI	CLI
Changing labels and comments	"A.3 Resource Operations" of the "ServerView Resource Orchestrator User's Guide"	"1.3.2 rcxadm vstorage" show

-: Not supported

Table A.6 Disk Resources (LUN, FlexVol, Virtual disks)

Function	Operations	
	GUI	CLI
Creating resources	No	No
Viewing lists	Operate using the [Resource List] tab in "A.4 Viewing a Resource Pool" of the "ServerView Resource Orchestrator User's Guide", or the [Resource List] tab of the storage tree.	"1.3.4 rcxadm disk" list
Viewing detailed information	Operate using the [Resource Details] tab in "A.4 Viewing a Resource Pool" of the "ServerView Resource Orchestrator User's Guide", or the [Resource Details] tab in the storage tree.	"1.3.4 rcxadm disk" show
Changing labels and comments	"A.3 Resource Operations" of the "ServerView Resource Orchestrator User's Guide"	"1.3.4 rcxadm disk" modify
Deleting a Cloning Image	No	No

-: Not supported

Table A.7 Storage Management Software

Function	Operations	
	GUI	CLI
Registration	No	"1.7.1 rcxadm storagemgr" register
Viewing lists	Operate using the [Resource List] tab in the storage tree shown in "2.1 RC Console" of the "ServerView Resource Orchestrator User's Guide".	"1.7.1 rcxadm storagemgr" list
Viewing detailed information	Operate using the [Resource Details] tab in the storage tree shown in "2.1 RC Console" of the "ServerView Resource Orchestrator User's Guide".	"1.7.1 rcxadm storagemgr" show
Unregistration	No	"1.7.1 rcxadm storagemgr" unregister
Changing labels, comments, IP addresses, port numbers, user names, and passwords	No	"1.7.1 rcxadm storagemgr" modify

-: Not supported

Table A.8 VM Management Software

Function	Operations	
	GUI	CLI
Registration	"6.1.5 Registering VM Management Software" in the "ServerView Resource Coordinator VE Setup Guide"	No

Function	Operations	
	GUI	CLI
Viewing lists	"2.4 Tree Panel" in the "ServerView Resource Coordinator VE Setup Guide" Operate using the [Resource List] tab in the management software tree.	"1.7.3 rcxadm vmmgr" list
Viewing detailed information	"2.4 Tree Panel" in the "ServerView Resource Coordinator VE Setup Guide" Operate using the [Resource Details] tab in the management software tree.	"1.7.3 rcxadm vmmgr" show
Deleting a Cloning Image	"6.4.5 Deleting VM Management Software" in the "ServerView Resource Coordinator VE Setup Guide"	No
Changing (Positioning, IP addresses, user names, and passwords)	"6.3.6 Changing VM Management Software Settings" in the "ServerView Resource Coordinator VE Setup Guide"	No

-: Not supported

Table A.9 Network Resources

Function	Operations	
	GUI	CLI
Creating and registering resources in resource pools	"5.3.4 Network Resources" of the "ServerView Resource Orchestrator User's Guide"	"1.3.5 rcxadm network" create
Viewing lists	Operate using the [Resource List] tab described in "A. 4 Viewing a Resource Pool" of the "ServerView Resource Orchestrator User's Guide".	"1.3.5 rcxadm network" list
Viewing detailed information	Operate using the [Resource Details] tab described in "A.4 Viewing a Resource Pool" of the "ServerView Resource Orchestrator User's Guide".	"1.3.5 rcxadm network" show
Moving network resources to specified resource pools	"A.3 Resource Operations" of the "ServerView Resource Orchestrator User's Guide"	"1.3.5 rcxadm network" move
Deleting a Cloning Image	"A.3 Resource Operations" of the "ServerView Resource Orchestrator User's Guide"	"1.3.5 rcxadm network" delete

-: Not supported

Table A.10 Address Set Resources

Function	Operations	
	GUI	CLI
Creating and registering resources in resource pools	No	"1.3.8 rcxadm addrset" create
Viewing lists	Operate using the [Resource List] tab described in "A. 4 Viewing a Resource Pool" of the "ServerView Resource Orchestrator User's Guide".	"1.3.8 rcxadm addrset" list
Viewing detailed information	Operate using the [Resource Details] tab described in "A.4 Viewing a Resource Pool" of the "ServerView Resource Orchestrator User's Guide".	"1.3.8 rcxadm addrset" show

Function	Operations	
	GUI	CLI
Moving address pools to specified resource folders	No	"1.3.8 rcxadm addrset" move
Deleting a Cloning Image	No	"1.3.8 rcxadm addrset" delete

-: Not supported

Table A.11 User Accounts

Function	Operations	
	GUI	CLI
Registration	"C.3.1 Register a User Account" in the "ServerView Resource Orchestrator User's Guide"	"1.6.1 rcxadm user" create
Viewing lists	"C.3.2 Viewing a User Account" in the "ServerView Resource Orchestrator User's Guide"	"1.6.1 rcxadm user" list
Viewing detailed information	"C.3.2 Viewing a User Account" in the "ServerView Resource Orchestrator User's Guide"	"1.6.1 rcxadm user" show
Changing names, labels, comments, user groups, passwords, and operation/access scopes	"C.3.3 Modifying a User Account" in the "ServerView Resource Orchestrator User's Guide"	"1.6.1 rcxadm user" modify
Deleting a Cloning Image	"C.3.4 Deleting a User Account" in the "ServerView Resource Orchestrator User's Guide"	"1.6.1 rcxadm user" delete

-: Not supported

Table A.12 User Groups

Function	Operations	
	GUI	CLI
Creating a Resource Folder	"C.2.1 Creating a User Group" in the "ServerView Resource Orchestrator User's Guide"	"1.6.2 rcxadm usergroup" create
Viewing lists	"C.2.2 Viewing a User Group" in the "ServerView Resource Orchestrator User's Guide"	"1.6.2 rcxadm usergroup" list
Viewing detailed information	"C.2.2 Viewing a User Group" in the "ServerView Resource Orchestrator User's Guide"	"1.6.2 rcxadm usergroup" show
Changing names, labels, comments, user groups, passwords, and operation/access scopes	"C.2.3 Modifying a User Group" in the "ServerView Resource Orchestrator User's Guide"	"1.6.2 rcxadm usergroup" modify
Deleting a Cloning Image	"C.2.4 Deleting a User Group" in the "ServerView Resource Orchestrator User's Guide"	"1.6.2 rcxadm usergroup" delete

-: Not supported

Table A.13 L-Server Template

Function	Operations	
	GUI	CLI
Import	"5.4.3 Importing a Template" of the "ServerView Resource Orchestrator User's Guide"	"1.5.1 rcxadm template" import
Edit	No	No
Export	"5.4.1 Exporting a Template" of the "ServerView Resource Orchestrator User's Guide"	"1.5.1 rcxadm template" export
Deleting a Cloning Image	"5.4.4 Deleting a Template" of the "ServerView Resource Orchestrator User's Guide"	"1.5.1 rcxadm template" delete
Changing names, labels, and comments	No	"1.5.1 rcxadm template" modify
Viewing lists	Operate using the [Template List] tab in the orchestration tree, shown in "2.1 RC Console" of the "ServerView Resource Orchestrator User's Guide".	"1.5.1 rcxadm template" list
Viewing detailed information	No	"1.5.1 rcxadm template" show

-: Not supported

Table A.14 Directory Service Operations for User Authentication

Function	Operations	
	GUI	CLI
Registration	No	"1.7.10 rcxadm authctl" register
Changing directory service connection information	No	"1.7.10 rcxadm authctl" modify
Viewing detailed information	No	"1.7.10 rcxadm authctl" show
Synchronizing	No	"1.7.10 rcxadm authctl" sync
Unregistration	No	"1.7.10 rcxadm authctl" unregister

-: Not supported

Glossary

aggregate

A unit for managing storage created through the aggregation of a RAID group.
Aggregates can contain multiple FlexVols.

backup site

An environment prepared in a different location, which is used for data recovery.

data center

A facility that manages client resources (servers, storage, networks, etc.), and provides internet connections and maintenance/operational services.

directory service

A service for updating and viewing the names (and associated attributes) of physical/logical resource names scattered across networks, based on organizational structures and geographical groups using a systematic (tree-shaped structure) management methodology.

disk resource

The unit for resources to connect to an L-Server. An example being a virtual disk provided by LUN or VM management software.

DN (Distinguished Name)

A name defined as a line of an RDN, which contains an entry representing its corresponding object and higher entry.

Fibre Channel

A method for connecting computers and peripheral devices and transferring data.
Generally used with servers requiring high-availability, to connect computers and storage systems.

Fibre Channel port

The connector for Fibre Channel interfaces.
When using ETERNUS storage, referred to as an FC-CA port, when using NetApp storage, referred to as an FC port, when using EMC CLARiiON, referred to as an SP port, when using EMC Symmetrix DMX, referred to as a DIRECTOR port.

FlexVol

A function that uses aggregates to provide virtual volumes.
Volumes can be created in an instant.

global pool

A resource pool that contains resources that can be used by multiple tenants.
It is located in a different location from the tenant folder.
By configuring a global pool with the attributes of a tenant folder, it becomes possible for tenant admins to use the pool.

IBP (Intelligent Blade Panel)

One of the operation modes for PRIMERGY LAN switch blades.
Can be used in coordination with ServerView Virtual-IO Manager (VIOM), and enables simple yet safe configuration of relationships of server blades and LAN switch blades.

ICT governance

A collection of principles and practices that encourage desirable behavior in the use of ICT (Information and Communication Technology) based on an evaluation of the impacts and risks posed in the adoption and application of ICT within an organization or community.

iSCSI boot

A configuration function that enables the starting and operation of servers via a network.
The OS and applications used to operate servers are stored on iSCSI storage, not the internal disks of servers.

iSCSI storage

Storage that uses an iSCSI connection.

LDAP (Lightweight Directory Access Protocol)

A protocol used for accessing Internet standard directories operated using TCP/IP.
LDAP provides functions such as direct searching and viewing of directory services using a web browser.

link aggregation

Function used to multiplex multiple ports and use them as a single virtual port.
By using this function, it becomes possible to use a band equal to the total of the bands of all the ports.
Also, if one of the multiplexed ports fails its load can be divided among the other ports, and the overall redundancy of ports improved.

local pool

A resource pool that contains resources that can only be used by a specific tenant.
It is located in a tenant folder.

L-Server

A logical platform composed of resource pools containing physical and virtual resources.

L-Server template

A template that defines the number of CPUs, memory capacity, disk capacity, and other specifications for resources to deploy to an L-Server.

LUN (Logical Unit Number)

A logical unit defined in the channel adapter of a storage unit.

MAC address (Media Access Control address)

A unique identifier that is assigned to Ethernet cards (hardware).
Also referred to as a physical address.
Transmission of data is performed based on this identifier. Described using a combination of the unique identifying numbers managed by/assigned to each maker by the IEEE, and the numbers that each maker assigns to their hardware.

member server

A collective term that refers to a server in a Windows network domain that is not a domain controller.

migration

The migration of a VM guest to a different VM host. The following two types of migration are available:

- Cold migration

  Migration of an inactive (powered-off) VM guest.

- Live migration

  Migration of an active (powered-on) VM guest.

overcommit

A function to virtually allocate more resources than the actual amount of resources (CPUs and memory) of a server.

physical network adapter

An adapter, such as a LAN, to connect physical servers or VM hosts to a network.

primary site

The environment that is usually used by Resource Orchestrator.

private cloud

A private form of cloud computing that provides ICT services exclusively within a corporation or organization.

RAID (Redundant Arrays of Inexpensive Disks)

Technology that realizes high-speed and highly-reliable storage systems using multiple hard disks.

RCVE (ServerView Resource Coordinator VE)

Automation/visualization software that enables simple server life cycle management by reducing setup, operational and maintenance efforts.

RDN (Relative Distinguished Name)

A name used to identify the lower entities of a higher entry.
Each RDN must be unique within the same entry.

resource

Collective term or concept that refers to the ICT resources (servers, storage, and networks), both physical (hardware) and logical (software), from which a system is composed.

resource folder

An arbitrary group of resources.

resource pool

A collection of servers, storage, networks, and other resources.

role

A collection of operations that can be performed.

SAN boot

A configuration function that enables the starting and operation of servers via a SAN.
The OS and applications used to operate servers are stored on SAN storage, not the internal disks of servers.

SAN storage

Storage that uses a Fibre Channel connection.

storage management software

Software for managing storage units.

storage resource

Collective term that refers to virtual storage resources and disk resources.

tenant

A unit for the division and segregation of management and operation of resources based on organizations or operations.
Resource Orchestrator enables operation of tenants through division of resources on a resource folder level (tenant folders), as well by user groups, and combinations of scopes configured to divide resources.

tenant admin

A user who manages the resources allocated to a tenant folder.
Has a scope corresponding to a tenant folder. The user who has the role of either administrator or service_admin is called a tenant admin.

tenant folder

A folder that is created for each tenant, and is used to manage the resources allocated to a tenant.
L-Servers and local groups are located in tenant folders. Also, it is possible to configure a global pool that tenant admins can use.

virtual storage resource

This refers to a resource that can dynamically create a disk resource.
An example being a file system for creating RAID groups or VM (VMFS of VMware, etc.).
In Resource Orchestrator, disk resources can be dynamically created from ETERNUS RAID groups, NetApp aggregates, and file systems for creating VM.

virtual switch

A function provided by server virtualization software in order to manage L-Server (VM) networks as virtual LAN switches.
Management of relationships between virtual L-Server NICs, and physical server NICs operating on VM hosts, can be performed using an operation similar to the connection of a normal LAN switch.

VMware Teaming

A function of VMware. By using VMware Teaming it is possible to perform redundancy by connecting a single virtual switch to multiple physical network adapters.

WWNN (World Wide Node Name)

A name that is set as a common value for the Fibre Channel ports of a node. However, the definitions of nodes vary between manufacturers, and may also indicate devices or adapters. Also referred to as a node WWN.

WWPN (World Wide Port Name)

A name that is a unique value and is set for each Fibre Channel port (HBA, CA, fibre channel switch ports, etc.), and is the IEEE global MAC address.
As the Fibre Channel ports of the same WWPN are unique, they are used as identifiers during Fibre Channel port login. Also referred to as a port WWN.