FUJITSU

ServerView Resource Orchestrator V3.1.0

Troubleshooting
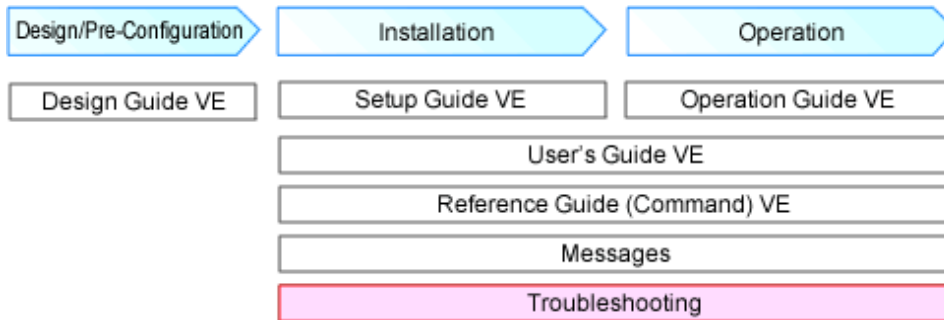
Windows/Linux

Preface

Resource Orchestrator Documentation Road Map

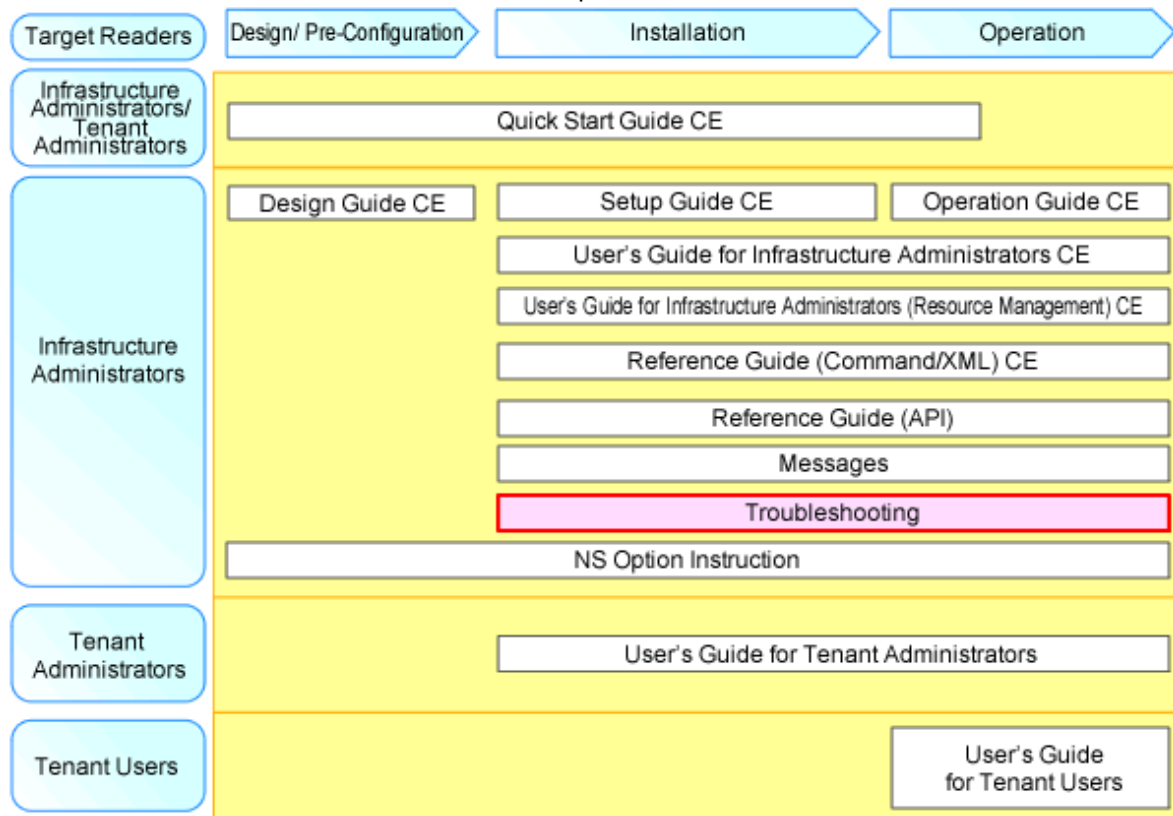The documentation road map for Resource Orchestrator is as shown below.

The documentation road map for the Virtual Edition is as shown below.

Resource Orchestrator Documentation Road Map

The documentation road map for the Cloud Edition is as shown below.

Resource Orchestrator Documentation Road Map

P Point

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

Roles that are not in the diagram	Roles that are in the diagram
Infrastructure operator Infrastructure monitor	Infrastructure administrator

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

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

Purpose

This manual provides information on the corrective action to be taken when trouble occurs during installation or operation of this product.

Target Readers

This manual is written for people who will install, operate, and maintain systems using Resource Orchestrator.

Organization

This manual is composed as follows:

Chapter 1 Flow of Troubleshooting

Explains the flow for troubleshooting.

Chapter 2 Operations for Physical Servers

Explains the corrective actions for trouble involving Virtual Edition.

Chapter 3 L-Server Operations

Explains the corrective actions for trouble that occurs when operating L-Servers.

Chapter 4 Operations for Images or Cloning Images

Explains the corrective actions for trouble that occurs when operating images or cloning images.

Chapter 5 Operations for Snapshots

Explains the corrective actions for trouble that occurs during snapshot operations.

Chapter 6 Operations for VM Management Software or Server Virtualization Software

Explains the corrective actions for trouble that occurs during operation of VM management software or server virtualization software.

Chapter 7 Operations for ROR Console

Explains the corrective actions for trouble that occurs when operating the ROR console.

Chapter 8 Operation of L-Platform Management Functions

Explains strategies for handling problems in the operation of L-Platform management functions.

Chapter 9 L-Platform Operations

Explains strategies for handling problems with L-Platform operations.

Glossary

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

Notational Conventions

The notation in this manual conforms to the following conventions.

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

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

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

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

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

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

- Window names, dialog names, menu names, and tab names are shown enclosed by brackets ([ ]).

- Button names are shown enclosed by angle brackets (< >) or square brackets ([ ]).

- The order of selecting menus is indicated using [ ]-[ ].

- Text to be entered by the user is indicated using bold text.

- Variables are indicated using italic text and underscores.

- The ellipses ("...") in menu names, indicating settings and operation window startup, are not shown.

- The ">" used in Windows is included in usage examples. When using Linux, read ">" as meaning "#".

- The URLs in this manual were correct when the manual was written.

Menus in the ROR console

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

Abbreviations

The following abbreviations are used in this manual:

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

Abbreviation	Products
Linux	Red Hat(R) Enterprise Linux(R) AS (v.4 for x86) Red Hat(R) Enterprise Linux(R) ES (v.4 for x86) Red Hat(R) Enterprise Linux(R) AS (v.4 for EM64T) Red Hat(R) Enterprise Linux(R) ES (v.4 for EM64T) Red Hat(R) Enterprise Linux(R) AS (4.5 for x86) Red Hat(R) Enterprise Linux(R) ES (4.5 for x86) Red Hat(R) Enterprise Linux(R) AS (4.5 for EM64T) Red Hat(R) Enterprise Linux(R) ES (4.5 for EM64T) Red Hat(R) Enterprise Linux(R) AS (4.6 for x86) Red Hat(R) Enterprise Linux(R) ES (4.6 for x86) Red Hat(R) Enterprise Linux(R) AS (4.6 for EM64T) Red Hat(R) Enterprise Linux(R) ES (4.6 for EM64T) Red Hat(R) Enterprise Linux(R) AS (4.7 for x86) Red Hat(R) Enterprise Linux(R) ES (4.7 for x86) Red Hat(R) Enterprise Linux(R) AS (4.7 for EM64T) Red Hat(R) Enterprise Linux(R) ES (4.7 for EM64T) Red Hat(R) Enterprise Linux(R) AS (4.8 for x86) Red Hat(R) Enterprise Linux(R) ES (4.8 for x86) Red Hat(R) Enterprise Linux(R) AS (4.8 for EM64T) Red Hat(R) Enterprise Linux(R) ES (4.8 for EM64T) Red Hat(R) Enterprise Linux(R) 5 (for x86) Red Hat(R) Enterprise Linux(R) 5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.1 (for x86) Red Hat(R) Enterprise Linux(R) 5.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.2 (for x86) Red Hat(R) Enterprise Linux(R) 5.2 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.3 (for x86) Red Hat(R) Enterprise Linux(R) 5.3 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.5 (for x86) Red Hat(R) Enterprise Linux(R) 5.5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.6 (for x86) Red Hat(R) Enterprise Linux(R) 5.6 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.7 (for x86) Red Hat(R) Enterprise Linux(R) 5.7 (for Intel64) Red Hat(R) Enterprise Linux(R) 6 (for x86) Red Hat(R) Enterprise Linux(R) 6 (for Intel64) Red Hat(R) Enterprise Linux(R) 6.1 (for x86) Red Hat(R) Enterprise Linux(R) 6.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64) SUSE(R) Linux Enterprise Server 10 Service Pack2 for x86 SUSE(R) Linux Enterprise Server 10 Service Pack2 for EM64T SUSE(R) Linux Enterprise Server 10 Service Pack3 for x86 SUSE(R) Linux Enterprise Server 10 Service Pack3 for EM64T SUSE(R) Linux Enterprise Server 11 for x86 SUSE(R) Linux Enterprise Server 11 for EM64T SUSE(R) Linux Enterprise Server 11 Service Pack1 for x86 SUSE(R) Linux Enterprise Server 11 Service Pack1 for EM64T Oracle Enterprise Linux Release 5 Update 4 for x86 (32 Bit) Oracle Enterprise Linux Release 5 Update 4 for x86_64 (64 Bit) Oracle Enterprise Linux Release 5 Update 5 for x86 (32 Bit) Oracle Enterprise Linux Release 5 Update 5 for x86_64 (64 Bit)
Red Hat Enterprise Linux	Red Hat(R) Enterprise Linux(R) AS (v.4 for x86) Red Hat(R) Enterprise Linux(R) ES (v.4 for x86)

Abbreviation	Products
	Red Hat(R) Enterprise Linux(R) AS (v.4 for EM64T) Red Hat(R) Enterprise Linux(R) ES (v.4 for EM64T) Red Hat(R) Enterprise Linux(R) AS (4.5 for x86) Red Hat(R) Enterprise Linux(R) ES (4.5 for x86) Red Hat(R) Enterprise Linux(R) AS (4.5 for EM64T) Red Hat(R) Enterprise Linux(R) ES (4.5 for EM64T) Red Hat(R) Enterprise Linux(R) AS (4.6 for x86) Red Hat(R) Enterprise Linux(R) ES (4.6 for x86) Red Hat(R) Enterprise Linux(R) AS (4.6 for EM64T) Red Hat(R) Enterprise Linux(R) ES (4.6 for EM64T) Red Hat(R) Enterprise Linux(R) AS (4.7 for x86) Red Hat(R) Enterprise Linux(R) ES (4.7 for x86) Red Hat(R) Enterprise Linux(R) AS (4.7 for EM64T) Red Hat(R) Enterprise Linux(R) ES (4.7 for EM64T) Red Hat(R) Enterprise Linux(R) AS (4.8 for x86) Red Hat(R) Enterprise Linux(R) ES (4.8 for x86) Red Hat(R) Enterprise Linux(R) AS (4.8 for EM64T) Red Hat(R) Enterprise Linux(R) ES (4.8 for EM64T) Red Hat(R) Enterprise Linux(R) 5 (for x86) Red Hat(R) Enterprise Linux(R) 5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.1 (for x86) Red Hat(R) Enterprise Linux(R) 5.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.2 (for x86) Red Hat(R) Enterprise Linux(R) 5.2 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.3 (for x86) Red Hat(R) Enterprise Linux(R) 5.3 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.5 (for x86) Red Hat(R) Enterprise Linux(R) 5.5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.6 (for x86) Red Hat(R) Enterprise Linux(R) 5.6 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.7 (for x86) Red Hat(R) Enterprise Linux(R) 5.7 (for Intel64) Red Hat(R) Enterprise Linux(R) 6 (for x86) Red Hat(R) Enterprise Linux(R) 6 (for Intel64) Red Hat(R) Enterprise Linux(R) 6.1 (for x86) Red Hat(R) Enterprise Linux(R) 6.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64)
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Abbreviation	Products
Red Hat Enterprise Linux 6	Red Hat(R) Enterprise Linux(R) 6 (for x86) Red Hat(R) Enterprise Linux(R) 6 (for Intel64) Red Hat(R) Enterprise Linux(R) 6.1 (for x86) Red Hat(R) Enterprise Linux(R) 6.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64)
RHEL-KVM	Red Hat(R) Enterprise Linux(R) 6.1 (for x86) Virtual Machine Function Red Hat(R) Enterprise Linux(R) 6.1 (for Intel64) Virtual Machine Function Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Virtual Machine Function Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64) Virtual Machine Function
Xen	Citrix XenServer(TM) 5.5 Citrix Essentials(TM) for XenServer 5.5, Enterprise Edition Red Hat(R) Enterprise Linux(R) 5.3 (for x86) Linux Virtual Machine Function Red Hat(R) Enterprise Linux(R) 5.3 (for Intel64) Linux Virtual Machine Function 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 Red Hat(R) Enterprise Linux(R) 5.5 (for x86) Linux Virtual Machine Function Red Hat(R) Enterprise Linux(R) 5.5 (for Intel64) Linux Virtual Machine Function Red Hat(R) Enterprise Linux(R) 5.6 (for x86) Linux Virtual Machine Function Red Hat(R) Enterprise Linux(R) 5.6 (for Intel64) Linux Virtual Machine Function Red Hat(R) Enterprise Linux(R) 5.7 (for x86) Linux Virtual Machine Function Red Hat(R) Enterprise Linux(R) 5.7 (for Intel64) Linux Virtual Machine Function
DOS	Microsoft(R) MS-DOS(R) operating system, DR DOS(R)
SUSE Linux Enterprise Server	SUSE(R) Linux Enterprise Server 10 Service Pack2 for x86 SUSE(R) Linux Enterprise Server 10 Service Pack2 for EM64T SUSE(R) Linux Enterprise Server 10 Service Pack3 for x86 SUSE(R) Linux Enterprise Server 10 Service Pack3 for EM64T SUSE(R) Linux Enterprise Server 11 for x86 SUSE(R) Linux Enterprise Server 11 for EM64T SUSE(R) Linux Enterprise Server 11 Service Pack1 for x86 SUSE(R) Linux Enterprise Server 11 Service Pack1 for EM64T
Oracle Enterprise Linux	Oracle Enterprise Linux Release 5 Update 4 for x86 (32 Bit) Oracle Enterprise Linux Release 5 Update 4 for x86_64 (64 Bit) Oracle Enterprise Linux Release 5 Update 5 for x86 (32 Bit) Oracle Enterprise Linux Release 5 Update 5 for x86_64 (64 Bit)
Solaris	Solaris(TM) 10 Operating System
SCVMM	System Center Virtual Machine Manager 2008 R2 System Center 2012 Virtual Machine Manager
VMware	VMware(R) Infrastructure 3 VMware vSphere(R) 4 VMware vSphere(R) 4.1 VMware vSphere(R) 5
VMware ESX	VMware(R) ESX(R)
VMware ESX 4	VMware(R) ESX(R) 4
VMware ESXi	VMware(R) ESXi(TM)
VMware ESXi 5.0	VMware(R) ESXi(TM) 5.0
VMware Infrastructure 3	VMware(R) Infrastructure 3
VMware Infrastructure Client	VMware(R) Infrastructure Client
VMware vSphere 4.0	VMware vSphere(R) 4.0

Abbreviation	Products
VMware vSphere 4.1	VMware vSphere(R) 4.1
VMware vSphere 5	VMware vSphere(R) 5
VMware vSphere Client	VMware vSphere(R) Client
VMware vCenter Server	VMware(R) vCenter(TM) Server
VMware vClient	VMware(R) vClient(TM)
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
Excel	Microsoft(R) Office Excel(R) 2010 Microsoft(R) Office Excel(R) 2007 Microsoft(R) Office Excel(R) 2003
Excel 2010	Microsoft(R) Office Excel(R) 2010
Excel 2007	Microsoft(R) Office Excel(R) 2007
Excel 2003	Microsoft(R) Office Excel(R) 2003
RCVE	ServerView Resource Coordinator VE
ROR	ServerView Resource Orchestrator
ROR VE	ServerView Resource Orchestrator Virtual Edition
ROR CE	ServerView Resource Orchestrator Cloud Edition
Resource Coordinator	Systemwalker Resource Coordinator
Resource Coordinator VE	ServerView Resource Coordinator VE Systemwalker Resource Coordinator Virtual server Edition
Resource Orchestrator	ServerView Resource Orchestrator

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)

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

Abbreviation	Products
Red Hat Enterprise Linux 5	Red Hat(R) Enterprise Linux(R) 5 (for x86) Red Hat(R) Enterprise Linux(R) 5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.1 (for x86) Red Hat(R) Enterprise Linux(R) 5.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.2 (for x86) Red Hat(R) Enterprise Linux(R) 5.2 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.3 (for x86) Red Hat(R) Enterprise Linux(R) 5.3 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.5 (for x86) Red Hat(R) Enterprise Linux(R) 5.5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.6 (for x86) Red Hat(R) Enterprise Linux(R) 5.6 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.7 (for x86) Red Hat(R) Enterprise Linux(R) 5.7 (for Intel64)
Red Hat Enterprise Linux 6	Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64)
RHEL5-Xen	Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Linux Virtual Machine Function Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Linux Virtual Machine Function
RHEL-KVM	Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Virtual Machine Function Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64) Virtual Machine Function
DOS	Microsoft(R) MS-DOS(R) operating system, DR DOS(R)
SUSE Linux Enterprise Server	SUSE(R) Linux Enterprise Server 11 for x86 SUSE(R) Linux Enterprise Server 11 for EM64T
Oracle VM	Oracle VM Server for x86
ESC	ETERNUS SF Storage Cruiser
GLS	PRIMECLUSTER GLS
Navisphere	EMC Navisphere Manager
Solutions Enabler	EMC Solutions Enabler
MSFC	Microsoft Failover Cluster
SCVMM	System Center Virtual Machine Manager 2008 R2 System Center 2012 Virtual Machine Manager
VMware	VMware vSphere(R) 4 VMware vSphere(R) 4.1 VMware vSphere(R) 5
VMware ESX	VMware(R) ESX(R)
VMware ESX 4	VMware(R) ESX(R) 4
VMware ESXi	VMware(R) ESXi(TM)
VMware ESXi 5.0	VMware(R) ESXi(TM) 5.0
VMware Tools	VMware(R) Tools
VMware vSphere 4.0	VMware vSphere(R) 4.0
VMware vSphere 4.1	VMware vSphere(R) 4.1
VMware vSphere 5	VMware vSphere(R) 5
VMware vSphere Client	VMware vSphere(R) Client
VMware vCenter Server	VMware(R) vCenter(TM) Server

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

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Notices

Month/Year Issued, Edition	Manual Code
July 2012, First Edition	J2X1-7672-02ENZ0(00)

Contents

Chapter 1 Flow of Troubleshooting

This chapter explains the flow of troubleshooting.

In Resource Orchestrator, collection of troubleshooting data is recommended to aid in diagnosing operational problems. Troubleshooting data collected immediately after the occurrence of a failure aids in investigation and tracking down to the cause of the failure.

The following procedure shows how to cope with failures:

1. If a failure is believed to have occurred, collect troubleshooting data.

    For collecting troubleshooting data, refer to the following topics:

    -   For Virtual Edition, refer to "1.1 Collecting Troubleshooting Data (Virtual Edition)".

    -   For Cloud Edition, refer to "1.2 Collecting Investigation Data(Cloud Edition)".

2. Take corrective actions for the problems, and monitor the results of those actions.

    After the problems are solved, continue normal operation.

3. Save the troubleshooting data collected in 1. for future use in problem solving.

4. If the problem still remains, send the troubleshooting data collected in 1. to Fujitsu technical staff and request investigation.

1.1 Collecting Troubleshooting Data (Virtual Edition)

If a problem occurs on a system using Resource Orchestrator, use the following procedures to collect troubleshooting data so that Fujitsu technical staff can investigate the problem.
Two kinds of troubleshooting data can be collected. Collect the data which is relevant to one of the situations described below:

1. Collect initial troubleshooting data

    To identify the cause of a problem, collect the data required to perform an initial diagnostic of the problem and contact Fujitsu technical staff.
    The amount of data collected is small enough to be sent by e-mail.
    Refer to "1.1.1 Collecting Initial Troubleshooting Data" for more information.

2. Collect exhaustive troubleshooting data

    In some cases, the cause of a problem can be identified from the initial troubleshooting data alone, but in other cases, additional information is required.
    In such cases, a large volume of data is required to perform a more exhaustive investigation and identify the cause of a problem.
    As a result, exhaustive troubleshooting data is significantly larger than initial troubleshooting data.

    Collect and send exhaustive troubleshooting data if requested to do so by Fujitsu technical staff.
    Refer to "1.1.2 Collecting Exhaustive Troubleshooting Data" for more information.

Note
....
Once a problem occurs, troubleshooting data should be collected promptly. Otherwise, data necessary for a problem investigation may be overwritten.
....

1.1.1 Collecting Initial Troubleshooting Data

This section explains how to collect the data required to diagnose the causes of problems.

About Collection Methods

The initial troubleshooting data can be collected using the following methods.
Based on each collection method's characteristics, chose the appropriate one according to the environment and system state in which the problem occurred.

- **Collecting data from the admin server**

  This method involves executing a troubleshooting data collection command (rcxadm mgrctl snap -all) on the admin server.
  This method allows collection of data from all managed servers at once via the network. This is easier than executing a command individually on each managed server.
  For how to collect the data, refer to "Collecting Data from the Admin Server (rcxadm mgrctl snap -all)".
  Executing the rcxadm mgrctl snap -all command requires approximately the free space determined by the following formula:
  Number_of_registered_servers * 30 MB + 65 MB

- **Collecting data separately from each server**

  This method involves executing a data collection command (rcxadm mgrctl snap or rcxadm agtctl snap) on each server.
  For how to collect the data, refer to "Collecting Data Separately from each Server (rcxadm mgrctl snap, rcxadm agtctl snap)".
  Around 65 MB of free space is required to execute the rcxadm mgrctl snap command,
  and around 30 MB of free space is required to execute the rcxadm agtctl snap command.

- **Collecting HBA address rename Setup Service Environment Data**

  This method involves collecting data that is required for identifying the cause of a problem that occurs on the HBA address rename setup service.
  For how to collect the data, refer to "Collecting HBA address rename Setup Service Environment Data".
  About 8 MB of free space is required to collect troubleshooting data for the HBA address rename server.

Note

[VMware]

- For VMware ESX4, please also collect and send the following data to Fujitsu technical staff.

  - Use the copy command to collect and send the following files.

    /var/log/vmware/hostd.log
    /var/log/vmware/hostd-*.log
    /var/log/vmware/hostd-*.log.gz

  - Collect and send the result (output) of the following command.

    /usr/sbin/esxcfg-firewall -q

- For VMware ESXi, perform the following procedures on the server from which data is to be collected:

  - When VMware ESXi is not registered with VM management software

    1. Connect with VMware ESXi on the target VMware client.

    2. Select [Export]-[Export System Logs] from the [File] menu.
       The [Export System Logs] dialog is displayed.

    3. Specify the system log download destination.

    4. Click <OK>.

  - When VMware ESXi is registered with VM management software

    1. Connect with VM management software on the VMware client.

    2. Select [Export]-[Export System Logs] from the [File] menu.
       The [Export System Logs] dialog is displayed.

    3. Select the target VMware ESXi.

    4. Specify the system log download destination.

    5. Click <OK>.

  Send the data output to the download destination to Fujitsu technical staff.

Collecting Data from the Admin Server (rcxadm mgrctl snap -all)

Troubleshooting data from every managed server can be collected all at once by executing the command for collecting troubleshooting data, rcxadm mgrctl snap -all, on an admin server.

The following method is used to collect data with the data collection command, rcxadm mgrctl snap -all.

Collection Method

Perform the following procedure on the admin server to collect investigation data:

1. Log on to the admin server with OS administrative privileges.

    OS administrative privileges are required to collect troubleshooting data.

2. Execute the rcxadm mgrctl snap -all command.

    [Windows Manager]

    > **"***Installation_folder***\SVROR\Manager\bin\rcxadm" mgrctl snap [-dir** *directory***] -all** <RETURN>

    [Linux Manager]

    # /opt/FJSVrcvmr/bin/rcxadm mgrctl snap [-dir *directory***] -all** <RETURN>

3. Send the collected troubleshooting data to Fujitsu technical staff.

Note
. . . .

- The manager must be running on the admin server in order to collect data from the admin server. If the manager cannot be run, collect data from each server.

- When collecting data via the admin server, data cannot be collected from a managed server in the following cases.

    - Communication cannot be established with the server

    - The managed server is stopped

    In either case, however, data will continue to be collected from other managed servers.
    Use the command execution logs to check the execution results.

    For details, refer to "5.11 rcxadm mgrctl" in the "Reference Guide (Command) VE".
    For managed servers where data collection has failed, collect data by either executing the rcxadm mgrctl snap -all command on the admin server again, or by executing the rcxadm agtctl snap command on the managed server where data collection failed.

[VMware]

- When a managed server is VMware ESXi, data cannot be collected from that managed server.
    Use the procedure described in "About Collection Methods" for collecting data.

. . . .

Collecting Data Separately from each Server (rcxadm mgrctl snap, rcxadm agtctl snap)

In addition to the rcxadm mgrctl snap -all command, which can collect troubleshooting data from all the managed servers at once, the commands rcxadm mgrctl snap and rcxadm agtctl snap are also provided. These collect data from only the server on which they are executed.

Use the following procedure to collect data with the rcxadm mgrctl snap command or the rcxadm agtctl snap command.

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 command or the rcxadm agtctl snap command.

   Note that the command differs depending on the server from which data is collected.

   - For Admin Servers:

     [Windows Manager]

     > >**"***Installation_folder***\SVROR\Manager\bin\rcxadm" mgrctl snap [-dir** *directory***]** <RETURN>

     [Linux Manager]

     > # **/opt/FJSVrcvmr/bin/rcxadm mgrctl snap [-dir** *directory***]** <RETURN>

   - For Managed Servers:

     [Windows]

     > >**"***Installation_folder***\Agent\bin\rcxadm" agtctl snap [-dir** *directory***]** <RETURN>

     [Linux] [VMware]

     > # **/opt/FJSVrcxat/bin/rcxadm agtctl snap [-dir** *directory***]** <RETURN>

     [Solaris]

     > # **/opt/FJSVrcvat/bin/rcxadm agtctl snap [-dir** *directory***]** <RETURN>

3. Send the collected troubleshooting data to Fujitsu technical staff.

For details, refer to "5.2 rcxadm agtctl" or "5.11 rcxadm mgrctl" in the "Reference Guide (Command) VE".

Note

....

[VMware]
When the managed server is VMware ESXi, collect data using the procedure described in "About Collection Methods".

....

Collecting HBA address rename Setup Service Environment Data

The following method is used to collect the troubleshooting data necessary to investigate problems that occur on an HBA address rename setup service.

Collection Method

Perform the following procedure on the HBA address rename server to collect troubleshooting data.

1. Collect files from the HBA address rename server.

   [Windows]
   From the HBA address rename server, collect the log file *installation_folder*\WWN Recovery\rcxinstaller.log, and all files and folders under the following folder: *installation_folder*\WWN Recovery\var.

   [Linux]
   Collect the log file /var/tmp/rcxhbainstaller.log, and all files and folders under the following folder: /var/opt/FJSVrcvhb.

2. Obtain OS system logs.

[Windows]
Collect event logs (application and system logs).

[Linux]
Collect all /var/log/messages and /var/log/messages.*X* files. (The messages.*X* part represents the file name such as messages.1 or messages.2)

3. Take a screenshot of the window displayed when the problem occurred.

Perform the following operation on the server for HBA address rename setup service from which the data is to be collected in order to take a screenshot of the window:
Press the [Print Screen] key to copy image data onto the Clipboard, and then paste the image data into an image editing tool and save it as a bitmap file.

4. Obtain system version information.

[Windows]
From Windows explorer, right-click the "My Computer" icon, and select [Properties] from the popup menu.
In the [System Properties] dialog click the [General] tab and use the procedure explained in step 3 to obtain information such as the OS type, version and level, and service pack number.

[Linux]
Execute and collect the results of the following commands.

cat /etc/redhat-release <RETURN>
cat /proc/version <RETURN>
cat /proc/meminfo <RETURN>
cat /proc/cpuinfo <RETURN>
rpm -qa <RETURN>

5. Send the collected troubleshooting data to Fujitsu technical staff.

1.1.2 Collecting Exhaustive Troubleshooting Data

This section explains how to collect exhaustive troubleshooting data.

When the cause of a problem cannot be determined from the initial troubleshooting data, exhaustive troubleshooting data becomes necessary.

About Collection Methods

The troubleshooting data used to identify the causes of problems is collected by executing troubleshooting data collection commands (rcxadm mgrctl snap -full or rcxadm agtctl snap -full) on each server.
About 80 MB of free space is required to use this function.

Collection Method

Perform the following procedures 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 for collecting investigation 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 Manager]

> `>"`*Installation_folder*`\SVROR\Manager\bin\rcxadm" mgrctl snap -full [-dir `*directory*`]` <RETURN>

[Linux Manager]

> `# /opt/FJSVrcvmr/bin/rcxadm mgrctl snap -full [-dir `*directory*`]` <RETURN>

- For Managed Servers:

    [Windows]

> `>"`*Installation_folder*`\Agent\bin\rcxadm" agtctl snap -full [-dir `*directory*`]` <RETURN>

[Linux] [VMware]

> `# /opt/FJSVrcxat/bin/rcxadm agtctl snap -full [-dir `*directory*`]` <RETURN>

[Solaris]

> `# /opt/FJSVrcvat/bin/rcxadm agtctl snap -full [-dir `*directory*`]` <RETURN>

3. Send the collected troubleshooting data to Fujitsu technical staff.

For details, refer to "5.2 rcxadm agtctl" or "5.11 rcxadm mgrctl" in the "Reference Guide (Command) VE".

🖙 Note

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[Hyper-V]
The following files should also be collected manually.
Collect them using Explorer and then send them to Fujitsu technical staff.

OS system log

All files under the following folder: *windows_folder*\system32\wbem\logs

[VMware]
For VMware ESX 4 or VMware ESXi, collect data referring to "About Collection Methods" in "1.1.1 Collecting Initial Troubleshooting Data".

. . . .

1.2 Collecting Investigation Data(Cloud Edition)

This section explains how to collect investigation data that is necessary to find the cause of the problem.

The following describes collecting investigation data with the collection commands (ctmg_collectinfo or rcxadm agtctl snap) and collecting investigation data for storage management software and VM management products.

For information about ctmg_collectinfo command, refer to "12.9 ctmg_collectinfo (Collection of Investigation Data)" in the "Reference Guide (Command/XML) CE" .
For information about rcxadm agtctl snap command, refer to "5.3 rcxadm agtctl" in the "Reference Guide (Command/XML) CE".

Collection procedure

Collect data on the server with the following procedure.

1. Log in the server as a user with administrative privileges of the OS.

    Administrative privileges are required to collect investigation data.

2. Execute either the command ctmg_collectinfo, or the rcxadm agtctl snap -full and pmdiag commands.

    Note that which command to execute depends on the function of the server.

- For the management server

  [Windows Manager]

  >"*Installation_folder***RCXCTMG\bin\ctmg_collectinfo**" *dir* <RETURN>

  [Linux Manager]

  # **/opt/FJSVctmg/bin/ctmg_collectinfo.sh** *dir* <RETURN>

- For the managed server

  [Windows][Hyper-V]

  >"*Installation_folder***Agent\bin\rcxadm**" **agtctl snap [-dir** *dir*] **-full** <RETURN>

  >"*Installation_folder***RCXCTMGA\bin\pmdiag** <RETURN> **(Note 1)**

  [Linux]

  # **/opt/FJSVrcxat/bin/rcxadm agtctl snap** [-**dir** *dir*] **-full** <RETURN>

  # **/opt/FJSVssqc/bin/pmdiag** <RETURN> **(Note 2)**

  [VMware][KVM][Oracle VM]

  # **/opt/FJSVrcxat/bin/rcxadm agtctl snap** [-**dir** *dir*] **-full** <RETURN>

  [Solaris]

  # **/opt/FJSVrcxat/bin/rcxadm agtctl snap** [-**dir** *dir*] **-full** <RETURN>

Note

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For VMware ESXi, because the agent of this product cannot be installed, you cannot execute investigation data collection commands.

Note 1: When the dialog window is displayed, specify a folder to save data, then click ▶. After the message "Processing Completed Successfully ..." is displayed, collect following files in the folder.

・PMDiag?.cab

"?": denotes the index number of each of created files. No number is placed if only one file is created.

Note 2: Execution results will be stored in /tmp. Collect following files.

・pmdiag_*.tar.gz

・pmdiag_*.log

"*": denotes <host name>_<timestamp>. Timestamp format may differ according to system environment.

. . . .

3. Collect investigation data for the storage management product and the VM management product.

   For information about the collection procedures, see the manuals of these products.

   [VMware]
   When the VM management product is VMware vCenter Server, perform the operation as follows. Because the file size of investigation data is large, make sure that there is enough storage space before the operation.

   a. Start VMware vSphere(TM) Client, and then connect to VMware vCenter Server as a user with system operation administrative privileges.

   b. From the menu, select [Administration]-[Export System Logs].

   c. Specify VMware vCenter Server as the object to export.

d. Specify the location to store and click <OK> button.

4. Send the collected investigation data to Fujitsu technical support.

Chapter 2 Operations for Physical Servers

This chapter explains the operations to use when troubleshooting physical servers.

2.1 OS Startup Issues (with I/O Virtualization)

This section explains how to troubleshoot startup issues on managed servers.

- When using HBA address rename

  When using HBA address rename, the WWN that was set for the server's HBA is set from the manager when the power to the server is turned on again.
  When errors occur within the admin server, the HBA address rename setup service sets the WWN for the server's HBA.

  Use the following procedure to confirm and correct the problem.

  1. If the server was replaced immediately beforehand, confirm that hardware information was successfully re-configured following server replacement.
     For details, refer to "6.2.2 Reconfiguration of Hardware Properties" or "6.3.1 Reconfiguration of Hardware Properties" in the "Operation Guide VE".

  2. Check the storage environment.

     Check that the WWN set for the server's HBA have access to the appropriate storage device and logical volume. Set a proper access path if none was configured yet.
     For details, refer to "8.2 Configuring the Storage Environment" in the "Design Guide VE".

  3. Check the manager's startup status.

     For details on how to check the startup status of the manager, refer to "2.1 Starting and Stopping the Manager" of the "Operation Guide VE".

  4. Perform either one of the following based on the manager's startup status.

     - If the manager is not running

       Start the manager.
       If the manager cannot start because of a server fault, for example, recover the server after completing step 5.

     - If the manager is already running

       Occasionally the timing of the manager startup can prevent it from controlling a managed server. If this is the case, restart the managed server.
       Even if the manager is running, if communication problems happen on the admin LAN (due to issues with network interfaces, cabling, or LAN switches), the managed server will not start. After performing step 5, the LAN configuration must be repaired.

  5. Check the running state of the HBA address rename setup service.

     Check the running state of this service in the server for HBA address rename setup service.
     Start the server where this service has been set up if it is not running yet, then start the managed server.
     The WWN for the managed server's HBA will then be set using the most recent state synchronized with the admin server.

  6. Check the managed server console.

     Check the managed server console to confirm that it has successfully started up.
     If an error message is output, take action according to the corresponding message ID in "Messages".

  7. For managed servers other than PRIMERGY BX servers, check that the MAC address entered at registration is correct. If it is incorrect, re-configure the server's hardware properties.
     The registered MAC address can be confirmed in the [Resource Details] tab for the corresponding physical server.
     Refer to "A.6 [Resource Details]" of the "User's Guide VE" for details.

  8. Check the following network environment.

     - Whether communication between the admin server and the managed server is possible

- Whether there are any DHCP or PXE servers running on the subnet used by managed servers

- When the admin server and the managed server belong to different subnets, whether the DHCP relay agent of the router is correctly configured

- When using VIOM

1. Check settings for the WWN of server HBA, the MAC addresses of NIC, booting, and networking which are managed by VIOM.

   Check if the admin LAN server profile is correct or not by opening the VIOM client.

2. Check the storage environment.

   Check if the settings for WWN of the server's HBA, the MAC addresses of NIC, and booting can access correct storage units and volume. If the setting was not completed, set the proper access path.
   For details, refer to "8.2 Configuring the Storage Environment" in the "Design Guide VE".

2.2 "unknown" Server Status

This section explains how to troubleshoot a registered managed server whose status is "unknown" even though the managed server is still running.

When errors or warning messages are displayed in the event log, take the appropriate action referring to the "Messages". Check the following points and resolve the cause of any problems:

- Communication between the admin server and the server management unit is not possible

  Check if it is possible to connect to either the Web or telnet interface of the server management unit (management blade or remote management controller).

- Communication between the admin server and the managed server is not possible

  Check that the admin LAN IP address is correctly set on the managed server.
  Check LAN switch blade configurations to confirm that the same VLAN ID or the same port group (for switch blades operating in IBP mode) is set for the ports used by the managed server and the admin server on the admin LAN.

  When using PRIMERGY BX600 servers and changing the VLAN ID used for the admin LAN, proceed as follows to preserve communication from the admin server to the LAN switch blade. First, change the VLAN ID set for the admin LAN port (on the LAN switch blade) connected to the admin server, as well as the VLAN ID set for the switch blade's own network interface. Then, change the VLAN ID for the admin LAN port connected to the managed server.
  For the overview and the setup of the VLAN for the managed server, refer to "7.1 Network Configuration" of the "Design Guide VE" and "9.1.8 Changing the VLAN Settings of LAN Switch Blades" in the "User's Guide VE".

- Communication is not allowed for the ports used by Resource Orchestrator

  Allow communication for the ports described in "Appendix A Port List" of the "Design Guide VE".

- The Resource Orchestrator agent is not running

  Make sure that the agent is running on the managed server.

- ServerView Agents is not running

  For PRIMERGY servers, check whether ServerView Agents is running properly on the managed server.

  [Windows] [Hyper-V]
  From the Windows Control Panel, open "Administrative Tools" and then open the [Services] window. Check that the status of the Server Control Service and SNMP Service is shown as "Started".

  [Linux] [VMware] [Xen] [KVM]
  Execute the following commands to check if the ServerView Agents service is running.

  ```
  # /etc/init.d/srvmagt status <RETURN>
  # /etc/init.d/eecd status <RETURN>
  # /etc/init.d/snmpd status <RETURN>
  ```

The above commands are not available if ServerView Agents is not installed. If they are not available, install ServerView Agent on the managed server.

If ServerView Agents is not running, refer to the ServerView Agent manual for how to start the ServerView Agents.

- SNMP community settings are incorrect

Make sure that the SNMP community settings on the management blade, management board, and managed server match those set in Resource Orchestrator during chassis and server registration.

- Hardware properties were not re-configured after replacing the server

Identify the MAC address of the replacement server, and check if it is the same address as that set for the admin LAN (MAC address) in the [Resource Details] tab of the ROR console.

If the MAC address is different, re-configure the hardware properties from the ROR console.

- No information could be obtained from the server virtualization software running on the managed server

In environments where no VM management software was registered, or for VM hosts that are not managed by VM management software, the status of a VM guest is displayed as "unknown" if its information could not be obtained from the server virtualization software used to run that VM guest. Check whether the server virtualization software is operating correctly.
If it is operating correctly, its account information (user account name and password) may have changed. As a result, the settings no longer correspond to those registered in Resource Orchestrator. In that case, change the virtualization software's account settings registered in Resource Orchestrator.
Refer to "9.1.7 Changing VM Host Login Account Information" of the "User's Guide VE" for details.

- No information could be obtained from VM management software

In environments where VM management software was registered, the status of a VM guest (on a VM host managed by this VM management software) is displayed as "unknown" if its information could not be obtained from the VM management software. Check whether the VM management software is operating correctly.
If it is operating correctly, its account information (user account name and password) may have changed. As a result, the settings no longer correspond to those registered in Resource Orchestrator. In that case, change the VM management software's account settings registered in Resource Orchestrator.
For details, refer to "9.5 Changing VM Management Software Settings" of the "User's Guide VE".

- The remote management controller's IP address, user name, or password was changed after server registration

Change the IP address, user name and password settings registered for this remote management controller in Resource Orchestrator.
Refer to "9.1.5 Changing Server Management Unit Configuration Settings" of the "User's Guide VE" for details.

- The remote server management IP address, user name, or password was changed after server registration

Change the IP address for remote server management, user name, and password settings registered in Resource Orchestrator.
Refer to "9.1 Changing Chassis and Managed Servers Settings" of the "User's Guide VE" for details.

- High load on the admin server, server management unit, or managed server

Resource statuses may be temporarily shown as "unknown".

- Power control of partitions has been performed on PRIMEQUEST

Resource statuses may be temporarily shown as "unknown".

- The chassis has been powered off on PRIMEQUEST

The statuses of the target chassis and servers are all shown as "unknown".

- The routing settings of the router are not correctly configured

When using an admin server to manage managed servers belonging to other subnets, configure the router settings.
For details, refer to "7.6 Configuring the Network Environment" of the "Design Guide VE".

2.3 Public LAN Communication Issues

This section explains how to troubleshoot communication issues for managed servers on the public LAN.

Use the following procedure to confirm and resolve any problems.

- The VLAN is not correctly set up

  LAN switch blade internal ports must be set to the same VLAN ID(s) as external public LAN ports.

- Port groups are not correctly set up

  For LAN switch blades operating in IBP mode, internal ports and external ports should belong to the same port group.

- The public LAN IP address is not correctly set up

  Check that the public LAN IP address is correctly set on the managed server.

    - The subnet mask must be correct

    - There should be no IP address conflicts

- Routing information is not correctly set up

  Verify that the routing settings for the server allow for communication to an address on a different subnet.

2.4 Multipath Configuration Issues

This section explains how to troubleshoot startup issues on managed servers set with a multi-path configuration.

When using HBA address rename, the managed server will start in a single path configuration if the selected number of HBA ports was set to "1" in the "HBA Address Rename Settings" dialog. For a multi-path configuration, the number of HBA ports for HBA address rename should be set correctly.

For details on how to re-configure this setting, refer to "7.4.3 HBA address rename Settings" in the "User's Guide VE".

2.5 Server Switchover and Failback Issues

This section explains the troubleshooting steps to be performed when the server switchover or server failback process fails.

If server switchover or server failback is performed without all the conditions specified in "9.3 Server Switchover Conditions" in the "Setup Guide VE" being satisfied, one of the following error messages may be output:

Switchover:

```
FJSVrcx:ERROR:61143:switchover:failed
FJSVrcx:ERROR:69122:timeout occurred while executing power control modules
```

Failback:

```
FJSVrcx:ERROR:61143:failback:failed
FJSVrcx:ERROR:69122:timeout occurred while executing power control modules
```

Use the following procedure to confirm and correct the problem.

1. Recheck the spare server conditions with reference to "9.3 Server Switchover Conditions" in the "Setup Guide VE".
   If any conditions are not satisfied, change the configuration to ensure that all conditions are met.

2. If HBA address rename is being used and the following error message is output to the managed server console, the WWN may have failed to be set for the server HBA.
   Take the action specified for "Message number 61308" of "Messages". Note that in this case there is no need to set the WWN again.

   ```
   FJSVrcx:ERROR:61308:WWN setting failed. code=%1,%2
   ```

   An internal error code is displayed in %1.
   Either one of the following message is displayed in %2.

       a. HBA adapter not found

       b. command error

       c. TFTP error

3. Perform the switchover or failback operation again.

2.6 HBA Address Rename is Set by Mistake

This section explains the troubleshooting steps to perform when HBA address rename is mistakenly set for a managed server that does not need it (such as when the managed server only uses internal disks).

If HBA address rename is set for a server that does not have an HBA, the following message will be output to the managed server console when the managed server is restarted:

```
FJSVrcx:ERROR:61308:WWN setting failed. code=%1,%2
```

An internal error code is displayed in %1.
Either one of the following message is displayed in %2.

    a. HBA adapter not found

    b. command error

    c. TFTP error

To prevent HBA address rename from being used, delete and then re-register the managed server.

2.7 Boot Issues (Boot Order Related)

This section explains the action to take when a managed server cannot be booted from the CD-ROM, or the system disk (local disk or SAN storage) cannot be recognized even though the managed server can be booted from the CD-ROM.

If this trouble occurs, it may mean that the priority boot order of the system BIOS is incorrect.
Refer to "6.2.7 BIOS Settings for Managed Servers" in the "Design Guide VE", and check that the boot order of the system BIOS is correct.

2.8 Boot Issues (Endless Reboot Cycle)

This section explains how to troubleshoot a managed server stuck in an endless reboot cycle, when that managed server is using HBA address rename.

Confirm the following points to identify and resolve the cause of this issue.

- Make sure that BIOS settings were properly configured. For instructions on BIOS settings, refer to "6.2.6 BIOS Settings for Managed Servers" in the "Design Guide VE".

- Make sure that the network environment was properly configured. For instructions on the network configuration, refer to "Required Network Configuration when Using HBA address rename" in "7.1 Network Configuration" of the "Operation Guide VE".

- Make sure that all manager services are started. For details on manager services, refer to "2.1 Starting and Stopping the Manager" of the "Operation Guide VE".

- Make sure that HBA firmware/BIOS version installed on a managed server are supported.

Chapter 3 L-Server Operations

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 Remain.

- 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.

- Communications with Outside of the Target Chassis cannot be Established after the Creation of L-Servers.

- When Creating or Turning on an L-Server, Message number 67295 or Message number 67210 may be Displayed even Though the Operation is Successfully Completed.

- When Creating or Starting a Physical L-Server Using Physical Server Usage Change, the Update of VIOM Configuration Information in Recent Operations may be Displayed.

Other L-Server Operations

- 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 an L-Server is Created or Started, message number 62511 is Displayed, then Creation or Startup of the L-Server 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.

3.1 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 "16.2.5 [OS] Tab" or "16.3.5 [OS] Tab" in the "User's Guide for Infrastructure Administrators (Resource Management) CE".

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 Remain.

[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" or "Message number 67392" in "Messages".

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 ROR 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. Also, confirm that an existing disk has been attached.

3. If a VM guest exists and an existing virtual disk has been attached at 2., detach the virtual disk. For details on how to detach virtual disks, refer to the server virtualization software manual. (*1)

   *1: When the server virtualization software is Hyper-V, select "No" for the "When a virtual hard disk file is removed from a virtual machine, it can also be removed from the virtual machine host. Do you want Virtual Machine Manager to do this for you?" displayed when deleting a virtual disk.

4. If there is a VM guest that meets the condition in 2., delete it from the VM management console. For details on how to delete VM guests, refer to the server virtualization software manual. (*2)

   *2: When server virtualization software is VMware, select "Delete from Disk", when deleting VM guests.

5. After confirming from the server tree or orchestration tree on the ROR 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" in "Messages".

When the message above is output, VM guest in 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 ROR 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. Also, confirm that an existing disk has been attached.

3. If a VM guest exists and an existing virtual disk has been attached at 2., detach the virtual disk. For details on how to detach virtual disks, refer to the server virtualization software manual. (*1)

   *1: When the server virtualization software is Hyper-V, select "No" for the "When a virtual hard disk file is removed from a virtual machine, it can also be removed from the virtual machine host. Do you want Virtual Machine Manager to do this for you?" displayed when deleting a virtual disk.

4. If there is a VM guest that meets the condition in 2., delete it from the VM management console.

   For details on how to delete VM guests, refer to the server virtualization software manual. (*2)

   *2: When server virtualization software is VMware, select "Delete from Disk", when deleting VM guests.

5. Check if the VM management software can communicate with the manager. Select the VM management software in the server resource tree of the ROR console, and check if the status displayed on the main panel is "normal".

6. After confirming from the server tree or orchestration tree on the ROR 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 messages, refer to "Message number 67390" of "Messages".

[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 messages, refer to "Message number 67320" of "Messages".

[Corrective Action]

- For a. and b:

  In the ROR 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 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.

- When using ETERNUS DX80 S2, ETERNUS DX90 S2, or ETERNUS DX400 S2 series storage

> FJSVrcx:ERROR:62511:failed to control *obj*. IF=*%1*,message="ERROR:ssmgr3514:The specified value has already been registered."

- When using storage other than ETERNUS DX80 S2, ETERNUS DX90 S2, or ETERNUS DX400 S2 series

> 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***SVROR\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>
      20:01:00:17:42:50:12:01 AM
    </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 then 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 not contained

  There is an HBA which uses the relevant affinity group number.

  - 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 then 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** *HHBA_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. Delete 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 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***SVROR\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. Delete the 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 messages, refer to "Message number 67390" of "Messages".

[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

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 "3.6 rcxadm lserver" in the "Reference Guide (Command/XML) CE".

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. Close the displayed iRMC management window.

2. Then open the physical L-Server console screen again from the ROR console.

Communications with Outside of the Target Chassis cannot be Established after the Creation of L-Servers.

[Description]

If the switch blade is being used is in end host mode, then there may have been a pin-group other than the default pin-group created.

[Corrective Action]

Delete all but the default pin-group.

When Creating or Turning on an L-Server, Message number 67295 or Message number 67210 may be Displayed even Though the Operation is Successfully Completed.

[Description]

If the manager is overloaded, one of the following error messages may be displayed when operations like creating an L-Server are performed.

- FJSVrcx:ERROR:67295:*L-Server name*:duplicate resource name found

- FJSVrcx:ERROR:67210:*L-Server name* is busy

When the above message is displayed, the corresponding operation may be still be being performed. Check the progress of the operation in Recent Operations or the Event Log.

[Corrective Action]

Check the following:

- The hardware configuration of the admin server does not meet the requirements for a manager.

  Refer to "2.5 Hardware Environment" in the "Design Guide CE" and confirm that the hardware conditions described are met.

- The CPU utilization of the admin server may be too high.

  Check if any high CPU usage applications are running on the admin server.

When Creating or Starting a Physical L-Server Using Physical Server Usage Change, the Update of VIOM Configuration Information in Recent Operations may be Displayed.

[Description]

It shows that VIOM profiles have been updated on a different physical L-Server from before, based on the usage change of physical L-Servers.

That is not the problem as only VIOM profiles are updated. The information may be displayed multiple times, depending on the timing.

[Corrective Action]

No action is necessary.

3.2 Other L-Server Operations

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: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

    e. In Solaris Containers, when the OS in the non-global zone is re-installed, or the global zone in which the non-global zone starts is changed.

For details on the messages, refer to "Message number 67154" or "Message number 67178" in "Messages".

[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.

  - For e.:

    Refer to "C.7.5 Advisory Notes for Solaris Container Usage" in "Setup Guide", and then take corrective action.

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" in "Messages".

[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 ROR 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 messages, refer to "Message number 67385" of "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.

For details on the messages, refer to "Message number 69122" of "Messages".

[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 Manager]
   Installation_folder**SVROR\Manager\rails\config\rcx\vm_guest_params.rb**

   [Linux Manager]
   /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 Manager]

   ```
   >Installation_folder\SVROR\Manager\bin\rcxadm mgrctl stop <RETURN>
   >Installation_folder\SVROR\Manager\bin\rcxadm mgrctl start <RETURN>
   ```

   [Linux Manager]

   ```
   # /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** *HHBA_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 messages, refer to "Message number 67359" of "Messages".

[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

📝 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*)
. . . .

Chapter 4 Operations for Images or Cloning Images

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.

- An Error may Occur When Performing Backup and Restore of System Images or Collection and Deployment of Cloning Images. [Physical Servers] [Hyper-V]

- An Error may Occur during Cloning after the Manager is Reinstalled.

4.1 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 the messages, refer to "Message number 67397" and "Message number 61143" in "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 ROR console. The image name is displayed for the resource name of message number 61143.

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@ Version* 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" in "Messages".

[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 messages, refer to "Message number 67390" of "Messages".

[Corrective Action]

The OS type specified for images when creating L-Servers and the OS type of the installed OS 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 the OS type of an L-Server, refer to "17.2.1 Modifying Specifications" in the "User's Guide for Infrastructure Administrators (Resource Management) CE".
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 "4.1 rcxadm image" in the "Reference Guide (Command/XML) CE".

An Error may Occur When Performing Backup and Restore of System Images or Collection and Deployment of Cloning Images. [Physical Servers] [Hyper-V]

If the admin server IP address that was set up in the [Admin Server Registration] window described in "2.2.2 Installation [Windows] [Hyper-V]" or "2.2.3 Installation [Linux] [VMware] [Xen] [KVM] [Oracle VM]" of the "Setup Guide VE" is incorrect, the following message is displayed when collecting or deploying cloning images, or when backing up or restoring system images.

```
FJSVrcx:ERROR:68295:deployment engine error:
no response from the managed server node. invalid BIOS setting found detail
```

detail

   The information describing error details is displayed.

Use the following procedure to confirm and correct the problem.

[Windows] [Hyper-V]

1. On the managed server, select [start]-[Run], and then execute the following command.

   ```
   Installation_folder\Agent\scw\config.bat
   ```

   The IP address of the admin server that has been set up and the port settings are displayed.

   Note

   Note that the "Deployment Server" referred to in this section actually refers to the admin server.

2. In the Deployment Server field, check that either the admin server IP address or the server name is correctly set up.

   If the settings are incorrect, change the value displayed and click <OK>.

   Note

   When entering the server name, check that the IP address on the managed server side of the admin server can be resolved from the server name.

   In the confirmation dialog asking to restart the client agent, click the <Yes> button.

3. Click <Yes>.

[Linux]

1. Open the /etc/scwagent.conf file on the managed server.

   Confirm the admin server IP address and the settings of the port currently being used.

2. In the server_ip field, check that either the admin server IP address or the server name is correctly set up.

   If the settings are incorrect, edit scwagent.conf directly, and then restart the managed server.

After resolving the cause of the error, execute the operation again as described in step 4. of "Message number 68295" in "Messages".

If the settings are found to be satisfactory, take the corrective action described in "Message number 68295" in "Messages".

An Error may Occur during Cloning after the Manager is Reinstalled.

This section explains how to troubleshoot cloning issues that occur after re-installing the manager.

When performing a cloning image operation (collection or deployment) on a managed server that was already registered on the manager before re-installation, the following problem may occur. The manager and agent certificates may not match, resulting in the admin server being unable to communicate with its managed server. In such a case, trying to deploy or collect an image to or from the managed server will fail. This problem occurs when the following conditions are met.

- The manager was re-installed, but its certificate store was not properly backed up, as described in "11.1.2 Uninstallation [Windows Manager]" or "11.1.3 Uninstallation [Linux Manager]" of the "Setup Guide VE"

- Both the manager and agent were re-installed (and their certificates renewed), but a cloning image that was collected before the re-installation has been deployed, thus restoring an outdated agent certificate on the managed server

Use the following procedure to correct the problem.
To avoid the same certificate problem, recollect the cloning images which include the cause of the problem after the problem has been corrected.

Checking the Certificates

How to check certificates

1. Stop the manager and then display SSL certificate data by executing the following commands on the admin server.

   [Windows Manager]

   ```
   >"Installation_folder\SVROR\Manager\bin\rcxadm" mgrctl stop <RETURN>
   >"Installation_folder\SVROR\Manager\bin\rcxadm" certctl list <RETURN>
   ```

   [Linux Manager]

   ```
   # /opt/FJSVrcvmr/bin/rcxadm mgrctl stop <RETURN>
   # /opt/FJSVrcvmr/bin/rcxadm certctl list <RETURN>
   ```

   For details on the command, refer to "5.4 rcxadm certctl" or "5.11 rcxadm mgrctl" in the "Reference Guide (Command) VE".

   Example Results

   ```
   Truststore:
   --------------

   Keystore type: jks
   Keystore provider: SUN

   The key store includes four entries.

   client2,May,10,2007, trustedCertEntry,
   Certificate fingerprint (MD5): 0F:4E:1C:DB:19:AE:3B:82:9D:74:93:6C:46:D8:7C:D2
   client1,May,10,2007, trustedCertEntry,
   Certificate fingerprint (MD5): 9D:99:ED:88:C0:8F:32:26:60:FA:4C:96:A2:34:5A:45
   server4,May,11,2007, trustedCertEntry,
   Certificate fingerprint (MD5): DC:E3:19:59:08:6D:C4:AD:B4:C7:F6:5C:E1:52:0A:1A (*1)
   server3,May,11,2007, trustedCertEntry,
   Certificate fingerprint (MD5): 9B:EB:94:58:90:E8:09:BE:BD:FA:14:83:9D:87:3A:E4
   ...

   Keystore:
   --------------

   Keystore type: jks
   Keystore provider: SUN

   2 entries are included in the keystore.
   ```

```
client, 2007/05/11, keyEntry,
Certificate fingerprint (MD5):
AA:55:85:54:6B:57:80:4F:8C:6E:2E:AA:7C:77:DB:F6 (*2)
server, 2007/05/11, keyEntry,
Certificate fingerprint (MD5):
14:48:31:68:C9:CA:66:E1:E0:34:8A:FC:1C:17:19:EF
```

2. Stop the agent and display SSL certificate data by executing the following commands on the managed server where the error occurred.

[Windows]

```
>"Installation_folder\Agent\bin\rcxadm" agtctl stop <RETURN>
>"Installation_folder\Agent\bin\rcxadm" certctl list <RETURN>
```

[Linux]

```
# /opt/FJSVrcxat/bin/rcxadm agtctl stop <RETURN>
# /opt/FJSVrcxat/bin/rcxadm certctl list <RETURN>
```

[Solaris]

```
# /opt/FJSVrcvat/bin/rcxadm agtctl stop <RETURN>
# /opt/FJSVrcvat/bin/rcxadm certctl list <RETURN>
```

For details on the command, refer to "5.2 rcxadm agtctl" or "5.4 rcxadm certctl" in the "Reference Guide (Command) VE".

Example Results

```
Truststore:
--------------

Keystore type: jks
Keystore provider: SUN

The key store includes one entry.

client1, 2007/05/11, trustedCertEntry,
Certificate fingerprint (MD5):
AA:55:85:54:6B:57:80:4F:8C:6E:2E:AA:7C:77:DB:F6 (*2)
...

Keystore:
--------------

Keystore type: jks
Keystore provider: SUN

The key store includes one entry.

server, 2007/05/11, keyEntry,
Certificate fingerprint (MD5): DC:E3:19:59:08:6D:C4:AD:B4:C7:F6:5C:E1:52:0A:1A (*1)
```

3. Check the fingerprint that is contained in the agent Keystore.

As shown in the example in (*1), check that the fingerprint that is contained in the agent Keystore is also contained in the manager Truststore that is shown in "Example Results" of step 1.
If it is not, refer to "Corrective Action" to take proper corrective action.

4. Check the fingerprint that is contained in the agent Truststore.

   As shown in the example in (*2), check that the fingerprint that is contained in the agent Truststore is also contained in the manager Keystore that is shown in "Example Results" of step 1.
   If it is not, refer to "Corrective Action" to take proper corrective action.

Corrective Action

1. Execute the following commands on the server for which the problem occurred to re-initialize its SSL certificate, and restart its agent.

   [Windows]

   ```
   >"Installation_folder\Agent\bin\rcxadm" certctl init <RETURN>
   >"Installation_folder\Agent\bin\rcxadm" agtctl start <RETURN>
   ```

   [Linux]

   ```
   # /opt/FJSVrcxat/bin/rcxadm certctl init <RETURN>
   # /opt/FJSVrcxat/bin/rcxadm agtctl start <RETURN>
   ```

   [Solaris]

   ```
   # /opt/FJSVrcvat/bin/rcxadm certctl init <RETURN>
   # /opt/FJSVrcvat/bin/rcxadm agtctl start <RETURN>
   ```

2. Execute the following command on the admin server to start the manager.

   [Windows Manager]

   ```
   >"Installation_folder\SVROR\Manager\bin\rcxadm" mgrctl start
   <RETURN>
   ```

   [Linux Manager]

   ```
   # /opt/FJSVrcvmr/bin/rcxadm mgrctl start <RETURN>
   ```

Chapter 5 Operations for Snapshots

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.

5.1 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, ensure that the collection of snapshots has been completed, and then use the following procedure for restoration:

1. Display the VM management console. Check if there are multiple snapshots whose *L-Server_host_name* and *Version* are the same among the snapshots whose name is RCX_*L-Server_host_name*@ *Version*.

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 is displayed.
The version of the snapshot displayed in the message is displayed in *version*.

Delete unnecessary snapshots from vSphere Client.

Chapter 6 Operations for VM Management Software or Server Virtualization Software

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.

- Operation may not Complete due to Rebooting of a VM Host (Admin OS) or Communication Failure. [Xen] [KVM]

6.1 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 messages, refer to "Message number 21162" of "Messages".

[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 "3.10 rcxadm pool" in the "Reference Guide (Command/XML) CE", and 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 images were used for an L-Server, refer to "3.6 rcxadm lserver" in the "Reference Guide (Command/XML) CE", and change (modify) the L-Server. Use the following format when specifying the XML file:

```xml
<?xml version="1.0" encoding="utf-8"?>
<Resources>
  <LServer name="L-Server_name">
    <ServerImageLink name="Cloning_image_name" version="Version"/>
  </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 messages, refer to "Message number 67397" of "Messages".

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 Remain.".

[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 Remain.".

Operation may not Complete due to Rebooting of a VM Host (Admin OS) or Communication Failure. [Xen] [KVM]

[Description]

When a VM host (Admin OS) is rebooted using reboot or panic, or when communication failure occurs between the manager of Resource Orchestrator and VM host, the following operations may not be completed:

- Creating and deleting an L-Server

- Moving L-Servers between servers (migration)

- Collecting cloning images

[Corrective Action]

Restart the Resource Orchestrator manager.

Chapter 7 Operations for ROR Console

Operations for ROR Console

- On the ROR Console, the Values on the [Resource List] tab are "?", and on other tabs, "There is no information to display." is Displayed.

- On the ROR Console, When Clicking <OK> Repeatedly, the Same Definition is Added across Multiple Lines.

- When Cookies Stored in a Web Browser Displaying the ROR 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 ROR Console may Display Completed for all Operations Including the Operation Being Executed.

- When Hiding Displayed Resource Information in the [Resource] Tab of the ROR Console, after a Certain Length of time (after Regular Update of Resources), the Display of Resource Information that was Updated may Collapse.

- When the Last Page of the List is Displayed in the ROR Console, the List may not Actually Display Anything.

- The Member Ports of the Link Aggregation may not be Updated even when [Update] is Clicked for the LAN Switch Blade in the Server Resource Tree of the ROR Console.

- When Logging in to the ROR Console, an Error Message "Internet Explorer cannot display the webpage" is Displayed.

- The Display of Resource Information in the [Resource] Tab of the ROR Console may Collapse.

7.1 Operations for ROR Console

On the ROR 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 ROR 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.

- When a user who has had all of their access scope settings deleted logs in to the ROR console

- When a user who has had all of the resources in their set access scope deleted logs in to the ROR console

- When the access scope settings of a user are all deleted while the user is logged in to the ROR console

- When all the resources in the access scope settings of a user are all deleted while the user is logged in to the ROR console

📑 Example
・・

Example of Panel Display Trouble

- [Resource List] tab
  The values of resources will be "?".

- Other tabs
  "There is no information to display." is displayed.
・・

[Corrective Action]

Log off from the ROR 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 ROR console again and the information is displayed correctly.

For details on the access scope settings, refer to "5.1 Restricting Access Using Roles" in the "Design Guide CE".

On the ROR Console, When Clicking <OK> Repeatedly, the Same Definition is Added across Multiple Lines.

[Description]

On the ROR 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 using the following procedure.

- 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 ROR Console are Deleted, the Screen Layout may Collapse, or the Error Dialog "ERROR, Establishing connection with admin server failed." may be Displayed.

[Description]

When using a web browser while logged in to the ROR console, if the cookies stored in the browser are deleted, the session information (such as user IDs) of the ROR 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 ROR console is displayed.

When Restarting a Manager or Admin Server, the Recent Operations on the ROR 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 ROR 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.

When Hiding Displayed Resource Information in the [Resource] Tab of the ROR Console, after a Certain Length of time (after Regular Update of Resources), the Display of Resource Information that was Updated may Collapse.

[Description]

While updating the window of the [Resource] tab of the ROR console, if resource information is hidden or another tab switched to, update will continue to be performed for the hidden area.

At that time, because the Web browser cannot handle modification of the size of the window being updated or the coordinate information, after a certain length of time (after regular update of resources), the display of resource information that was updated may collapse.

[Corrective Action]

Perform the following corrective actions:

- When there is update information for resources

  Update will be performed automatically during the regular update.

- When there is no update information for resources

  Click the page switch button of the resource information.

- When there is no update information for resources, and no page switch button for the resource information

  Select a different resource from the tree.

When the Last Page of the List is Displayed in the ROR Console, the List may not Actually Display Anything.

[Description]

In the [Resource] tab of the ROR console, if a resource is deleted when displaying the last page of the list in the main panel, nothing may be shown in the list.

[Corrective Action]

Perform the following corrective actions:

- Select another resource on the tree
- Switch to a different tab in the main panel

The Member Ports of the Link Aggregation may not be Updated even when [Update] is Clicked for the LAN Switch Blade in the Server Resource Tree of the ROR Console.

[Description]

For a PY CB Eth Switch/IBP 10Gbps 18/8 LAN switch blade, the LLDP and VLAN settings of the member ports of the link aggregation may mean that the information for the member ports of the link aggregation will not be updated.

[Corrective Action]

Perform the following corrective actions:

1. LLDP settings of the member ports belonging to the link aggregation
   Enable the LLDP of the member port.
   When doing so, disable the "VLAN Name" in the LLDP options, and enable the other items.

2. VLAN settings of the member ports belonging to the link aggregation
   Make the Untagged VLAN and Tagged VLAN settings for all member ports belonging to the link aggregation the same.

3. Click the [Update] button of the LAN switch blade on the server resource tree in the ROR console.

When Logging in to the ROR Console, an Error Message "Internet Explorer cannot display the webpage" is Displayed.

[Description]

This trouble may occur when the following combinations of OS and Web browser are used:

- Windows XP SP3 + InternetExplorer8

- Windows Server 2003 + InternetExplorer8

- Windows Server 2008 + InternetExplorer8

[Corrective Action]

Perform one of the following corrective actions:

- Connect to the ROR console using a combination of OS and Web browsers other than those above

- When this trouble occurs, reload the web page

- Specify an IP address instead of an FQDN for the URL

The Display of Resource Information in the [Resource] Tab of the ROR Console may Collapse.

[Description]

While updating the window of the [Resource] tab of the ROR console, if resource information is hidden or another tab switched to, update will continue to be performed for the hidden area.

At that time, because the Web browser cannot handle modification of the size of the window being updated or the coordinate information, after a certain length of time (after regular update of resources), the display of resource information that was updated may collapse.

[Corrective Action]

Perform the following corrective actions:

- When there is update information for resources

  Update will be performed automatically during the regular update.

- When there is no update information for resources

  Click the page switch button of the resource information.

- When there is no update information for resources, and no page switch button for the resource information

  Select a different resource from the tree.

-

Chapter 8 Operation of L-Platform Management Functions

This chapter explains strategies for handling problems in the operation of L-Platform management functions.

8.1 VSYS10098 Error when Using Template Builder Window or Template Builder Command

Error message

At Template Builder window operation:

```
ERROR VSYS10098 SQL error.[Connection refused. Check that the hostname and port are correct and
 that the postmaster is accepting TCP/IP connections.]
```

At Template Builder command operation:

```
TPLCnnnnn:<Message>(VSYS10098) (*1)
```

*1: nnnnn is the message number. Refer to "Chapter 19 Messages Starting with TPLC" in the "Messages" for details.

8.1.1 Action 1

Checkpoint

Have the following messages been output in the trace log of the L-Platform Management function (vsys_trace_log)?

```
1) VSYS10098 and VSYS00000 have been output alternately, and
2) After 1), VSYS00001 has been output, and
3) After 2), VSYS00003 has been output.
```

📔 Example

. . . .

```
[2012-05-25 11:24:17,428] ERROR VSYS10098 SQL error.[Connection refused. Check that the hostname
 and port are correct and that the postmaster is accepting TCP/IP connections.]
[2012-05-25 11:24:17,428] WARN VSYS00000 Failed to connect to the database. Retrying...
...
(VSYS10098 and VSYS00000 are repeatedly output alternately)
...
[2012-05-25 11:26:41,441] ERROR VSYS10098 SQL error.[Connection refused. Check that the hostname
 and port are correct and that the postmaster is accepting TCP/IP connections.]
[2012-05-25 11:26:41,441] ERROR VSYS00001 Failed retry. The database may not be ready.
[2012-05-25 11:26:41,441] ERROR VSYS00003 VSYS API Startup is terminated.
```

. . . .

Cause

The database is not started.
A WorkUnit (RCXCT_VSYS) of the L-Platform Management function API was probably started while the database was stopped.

Action

Start the database according to the action in "VSYS00001" in the "Messages"

8.1.2 Action 2

Checkpoint

Have the following messages been output in the trace log of the L-Platform Management function (vsys_trace_log)?

```
1) VSYS10098 has been output, and
2) "Connection refused. Check that the hostname and port are correct and that the postmaster
 is accepting TCP/IP connections." has been output as a detailed error message of 1), and
3) After 1), a Java exception display (stack trace) has been output.
```

📑 Example
....

```
[2012-05-25 11:45:13,648] ERROR VSYS10098 SQL error.[Connection refused. Check that the hostname
 and port are correct and that the postmaster is accepting TCP/IP connections.]
org.postgresql.util.PSQLException: Connection refused. Check that the hostname and
 port are correct and that the postmaster is accepting TCP/IP connections.
 at org.postgresql.core.v3.ConnectionFactoryImpl.openConnectionImpl(ConnectionFactoryImpl.java:136)
...
(Java stack trace is output.)
...
```
....

Cause

The database is not started.
In the state where a WorkUnit is started, probably only the database has been stopped.

Action

Start the database according to the action in "VSYS00001" in the "Messages".

8.2 is20147 Error when Starting or Stopping a WorkUnit (Linux Manager)

Error message

```
UX:IS: ERROR: is20147:The linkage with SystemWalker failed Error information(vopfmt:-1)
```

8.2.1 Action

Cause

A Systemwalker Centric Manager process (opasyslog) is not started.

Action

This product operates in the Interstage Application Server WorkUnit. Interstage Application Server provides a function for linking with Systemwalker Centric Manager, and if the system is unable to link with the Systemwalker Centric Manager process (opasyslog), Interstage Application Server outputs this message.

Ignore this message if the environment is one in which the Systemwalker Centric Manager process (opasyslog) has been stopped intentionally. If it has not been stopped intentionally, check that Systemwalker Centric Manager is operating normally and then remove the cause of opasyslog not starting.

If the above is not the cause, implement actions according to the *Interstage Application Server* manuals.

8.3 VSYS10096 error when using L-Platform Management after Disaster Recovery

Error message

```
VSYS10096 Status[404] returned from CBRM is illegal.[code:67154][message:obj:not found]
```

8.3.1 Action

Checkpoint

Has this error occurred in the environment recovered by Disaster Recovery?
Have the following messages been output in the trace log of the L-Platform Management function (vsys_trace_log)?

```
1) VSYS10096 has been output, and
2) The error code of the Resource Management function is 67154. (*1)
```

*1: Refer to "4.6.1 671XX Series" in the "Messages" for details of the error 67154.

Cause

If there is a process that is during the deployment or reconfiguration of an L-Platform when various information is exported by Disaster Recovery, the exported information of the L-Platform has a state under processing.
When such information has been imported, the configuration information of an L-Platform that has no resource might be recovered.
When operating the L-Platform, server or disk that has no resource but management information of it, VSYS10096 error occurs.

Action

Return the L-Platform that contains server or disk that has no resource and deploy a new instance again.
If the same error has occurred in returning the L-Platform, delete the L-Platform by cfmg_deletesysdata command.
Refer to "12.3 cfmg_deletesysdata (Unnecessary Data Deletion)" in the "Reference Guide (Command/XML) CE" for details.

Chapter 9 L-Platform Operations

This chapter explains strategies for handling problems with L-Platform operations.

9.1 Deployment Is Successful but Connection Cannot Be Performed Using IP Address of L-Server

9.1.1 Action 1

Checkpoint

Has a scenario occurred in which deployment was successful, but connection cannot be performed using the IP address of the L-Server (Windows) displayed on the L-Platform Management window? Also, virtualization software such as VMware has a function that allows connection to an L-Server using a console instead of an IP address. Use this function to login to Windows. At this point in time, does either of the following scenarios occur?

- Password resetting is requested, and

  Login is impossible because password resetting fails.

- Password resetting is requested, and

  Login is successful but the correct IP address has not been set.

Cause

These scenarios occur when image creation is implemented repeatedly after a Windows L-Server is deployed.
This product uses Sysprep for Windows images. The number of times it can be used is limited, so image creation cannot be implemented repeatedly.

Action

Reinstall Windows to perform image re-creation.

9.1.2 Action 2

Checkpoint

Check whether "Windows cannot complete system configuration" is displayed?

Cause

There is a possibility that Sysprep is failing due to software installed on the L-Server which collected the image.

Action

Identify the software which is the cause and do not install it. In order to identify the source of the problem, install the operating system and programs one by one and check the point where the problem occurs. However, the problem may occur even if the software identified as the cause of the problem is uninstalled. Ensure the process is performed starting from installing the operating system.

9.2 When Power to L-Server Being Deployed is Switched Off, VSYS30004 Error is Output to Event Log in L-Platform Management Window

Error message

```
VSYS30004:Failed to stop server. [L-Platform ID:div02-S8A0WEKWN][Server Name:MW96 Web server Linux]
[Detail:ROR(69122:timeout occurred while executing power control modules)]
```

9.2.1 Action

Checkpoint

In addition to the scenario, is a 69122 error output to the resource management events?

📋 Example

```
Error 2010-12-28 11:13:26 S8A0WEKWN 69122 FJSVrcx:ERROR:69122:timeout occurred while executing power
control modules
Error 2010-12-28 11:13:26 div02-S8A0WEKWN-S-0001 61143 FJSVrcx:ERROR:61143:stop server:failed
```

Cause

When resource management takes longer than 5 minutes to shut down the operating system (OFF), a timeout error occurs.

Action

If the scenario occurs frequently, make the timeout longer for resource management. Refer to "When a Virtual L-Server is Stopped, Message number 69122 is Displayed, and Stopping of the L-Server Fails." for details.

Glossary

access path

A logical path configured to enable access to storage volumes from servers.

active mode

The state where a managed server is performing operations.
Managed servers must be in active mode in order to use Auto-Recovery.
Move managed servers to maintenance mode in order to perform backup or restoration of system images, or collection or deployment of cloning images.

active server

A physical server that is currently operating.

admin client

A terminal (PC) connected to an admin server, which is used to operate the GUI.

admin LAN

A LAN used to manage resources from admin servers.
It connects managed servers, storage, and network devices.

admin server

A server used to operate the manager software of Resource Orchestrator.

affinity group

A grouping of the storage volumes allocated to servers. A function of ETERNUS.

Equivalent to the LUN mapping of EMC.

agent

The section (program) of Resource Orchestrator that operates on managed servers.

aggregate

A unit for managing storage created through the aggregation of a RAID group.

Aggregates can contain multiple FlexVols.

alias name

A name set for each ETERNUS LUN to distinguish the different ETERNUS LUNs.

Auto Deploy

A function for deploying VMware ESXi 5.0 to servers using the PXE boot mechanism.

Automatic Storage Layering

A function that optimizes performance and cost by automatically rearranging data in storage units based on the frequency of access.

Auto-Recovery

A function which continues operations by automatically switching over the system image of a failed server to a spare server and restarting it in the event of server failure.
This function can be used when managed servers are in a local boot configuration, SAN boot configuration, or a configuration such as iSCSI boot where booting is performed from a disk on a network.

- When using a local boot configuration

  The system is recovered by restoring a backup of the system image of the failed server onto a spare server.

- When booting from a SAN or a disk on a LAN

  The system is restored by having the spare server inherit the system image on the storage.
  Also, when a VLAN is set for the public LAN of a managed server, the VLAN settings of adjacent LAN switches are automatically switched to those of the spare server.

backup site

An environment prepared in a different location, which is used for data recovery.

BACS (Broadcom Advanced Control Suite)

An integrated GUI application (comprised from applications such as BASP) that creates teams from multiple NICs, and provides functions such as load balancing.

Basic Mode

A function that can be used by configuring a Cloud Edition license after installing ROR VE.

BASP (Broadcom Advanced Server Program)

LAN redundancy software that creates teams of multiple NICs, and provides functions such as load balancing and failover.

blade server

A compact server device with a thin chassis that can contain multiple server blades, and has low power consumption.
As well as server blades, LAN switch blades, management blades, and other components used by multiple server blades can be mounted inside the chassis.

blade type

A server blade type.
Used to distinguish the number of server slots used and servers located in different positions.

BladeViewer

A GUI that displays the status of blade servers in a style similar to a physical view and enables intuitive operation.
BladeViewer can also be used for state monitoring and operation of resources.

BMC (Baseboard Management Controller)

A Remote Management Controller used for remote operation of servers.

boot agent

An OS for disk access that is distributed from the manager to managed servers in order to boot them when the network is started during image operations.

CA (Channel Adapter)

An adapter card that is used as the interface for server HBAs and fibre channel switches, and is mounted on storage devices.

CCM (ETERNUS SF AdvancedCopy Manager Copy Control Module)

This is a module that does not require installation of the ETERNUS SF AdvancedCopy Manager agent on the server that is the source of the backup, but rather uses the advanced copy feature of the ETERNUS disk array to make backups.

chassis

A chassis used to house server blades and partitions.
Sometimes referred to as an enclosure.

cloning

Creation of a copy of a system disk.

cloning image

A backup of a system disk, which does not contain server-specific information (system node name, IP address, etc.), made during cloning.
When deploying a cloning image to the system disk of another server, Resource Orchestrator automatically changes server-specific information to that of the target server.

Cloud Edition

The edition which can be used to provide private cloud environments.

data center

A facility that manages client resources (servers, storage, networks, etc.), and provides internet connections and maintenance/operational services.

directory service

A service for updating and viewing the names (and associated attributes) of physical/logical resource names scattered across networks, based on organizational structures and geographical groups using a systematic (tree-shaped structure) management methodology.

disk resource

The unit for resources to connect to an L-Server. An example being a virtual disk provided by LUN or VM management software.

DN (Distinguished Name)

A name defined as a line of an RDN, which contains an entry representing its corresponding object and higher entry.

Domain

A system that is divided into individual systems using partitioning. Also used to indicate a partition.

DR Option

The option that provides the function for remote switchover of servers or storage in order to perform disaster recovery.

Dual-Role Administrators

The administrators with both infrastructure administrator's and tenant administrator's role.

dynamic LUN mirroring

This is a feature whereby a mirror volume is generated at the remote site when a volume is generated at the local site, and copies are maintained by performing REC.

dynamic memory

A function that optimizes physical memory allocation for virtual machines, depending on their execution status on Hyper-V.

end host mode

This is a mode where the uplink port that can communicate with a downlink port is fixed at one, and communication between uplink ports is blocked.

environmental data

Measured data regarding the external environments of servers managed using Resource Orchestrator.
Measured data includes power data collected from power monitoring targets.

ESC (ETERNUS SF Storage Cruiser)

Software that supports stable operation of multi-vendor storage system environments involving SAN, DAS, or NAS. Provides configuration management, relation management, trouble management, and performance management functions to integrate storage related resources such as ETERNUS.

ETERNUS SF AdvancedCopy Manager

This is storage management software that makes highly reliable and rapid backups, restorations and replications using the advanced copy feature of the ETERNUS disk array.

Express

The edition which provides server registration, monitoring, and visualization.

FC switch (Fibre Channel Switch)

A switch that connects Fibre Channel interfaces and storage devices.

Fibre Channel

A method for connecting computers and peripheral devices and transferring data.

Generally used with servers requiring high-availability, to connect computers and storage systems.

Fibre Channel port

The connector for Fibre Channel interfaces.

When using ETERNUS storage, referred to as an FC-CA port, when using NetApp storage, referred to as an FC port, when using EMC CLARiiON, referred to as an SP port, when using EMC Symmetrix DMX or EMC Symmetrix VMAX, referred to as a DIRECTOR port.

fibre channel switch blade

A fibre channel switch mounted in the chassis of a blade server.

FlexVol

A function that uses aggregates to provide virtual volumes.

Volumes can be created in an instant.

FTRP

The pool for physical disks created by Automatic Storage Layering for ETERNUS.
In Resource Orchestrator, FTRPs are used as virtual storage resources on which Thin Provisioning attributes are configured.

FTV

The virtual volumes created by Automatic Storage Layering for ETERNUS.
In Resource Orchestrator, FTVs are used as disk resources on which Thin Provisioning attributes are configured.

global pool

A resource pool that contains resources that can be used by multiple tenants.
It is located in a different location from the tenants.
By configuring a global pool with the attributes of a tenant, it becomes possible for tenant administrators to use the pool.

global zone

The actual OS that is used for a Solaris container.

A Solaris environment that has been installed on a physical server.

GLS (Global Link Services)

Fujitsu network control software that enables high availability networks through the redundancy of network transmission channels.

GSPB (Giga-LAN SAS and PCI_Box Interface Board)

A board which mounts onboard I/O for two partitions and a PCIe (PCI Express) interface for a PCI box.

GUI (Graphical User Interface)

A user interface that displays pictures and icons (pictographic characters), enabling intuitive and easily understandable operation.

HA (High Availability)

The concept of using redundant resources to prevent suspension of system operations due to single problems.

hardware initiator

A controller which issues SCSI commands to request processes.
In iSCSI configurations, NICs fit into this category.

hardware maintenance mode

In the maintenance mode of PRIMEQUEST servers, a state other than Hot System Maintenance.

HBA (Host Bus Adapter)

An adapter for connecting servers and peripheral devices.
Mainly used to refer to the FC HBAs used for connecting storage devices using Fibre Channel technology.

HBA address rename setup service

The service that starts managed servers that use HBA address rename in the event of failure of the admin server.

HBAAR (HBA address rename)

I/O virtualization technology that enables changing of the actual WWN possessed by an HBA.

host affinity

A definition of the server HBA that is set for the CA port of the storage device and the accessible area of storage.
It is a function for association of the Logical Volume inside the storage which is shown to the host (HBA) that also functions as security internal to the storage device.

Hyper-V

Virtualization software from Microsoft Corporation.

Provides a virtualized infrastructure on PC servers, enabling flexible management of operations.

I/O virtualization option

An optional product that is necessary to provide I/O virtualization.
The WWNN address and MAC address provided is guaranteed by Fujitsu Limited to be unique.
Necessary when using HBA address rename.

IBP (Intelligent Blade Panel)

One of operation modes used for PRIMERGY switch blades.
This operation mode can be used for coordination with ServerView Virtual I/O Manager (VIOM), and relations between server blades and switch blades can be easily and safely configured.

ICT governance

A collection of principles and practices that encourage desirable behavior in the use of ICT (Information and Communication Technology) based on an evaluation of the impacts and risks posed in the adoption and application of ICT within an organization or community.

ILOM (Integrated Lights Out Manager)

The name of the Remote Management Controller for SPARC Enterprise T series servers.

image file

A system image or a cloning image. Also a collective term for them both.

infrastructure administrator

A user who manages the resources comprising a data center.
infra_admin is the role that corresponds to the users who manage resources.
Infrastructure administrators manage all of the resources comprising a resource pool (the global pool and local pools), provide tenant administrators with resources, and review applications by tenant users to use resources.

IPMI (Intelligent Platform Management Interface)

IPMI is a set of common interfaces for the hardware that is used to monitor the physical conditions of servers, such as temperature, power voltage, cooling fans, power supply, and chassis.
These functions provide information that enables system management, recovery, and asset management, which in turn leads to reduction of overall TCO.

IQN (iSCSI Qualified Name)

Unique names used for identifying iSCSI initiators and iSCSI targets.

iRMC (integrated Remote Management Controller)

The name of the Remote Management Controller for Fujitsu's PRIMERGY servers.

iSCSI

A standard for using the SCSI protocol over TCP/IP networks.

iSCSI boot

A configuration function that enables the starting and operation of servers via a network.

The OS and applications used to operate servers are stored on iSCSI storage, not the internal disks of servers.

iSCSI storage

Storage that uses an iSCSI connection.

LAG (Link Aggregation Group)

A single logical port created from multiple physical ports using link aggregation.

LAN switch blades

A LAN switch that is mounted in the chassis of a blade server.

LDAP (Lightweight Directory Access Protocol)

A protocol used for accessing Internet standard directories operated using TCP/IP.

LDAP provides functions such as direct searching and viewing of directory services using a web browser.

license

The rights to use specific functions.

Users can use specific functions by purchasing a license for the function and registering it on the manager.

link aggregation

Function used to multiplex multiple ports and use them as a single virtual port.

With this function, if one of the multiplexed ports fails its load can be divided among the other ports, and the overall redundancy of ports improved.

Function used to multiplex multiple ports and use them as a single virtual port.

By using this function, it becomes possible to use a band equal to the total of the bands of all the ports.

Also, if one of the multiplexed ports fails its load can be divided among the other ports, and the overall redundancy of ports improved.

local pool

A resource pool that contains resources that can only be used by a specific tenant.

They are located in tenants.

logical volume

A logical disk that has been divided into multiple partitions.

L-Platform

A resource used for the consolidated operation and management of systems such as multiple-layer systems (Web/AP/DB) comprised of multiple L-Servers, storage, and network devices.

L-Platform template

A template that contains the specifications for servers, storage, network devices, and images that are configured for an L-Platform.

LSB (Logical System Board)

A system board that is allocated a logical number (LSB number) so that it can be recognized from the domain, during domain configuration.

L-Server

A resource defined using the logical specifications (number of CPUs, amount of memory, disk capacity, number of NICs, etc.) of the servers, and storage and network devices connected to those servers.
An abbreviation of Logical Server.

L-Server template

A template that defines the number of CPUs, memory capacity, disk capacity, and other specifications for resources to deploy to an L-Server.

LUN (Logical Unit Number)

A logical unit defined in the channel adapter of a storage unit.

MAC address (Media Access Control address)

A unique identifier that is assigned to Ethernet cards (hardware).

Also referred to as a physical address.

Transmission of data is performed based on this identifier. Described using a combination of the unique identifying numbers managed by/assigned to each maker by the IEEE, and the numbers that each maker assigns to their hardware.

maintenance mode

The state where operations on managed servers are stopped in order to perform maintenance work.

In this state, the backup and restoration of system images and the collection and deployment of cloning images can be performed.

However, when using Auto-Recovery it is necessary to change from this mode to active mode. When in maintenance mode it is not possible to switch over to a spare server if a server fails.

managed server

A collective term referring to a server that is managed as a component of a system.

management blade

A server management unit that has a dedicated CPU and LAN interface, and manages blade servers.

Used for gathering server blade data, failure notification, power control, etc.

Management Board

The PRIMEQUEST system management unit.

Used for gathering information such as failure notification, power control, etc. from chassis.

manager

The section (program) of Resource Orchestrator that operates on admin servers.

It manages and controls resources registered with Resource Orchestrator.

master slot

A slot that is recognized as a server when a server that occupies multiple slots is mounted.

member server

A collective term that refers to a server in a Windows network domain that is not a domain controller.

migration

The migration of a VM guest to a different VM host. The following two types of migration are available:

- Cold migration

  Migration of an inactive (powered-off) VM guest.

- Live migration

  Migration of an active (powered-on) VM guest.

multi-slot server

A server that occupies multiple slots.

NAS (Network Attached Storage)

A collective term for storage that is directly connected to a LAN.

network device

The unit used for registration of network devices.

L2 switches and firewalls fit into this category.

network map

A GUI function for graphically displaying the connection relationships of the servers and LAN switches that compose a network.

network view

A window that displays the connection relationships and status of the wiring of a network map.

NFS (Network File System)

A system that enables the sharing of files over a network in Linux environments.

NIC (Network Interface Card)

An interface used to connect a server to a network.

non-global zone

A virtual machine environment that has been prepared in a global zone. Its OS kernel is shared with the global zone. Non-global zones are completely separate from each other.

OS

The OS used by an operating server (a physical OS or VM guest).

overcommit

A function to virtually allocate more resources than the actual amount of resources (CPUs and memory) of a server.
This function is used to enable allocation of more disk resources than are mounted in the target server.

PDU (Power Distribution Unit)

A device for distributing power (such as a power strip).
Resource Orchestrator uses PDUs with current value display functions as Power monitoring devices.

physical LAN segment

A physical LAN that servers are connected to.
Servers are connected to multiple physical LAN segments that are divided based on their purpose (public LANs, backup LANs, etc.).
Physical LAN segments can be divided into multiple network segments using VLAN technology.

physical network adapter

An adapter, such as a LAN, to connect physical servers or VM hosts to a network.

physical OS

An OS that operates directly on a physical server without the use of server virtualization software.

physical server

The same as a "server". Used when it is necessary to distinguish actual servers from virtual servers.

pin-group

This is a group, set with the end host mode, that has at least one uplink port and at least one downlink port.

Pool Master

On Citrix XenServer, it indicates one VM host belonging to a Resource Pool.
It handles setting changes and information collection for the Resource Pool, and also performs operation of the Resource Pool.
For details, refer to the Citrix XenServer manual.

port backup

A function for LAN switches which is also referred to as backup port.

port VLAN

A VLAN in which the ports of a LAN switch are grouped, and each LAN group is treated as a separate LAN.

port zoning

The division of ports of fibre channel switches into zones, and setting of access restrictions between different zones.

power monitoring devices

Devices used by Resource Orchestrator to monitor the amount of power consumed.
PDUs and UPSs with current value display functions fit into this category.

power monitoring targets

Devices from which Resource Orchestrator can collect power consumption data.

pre-configuration

Performing environment configuration for Resource Orchestrator on another separate system.

primary server

The physical server that is switched from when performing server switchover.

primary site

The environment that is usually used by Resource Orchestrator.

private cloud

A private form of cloud computing that provides ICT services exclusively within a corporation or organization.

public LAN

A LAN used for operations by managed servers.
Public LANs are established separately from admin LANs.

rack

A case designed to accommodate equipment such as servers.

rack mount server

A server designed to be mounted in a rack.

RAID (Redundant Arrays of Inexpensive Disks)

Technology that realizes high-speed and highly-reliable storage systems using multiple hard disks.

RAID management tool

Software that monitors disk arrays mounted on PRIMERGY servers.
The RAID management tool differs depending on the model or the OS of PRIMERGY servers.

RDM (Raw Device Mapping)

A function of VMware. This function provides direct access from a VMware virtual machine to a LUN.

RDN (Relative Distinguished Name)

A name used to identify the lower entities of a higher entry.

Each RDN must be unique within the same entry.

Remote Management Controller

A unit used for managing servers.
Used for gathering server data, failure notification, power control, etc.

- For Fujitsu PRIMERGY servers

    iRMC2

- For SPARC Enterprise

  ILOM (T series servers)
  XSCF (M series servers)

- For HP servers

  iLO2 (integrated Lights-Out)

- For Dell/IBM servers

  BMC (Baseboard Management Controller)

Remote Server Management

A PRIMEQUEST feature for managing partitions.

Reserved SB

Indicates the new system board that will be embedded to replace a failed system board if the hardware of a system board embedded in a partition fails and it is necessary to disconnect the failed system board.

resource

Collective term or concept that refers to the physical resources (hardware) and logical resources (software) from which a system is composed.

General term referring to the logical definition of the hardware (such as servers, storage, and network devices) and software that comprise a system.

resource folder

An arbitrary group of resources.

resource pool

On Citrix XenServer, it indicates a group of VM hosts.
For details, refer to the Citrix XenServer manual.

A unit for management of groups of similar resources, such as servers, storage, and network devices.

resource tree

A tree that displays the relationships between the hardware of a server and the OS operating on it using hierarchies.

role

A collection of operations that can be performed.

ROR console

The GUI that enables operation of all functions of Resource Orchestrator.

ruleset

A collection of script lists for performing configuration of network devices, configured as combinations of rules based on the network device, the purpose, and the application.

SAN (Storage Area Network)

A specialized network for connecting servers and storage.

SAN boot

A configuration function that enables the starting and operation of servers via a SAN.

The OS and applications used to operate servers are stored on SAN storage, not the internal disks of servers.

SAN storage

Storage that uses a Fibre Channel connection.

script list

Lists of scripts for the automation of operations such as status and log display, and definition configuration of network devices.
Used to execute multiple scripts in one operation. The scripts listed in a script list are executed in the order that they are listed.
As with individual scripts, they can are created by the infrastructure administrator, and can be customized to meet the needs of tenant administrators.
They are used to configure virtual networks for VLANs on physical networks, in cases where it is necessary to perform auto-configuration of multiple switches at the same time, or to configure the same rules for network devices in redundant configurations.
The script lists contain the scripts used to perform automatic configuration.
There are the following eight types of script lists:

- script lists for setup

- script lists for setup error recovery

- script lists for modification

- script lists for modification error recovery

- script lists for setup (physical server added)

- script lists for setup error recovery (physical server added)

- script lists for deletion (physical server deleted)

- script lists for deletion

server

A computer (operated with one operating system).

server blade

A server blade has the functions of a server integrated into one board.
They are mounted in blade servers.

server management unit

A unit used for managing servers.
A management blade is used for blade servers, and a Remote Management Controller is used for other servers.

server name

The name allocated to a server.

server NIC definition

A definition that describes the method of use for each server's NIC.
For the NICs on a server, it defines which physical LAN segment to connect to.

server virtualization software

Basic software which is operated on a server to enable use of virtual machines. Used to indicate the basic software that operates on a PC server.

ServerView Deployment Manager

Software used to collect and deploy server resources over a network.

ServerView Operations Manager

Software that monitors a server's (PRIMERGY) hardware state, and notifies of errors by way of the network.
ServerView Operations Manager was previously known as ServerView Console.

ServerView RAID

One of the RAID management tools for PRIMERGY.

ServerView Update Manager

This is software that performs jobs such as remote updates of BIOS, firmware, drivers, and hardware monitoring software on servers being managed by ServerView Operations Manager.

ServerView Update Manager Express

Insert the ServerView Suite DVD1 or ServerView Suite Update DVD into the server requiring updating and start it.

This is software that performs batch updates of BIOS, firmware, drivers, and hardware monitoring software.

Single Sign-On

A system among external software which can be used without login operations, after authentication is executed once.

slave slot

A slot that is not recognized as a server when a server that occupies multiple slots is mounted.

SMB (Server Message Block)

A protocol that enables the sharing of files and printers over a network.

SNMP (Simple Network Management Protocol)

A communications protocol to manage (monitor and control) the equipment that is attached to a network.

software initiator

An initiator processed by software using OS functions.

Solaris container resource pool

The Solaris Containers resource pool used in the global zone and the non-global zone.

Solaris Containers

Solaris server virtualization software.
On Solaris servers, it is possible to configure multiple virtual Solaris servers that are referred to as a Solaris Zone.

Solaris Zone

A software partition that virtually divides a Solaris OS space.

SPARC Enterprise Partition Model

A SPARC Enterprise model which has a partitioning function to enable multiple system configurations, separating a server into multiple areas with operating OS's and applications in each area.

spare server

A server which is used to replace a failed server when server switchover is performed.

storage blade

A blade-style storage device that can be mounted in the chassis of a blade server.

storage management software

Software for managing storage units.

storage resource

Collective term that refers to virtual storage resources and disk resources.

storage unit

Used to indicate the entire secondary storage as one product.

surrogate pair

A method for expressing one character as 32 bits.
In the UTF-16 character code, 0xD800 - 0xDBFF are referred to as "high surrogates", and 0xDC00 - 0xDFFF are referred to as "low surrogates". Surrogate pairs use "high surrogate" + "low surrogate".

switchover state

The state in which switchover has been performed on a managed server, but neither failback nor continuation have been performed.

system administrator

The administrator who manages the entire system. They perform pre-configuration and installation of Resource Orchestrator.

Administrator privileges for the operating system are required. Normally the roles of the infrastructure administrator and system administrator are performed concurrently.

System Board

A board which can mount up to 2 Xeon CPUs and 32 DIMMs.

system disk

The disk on which the programs (such as the OS) and files necessary for the basic functions of servers (including booting) are installed.

system image

A copy of the contents of a system disk made as a backup.
Different from a cloning image as changes are not made to the server-specific information contained on system disks.

tenant

A unit for the division and segregation of management and operation of resources based on organizations or operations.

tenant administrator

A user who manages the resources allocated to a tenant.
tenant_admin is the role for performing management of resources allocated to a tenant.
Tenant administrators manage the available space on resources in the local pools of tenants, and approve or reject applications by tenant users to use resources.

tenant folder

A resource folder that is created for each tenant, and is used to manage the resources allocated to a tenant.

L-Servers and local pools are located in tenant folders. Also, it is possible to configure a global pool that tenant administrators can use.

tenant user

A user who uses the resources of a tenant, or creates and manages L-Platforms, or a role with the same purpose.

Thick Provisioning

Allocation of the actual requested capacity when allocating storage resources.

Thin Provisioning

Allocating of only the capacity actually used when allocating storage resources.

tower server

A standalone server with a vertical chassis.

TPP (Thin Provisioning Pool)

One of resources defined using ETERNUS. Thin Provisioning Pools are the resource pools of physical disks created using Thin Provisioning.

TPV (Thin Provisioning Volume)

One of resources defined using ETERNUS. Thin Provisioning Volumes are physical disks created using the Thin Provisioning function.

UNC (Universal Naming Convention)

Notational system for Windows networks (Microsoft networks) that enables specification of shared resources (folders, files, shared printers, shared directories, etc.).

Example
. . . .

\\hostname\dir_name

. . . .

UPS (Uninterruptible Power Supply)

A device containing rechargeable batteries that temporarily provides power to computers and peripheral devices in the event of power failures.
Resource Orchestrator uses UPSs with current value display functions as power monitoring devices.

URL (Uniform Resource Locator)

The notational method used for indicating the location of information on the Internet.

VIOM (ServerView Virtual-IO Manager)

The name of both the I/O virtualization technology used to change the MAC addresses of NICs and the software that performs the virtualization.
Changes to values of WWNs and MAC addresses can be performed by creating a logical definition of a server, called a server profile, and assigning it to a server.

Virtual Edition

The edition that can use the server switchover function.

Virtual I/O

Technology that virtualizes the relationship of servers and I/O devices (mainly storage and network) thereby simplifying the allocation of and modifications to I/O resources to servers, and server maintenance.
For Resource Orchestrator it is used to indicate HBA address rename and ServerView Virtual-IO Manager (VIOM).

virtual server

A virtual server that is operated on a VM host using a virtual machine.

virtual storage resource

This refers to a resource that can dynamically create a disk resource.
An example being RAID groups or logical storage that is managed by server virtualization software (such as VMware datastores).
In Resource Orchestrator, disk resources can be dynamically created from ETERNUS RAID groups, NetApp aggregates, and logical storage managed by server virtualization software.

virtual switch

A function provided by server virtualization software to manage networks of VM guests as virtual LAN switches.
The relationships between the virtual NICs of VM guests and the NICs of the physical servers used to operate VM hosts can be managed using operations similar to those of the wiring of normal LAN switches.

A function provided by server virtualization software in order to manage L-Server (VM) networks as virtual LAN switches.
Management of relationships between virtual L-Server NICs, and physical server NICs operating on VM hosts, can be performed using an operation similar to the connection of a normal LAN switch.

VLAN (Virtual LAN)

A splitting function, which enables the creation of virtual LANs (seen as differing logically by software) by grouping ports on a LAN switch.
Using a Virtual LAN, network configuration can be performed freely without the need for modification of the physical network configuration.

VLAN ID

A number (between 1 and 4,095) used to identify VLANs.
Null values are reserved for priority tagged frames, and 4,096 (FFF in hexadecimal) is reserved for mounting.

VM (Virtual Machine)

A virtual computer that operates on a VM host.

VM guest

A virtual server that operates on a VM host, or an OS that is operated on a virtual machine.

VM Home Position

The VM host that is home to VM guests.

VM host

A server on which server virtualization software is operated, or the server virtualization software itself.

VM maintenance mode

One of the settings of server virtualization software, that enables maintenance of VM hosts.
For example, when using high availability functions (such as VMware HA) of server virtualization software, by setting VM maintenance mode it is possible to prevent the moving of VM guests on VM hosts undergoing maintenance.
For details, refer to the manuals of the server virtualization software being used.

VM management software

Software for managing multiple VM hosts and the VM guests that operate on them.
Provides value adding functions such as movement between the servers of VM guests (migration).

VMware

Virtualization software from VMware Inc.
Provides a virtualized infrastructure on PC servers, enabling flexible management of operations.

VMware DPM (VMware Distributed Power Management)

A function of VMware. This function is used to reduce power consumption by automating power management of servers in VMware DRS clusters.

VMware DRS (VMware Distributed Resource Scheduler)

A function of VMware. This function is used to monitor the load conditions on an entire virtual environment and optimize the load dynamically.

VMware Teaming

A function of VMware. By using VMware Teaming it is possible to perform redundancy by connecting a single virtual switch to multiple physical network adapters.

Web browser

A software application that is used to view Web pages.

WWN (World Wide Name)

A 64-bit address allocated to an HBA.
Refers to a WWNN or a WWPN.

WWNN (World Wide Node Name)

The WWN set for a node.
The Resource Orchestrator HBA address rename sets the same WWNN for the fibre channel port of the HBA.

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)

The WWN set for a port.
The Resource Orchestrator HBA address rename sets a WWPN for each fibre channel port of the HBA.

A name that is a unique value and is set for each Fibre Channel port (HBA, CA, fibre channel switch ports, etc.), and is the IEEE global MAC address.

As the Fibre Channel ports of the same WWPN are unique, they are used as identifiers during Fibre Channel port login. Also referred to as a port WWN.

WWPN zoning

The division of ports into zones based on their WWPN, and setting of access restrictions between different zones.

Xen

A type of server virtualization software.

XSB (eXtended System Board)

Unit for domain creation and display, composed of physical components.

XSCF (eXtended System Control Facility)

The name of the Remote Management Controller for SPARC Enterprise M series servers.

zoning

A function that provides security for Fibre Channels by grouping the Fibre Channel ports of a Fibre Channel switch into zones, and only allowing access to ports inside the same zone.