ServerView

FUJITSU

ServerView Resource Orchestrator Virtual Edition V3.1.0
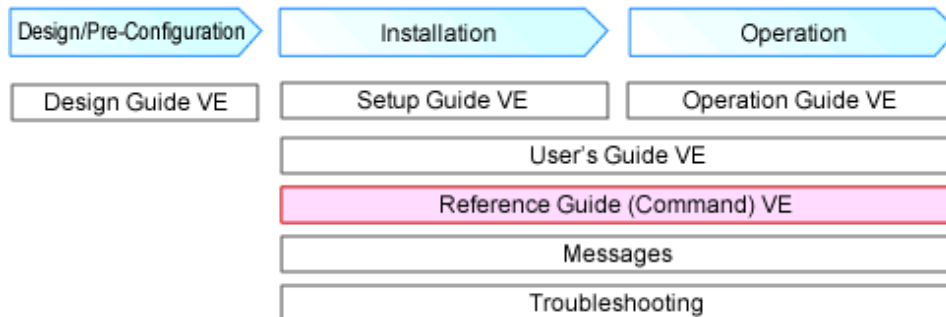
Reference Guide (Command)

Windows/Linux

Preface

Resource Orchestrator Documentation Road Map

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

Resource Orchestrator Documentation Road Map

Design/Pre-Configuration	Installation	Operation
Design Guide VE	Setup Guide VE	Operation Guide VE
	User's Guide VE	
	Reference Guide (Command) VE	
	Messages	
	Troubleshooting	

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

Purpose

This manual explains the commands available in ServerView Resource Orchestrator (hereinafter Resource Orchestrator).

Target Readers

This manual is written for people who will install and administer systems using Resource Orchestrator.
It is strongly recommended that you read the "Design Guide VE" before using this manual.
When setting up systems, it is assumed that readers have the basic knowledge required to configure the servers, storage, and network devices to be installed.

Organization

This manual is composed as follows:

Chapter 1 Overview

Provides an overview of the commands provided in Resource Orchestrator.

Chapter 2 Login

Explains the command used to log in to Resource Orchestrator.

Chapter 3 Resource Operations

Explains the commands used to manage resources in Resource Orchestrator.

Chapter 4 Image Operations

Explains the command used to perform image operations in Resource Orchestrator.

Chapter 5 Control and Environment Setup

Explains the commands used to control Resource Orchestrator managers and agents, and to configure environment settings.

Chapter 6 Backup and Restoration Operations for Configuration Definition Information

Explains the commands used to perform backup and restoration in Resource Orchestrator.

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

- 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.

Regarding Installation Folder Paths

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

Replace it as shown below.

When using Windows 64-bit (x64)

C:\Program Files (x86)\Resource Orchestrator

When using Windows 32-bit (x86)

C:\Program Files\Resource Orchestrator

Command Examples

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

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
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)

Abbreviation	Products
	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)
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	Red Hat(R) Enterprise Linux(R) 5.7 (for x86)
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	Red Hat(R) Enterprise Linux(R) 6 (for x86)
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	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)
Red Hat(R) Enterprise Linux(R) AS (v.4 for EM64T)

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	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)
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	Red Hat(R) Enterprise Linux(R) 5.6 (for Intel64)
	Red Hat(R) Enterprise Linux(R) 5.7 (for x86)

Abbreviation	Products
	Red Hat(R) Enterprise Linux(R) 5.7 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.8 (for x86) Red Hat(R) Enterprise Linux(R) 5.8 (for Intel64)
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 Citrix XenServer(TM) 6.0 Citrix Essentials(TM) for XenServer 6.0, 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 Red Hat(R) Enterprise Linux(R) 5.8 (for x86) Linux Virtual Machine Function Red Hat(R) Enterprise Linux(R) 5.8 (for Intel64) Linux Virtual Machine Function
XenServer 6	Citrix XenServer(TM) 6.0 Citrix Essentials(TM) for XenServer 6.0, Enterprise Edition
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

Abbreviation	Products
VMware ESX	VMware(R) ESX(R)
VMware ESX 4	VMware(R) ESX(R) 4
VMware ESXi	VMware(R) ESXi(TM)
VMware ESXi 5.0	VMware(R) ESXi(TM) 5.0
VMware Infrastructure 3	VMware(R) Infrastructure 3
VMware Infrastructure Client	VMware(R) Infrastructure Client
VMware vSphere 4.0	VMware vSphere(R) 4.0
VMware vSphere 4.1	VMware vSphere(R) 4.1
VMware vSphere 5	VMware vSphere(R) 5
VMware vSphere Client	VMware vSphere(R) Client
VMware vCenter Server	VMware(R) vCenter(TM) Server
VMware vClient	VMware(R) vClient(TM)
VIOM	ServerView Virtual-IO Manager
BladeLogic	BMC BladeLogic Server Automation
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

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Notices

Month/Year Issued, Edition	Manual Code
November 2011, First Edition	J2X1-7607-01ENZ0(00)
December 2011, 1.1	J2X1-7607-01ENZ0(01)
January 2012, 1.2	J2X1-7607-01ENZ0(02)
February 2012, 1.3	J2X1-7607-01ENZ0(03)
March 2012, 1.4	J2X1-7607-01ENZ0(04)
April 2012, 1.5	J2X1-7607-01ENZ0(05)
July 2012, 2	J2X1-7607-02ENZ0(00)
October 2012, Third Edition	J2X1-7607-03ENZ0(00)

Contents

Part 1   Command Reference

Chapter 1 Overview

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

Four types of commands are available: the login command, the resource operation commands, the image operation command, and the control and environment setup commands.

- Login Command

  rcxlogin

- Resource Operation Commands

  rcxadm chassis
  rcxadm server (rcxserver) (*)

- Image Operation Command

  rcxadm image (rcximage) (*)

- Control and Environment Setup Commands

  deployment_service_uninstall
  rcxadm agtctl
  rcxadm authctl
  rcxadm certctl
  rcxadm dbctl
  rcxadm deployctl
  rcxadm eventctl
  rcxadm imagemgr
  rcxadm lanctl
  rcxadm license
  rcxadm mgrctl
  rcxadm servermgr
  rcxadm storagemgr
  rcxadm vmmgr

- Backup and restore the configuration definition information of Resource Orchestrator Commands

  rcxbackup
  rcxkeydefbackup
  rcxkeydefrestore
  rcxrestore
  scwbackup
  scwrestore

* Note: rcxserver and rcximage are abbreviated forms of the rcxadm server and rcxadm image commands. They both produce exactly the same results as their counterparts.

User accounts with administrative privileges within the operating system have access to all commands.
When using Windows, the OS administrator is an Administrator account. The rcxadm command can only be used from an Administrator account.
For user accounts that do not have administrative privileges within the operating system, it is necessary to first log into Resource Orchestrator as a privileged user with the login command. This will grant access to the resource operation, control and environment setup (only rcxadm mgrctl snap -all), and image operation command.
For details on privileged users, refer to "Chapter 5 Managing User Accounts" in the "User's Guide VE".

The table below lists the permissions required to execute each command depending on the server on which they are executed.

Table 1.1 List of Commands

Command	Function		Required Privileges		Location	
			OS Administrator	Resource Orchestrator Privileged User	Admin Server	Managed Server
deployment_service_uninstall	Uninstallation of the related services		Yes	-	Yes	Yes
rcxadm agtctl	Agent control		Yes	-	No	Yes
rcxadm authctl	User authentication directory service operations		Yes	-	Yes	No
rcxadm certctl	SSL certificate operations		Yes	-	Yes	Yes
rcxadm chassis	Chassis power control		- (*)	Yes	Yes	No
rcxadm dbctl	Management of the database for Resource Orchestrator		Yes	-	Yes	-
rcxadm deployctl	Encryption of license information definition files		Yes	-	No	Yes
rcxadm eventctl	Event control		- (*)	Yes	Yes	No
rcxadm image	Image operations (backup and restore, cloning)		- (*)	Yes	Yes	No
rcxadm imagemgr	Image management settings		Yes	-	Yes	No
rcxadm lanctl	Network parameter configuration		Yes	-	No	Yes
rcxadm license	License control		Yes	Yes	Yes	No
rcxadm mgrctl	Manager control	"snap -all"	- (*)	Yes	Yes	No
		All except "snap -all"	Yes	-		
rcxadm server	Managed server control		- (*)	Yes	Yes	No
rcxadm servermgr	Server management software operations					
rcxadm storagemgr	ESC registration and deletion		- (*)	Yes	Yes	No
rcxadm vmmgr	VM management software operations		Yes	Yes	Yes	No
rcxbackup	Backup of configuration definition information		Yes	Yes	Yes	No
rcxkeydefbackup	Backup of other definition and management information		Yes	Yes	Yes	No
rcxkeydefrestore	Restoration of other definition and management information		Yes	Yes	Yes	No
rcxlogin	Logs in to Resource Orchestrator		-	-	Yes	No
rcxrestore	Restoration of configuration definition information		Yes	Yes	Yes	No
scwbackup	Backup of image files		Yes	Yes	Yes	No
scwrestore	Restoration of image files		Yes	Yes	Yes	No

Yes: Can be used
No: Cannot be used
-: Not required

* Note: This command can also be executed by a user with administrative privileges within the operating system. However, if the same user executes this command after logging into Resource Orchestrator, the operating system privileges will be replaced by Resource Orchestrator privileges. To use this command when logged into Resource Orchestrator, administrative privileges for Resource Orchestrator are required.

Information

- Executing privileged commands within a script requires the user to be logged in with administrative privileges within the operating system. Otherwise, the rcxlogin -save command should first be run to grant access to privileged commands from scripts.
  Refer to "2.1 rcxlogin" for details.

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

Point

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

[Windows Manager]

- *Installation_folder*\SVROR\Manager\bin

In Systemwalker Resource Coordinator VE V13.2 and VE V13.3, when using commands under the following folder within the created batch file, they must be changed to the specified folders, because the folder configuration for Resource Orchestrator is different.

- *Installation_folder*\Site Manager\opt\FJSVrcxmr\bin

[Linux Manager]

- /opt/FJSVrcvmr/bin

Chapter 2 Login

This chapter explains the command used to log in to Resource Orchestrator.

2.1 rcxlogin

Name

[Windows Manager]
Installation_folder**SVROR\Manager\bin\rcxlogin** - Logs in to Resource Orchestrator

[Linux Manager]
/opt/FJSVrcvmr/bin/rcxlogin - Logs in to Resource Orchestrator

Format

```
rcxlogin [-save] user_name
```

Description

rcxlogin is the command used to authenticate users in Resource Orchestrator.

If you are using commands for which administrative privileges are required, first use this command to log in as a user with administrative privileges.
If a user already has administrative privileges within the operating system, it is not necessary for that user to execute this command in order to use Resource Orchestrator commands.

user_name

Specify a user ID that has been registered in Resource Orchestrator. You will then be asked to enter the password of the specified user.
If the correct password is entered, a new command prompt will be displayed showing that the authentication succeeded.
If an invalid password or user ID is entered, an error message is displayed.

To log off, execute the exit command. To log in as a different user without logging off, re-execute the rcxlogin command.

Option

-save (optional)

Saves the entered password. This password is remembered only for the user account (within the operating system) used to execute this command. Once a password has been saved for a given user account, this command can then be executed from the same account without being asked for a password again.
Saving the password also allows scripts to use commands for which administrative privileges are required.
Refer to "Automation using scripts" in the "Examples" section for details.

> 📔 **Note**
> ....
>
> - Saving the password makes it possible to log in to Resource Orchestrator just by logging in to the operating system user account for which the password was saved. When using this function, ensure that strict control is exercised over this user account on the admin server.
>
> - In a clustered manager configuration, use the following procedure to save the password on both the primary and secondary cluster nodes.
>
>   [Windows Manager]

1. Start the cluster service on the primary node.

   In the Failover Cluster Management tree, right-click [RC-manager] under [Services and Applications], and select [Bring this service or application online] from the popup menu.
   Confirm that all resources are turned online.

2. Run the rcxlogin -save *user_name* command on the primary node.

3. Move the manager "service or application" to the secondary node.

   Confirm that all resources are turned online on the secondary node.

4. Run the rcxlogin -save *user_name* command on the secondary node.

5. Move the manager "service or application" back to the primary node.

   Confirm that all resources are turned online on the primary node.

[Linux Manager]

1. Start the cluster service on the primary node.

   Use the cluster system's operation management view (Cluster Admin) and start the cluster service of the manager.

   Confirm that all resources are turned online.

2. Run the rcxlogin -save *user_name* command on the primary node.

3. Use the cluster system's operation management view (Cluster Admin) and switch to the secondary node.

   Confirm that all resources are turned online on the secondary node.

4. Run the rcxlogin -save *user_name* command on the secondary node.

5. Use the cluster system's operation management view (Cluster Admin) and switch to the primary node.

   Confirm that all resources are turned online on the primary node.

For a user account with OS administrative privileges, Resource Orchestrator commands can be executed freely without needing to save a password first.

Requirements

Permissions

   Not required.

Location

   Admin server

Examples

- Logging in Using Password Authentication

   > **rcxlogin userA** <RETURN>
   > Password: *password* <RETURN>

- Automation Using Scripts

   To use commands requiring administrative privileges from within a script, thus allowing automated calls from external products, the user account's password must be registered in advance using the rcxlogin -save command.

   Within the script, the RCX_USER environment variable must be defined and set to the user ID of the account for which the password was saved.

   Once this variable is properly set, Resource Orchestrator commands can be executed using the previously saved password.

🖗 Note

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The script must be executed by the operating system user account that was used to save the password on the admin server.

📝 Example

. . . .

Script (batch file) content:

[Windows Manager]

```
@echo off

set RCX_USER=userA
rem Write down commands that can be run with userA's privileges.
Installation_folder\SVROR\Manager\bin\rcxserver stop -name svr0001 -force
Installation_folder\SVROR\Manager\bin\rcxserver start -name svr0002
...
```

[Linux Manager]

```
#!/bin/sh

RCX_USER=userA
export RCX_USER
# Write down commands that can be run with userA's privileges.
/opt/FJSVrcvmr/bin/rcxserver stop -name svr0001 -force
/opt/FJSVrcvmr/bin/rcxserver start -name svr0002
...
```

. . . .

. . . .

Exit Status

This command returns the following values:

0

> The command executed successfully.

non-zero

> An error has occurred.

Chapter 3 Resource Operations

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

3.1 rcxadm chassis

Name

[Windows Manager]
Installation_folder**SVROR\Manager\bin\rcxadm chassis** - Chassis power control

[Linux Manager]
/opt/FJSVrcvmr/bin/rcxadm chassis - Chassis power control

Format

```
rcxadm chassis start -name resource [-nowait]
rcxadm chassis stop -name resource [-nowait] [-force]
```

Description

rcxadm chassis is the command used to power on or power off a blade chassis.
This function can only be used with chassis for PRIMERGY BX servers.

Subcommands

start

Powers on the target chassis.

stop

Powers off the target chassis.

Options

-name *resource*

Specify the name of the target chassis in *resource*.

-nowait (optional)

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

Specify the following options when using the stop subcommand:

-force (optional)

Use this option to forcibly stop a chassis.

Requirements

Permissions

One of the following permissions is required:

- OS Administrator

- Resource Orchestrator Privileged User

Location

    Admin server

Exit Status

This command returns the following values:

0

    The command executed successfully.

non-zero

    An error has occurred.

📝 **Note**

. . . .

- When powering off a chassis, all management blades contained in the target chassis will be gracefully shut down. This function requires ServerView Agents to be installed on all server blades in the chassis.

- After starting a chassis, it may take some time until it is possible to power on server blades. When powering on server blades after starting a chassis, please wait several minutes before doing so.

- Server blade BIOS settings can be configured to automatically start up when powering on the chassis. Refer to the server blade manual for details about such settings.

. . . .

3.2 rcxadm server

Name

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

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

Format

```
rcxadm server start -name resource [-nowait]
rcxadm server stop -name resource [-force] [-nowait]
rcxadm server restart -name resource [-force] [-nowait]
rcxadm server switchover -name resource [-spare spare_server] [-nowait]
rcxadm server failback -name resource [-nowait]
rcxadm server takeover -name resource [-nowait]
rcxadm server list [{[-type {physical|vmguest|all}] | [-spare] | [-bootagt]}]
rcxadm server migrate -name guest_name -to vmhost [-mode {live|cold}] [-nowait]
rcxadm server migrate -home [-name vmhost] [-nowait]
rcxadm server set -name resource -attr {vmm_mode={maintenance|active}|
vmware.maintenance={maintenance|active}} [VMware]
rcxadm server set -name resource -attr vmm_mode={maintenance|active|maintenance_with_move} [Hyper-V]
[Xen]
rcxadm server set -name resource -attr bootagt={dos|winpe}
```

Description

rcxadm server is the command used to control server resources. This function provides the following functionality:

- Display of server statuses (physical OS, VM host, or VM guest)

- Startup, shutdown, or restart of a designated server (physical server, physical OS, VM host, or VM guest)

- Switchover, failback, or takeover of a designated server (physical OS or VM host)

- VM guest migration

- VM maintenance mode settings for VM hosts

- Migration to VM Home Position

- Change the boot agent of the specified server (physical server)

When stopping or restarting a VM host, any VM guests that are running will also be stopped.
Verify that stopping the affected VM guests will not cause any problems before stopping or restarting a VM host.

For details on the switchover, failback and takeover operations, refer to "Chapter 18 Server Switchover Settings" in the "User's Guide VE".
For details on VM guest migrations, refer to "15.1 Migration of VM Guests between Servers" in the "User's Guide VE".
For details on VM maintenance mode settings, refer to "15.2 VM Maintenance Mode of VM Hosts" in the "User's Guide VE".

Subcommands

start

Starts the target server (physical server, physical OS, VM host, or VM guest).

stop

Stops the target server (physical server, physical OS, VM host, or VM guest).

restart

Restarts the target server (physical server, physical OS, VM host, or VM guest).

switchover

Switches over the target server (physical OS or VM host) with one of its spare servers.

failback

Switches back a server in switchover state (physical OS or VM host). The spare server that was switched over with is stopped, and the operating system will be restarted on the primary server.

takeover

Sets a post-switchover configuration as final, and allows the spare server to take over the role of the original primary server (physical OS or VM host). After takeover, both servers exchange their roles: the original spare server becomes the new primary server, while the original primary server becomes the new spare server.

list

Displays all registered servers (physical OS's, VM hosts, and VM guests).

The following properties are displayed for each server (when no options are specified).

Item Name	Description
PHYSICAL_SERVER	Physical server name

Item Name	Description
SERVER	Server name (physical OS or VM host)
ADMIN_IP	Admin LAN IP address
STATUS	Server status Displays one of the following: - normal - warning - unknown - stop - error - fatal For an explanation of possible server statuses, refer to "11.2 Resource Status" in the "Operation Guide VE".

MAINTENANCE	Current maintenance mode
	
	- If maintenance mode is set
	
	  "ON" is displayed.
	
	- If maintenance mode is not set
	
	  "OFF" is displayed.
	
	For details on the maintenance mode, refer to "Appendix C Maintenance Mode" in the "User's Guide VE".

migrate

    Migrates a VM guest to a VM host on a different physical server.

set

    Sets or releases VM maintenance mode for a given VM host.
    Change the boot agent used when manipulating images.

Options

The following option can be specified for subcommands other than the list subcommand:

-name *resource*

    Specify the name of the target server in *resource*.

The following option can be specified when using subcommands other than the list or set subcommand:

-nowait (optional)

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

The following option can be specified for the stop and restart subcommands:

-force (optional)

    Use this option to forcibly stop or restart a server without shutting down its operating system.

The following option can be specified for the switchover subcommand:

-spare *spare_server* (optional)

    This defines the spare server (physical server) to be switched over with. If omitted, an appropriate server will be automatically selected from the list of spare servers already assigned to the target server.

The following options can be specified for the list subcommand:

-type {physical|vmguest|all} (optional)

    This defines the type of server (physical servers, VM guests, all servers) to be listed up.
    The following properties are displayed for each server. The option column shows the relationship between displayed properties and the option given in -type ("always" in the table below designates properties that are always displayed, independently from the option given in -type).

Item Name	Description	Options
PHYSICAL_SERVER	Physical server name	always
SERVER	Server name (for a Physical OS, VM host, or VM guest)	always

TYPE	Server type
	
	Displays one of the following:
	
	 - native
	
	  Physical OS
	
	 - vm_host
	
	  VM host
	
	 - vm_guest
	
	  VM guest
		physical
		
		all

VM_HOST	VM host name For a VM guest, this shows the name of the VM host on which this VM guest operates.	vmguest all
ADMIN_IP	Admin LAN IP address	always
STATUS	Server status Displays one of the following: - normal - warning - unknown - stop - error - fatal For an explanation of possible server statuses, refer to "11.2 Resource Status" in the "Operation Guide VE".	always

MAINTENANCE	Current maintenance mode
	
	 - If maintenance mode is set
	
	  "ON" is displayed.
	
	 - If maintenance mode is not set
	
	  "OFF" is displayed.
		physical
		
		all

Item Name	Description	Options
	For details on the maintenance mode, refer to "Appendix C Maintenance Mode" in the "User's Guide VE".	

-spare (optional)

When using spare servers, this shows the spare server(s) (physical server) assigned to each server.
The following properties are displayed for each server.

Item Name	Description
SERVER	Server name (physical OS or VM host)
PRIMARY	Primary server Name of the physical server that will be switched over with a spare server during a server switchover.
SPARE	Spare server Name of the spare server (switchover destination) assigned to the primary server. If multiple spare servers are assigned, the name of each spare server is displayed using commas (",") as a delimiters.
VLAN_SWITCH (*)	Network re-configuration flag This flag defines whether or not network settings will be re-configured during a server switchover. - When network settings are re-configured during server switchover "ON" is displayed. - When network settings are not re-configured during server switchover "OFF" is displayed.
AUTO_SWITCH	Auto-Recovery flag This flag defines whether or not Auto-Recovery is enabled. - When Auto-Recovery is enabled "ON" is displayed. - When Auto-Recovery is not enabled "OFF" is displayed.
ACTIVE	Active server Displays the name of the currently active physical server.
SWITCHOVER_STATE	Switchover state Displays the current switchover state. Displays one of the following: - normal Normal status (There are no switchover, failback, or takeover operations in progress). - switchover running A switchover operation is in progress. - switchover completed A switchover operation has been completed. - failback running

Item Name	Description
	A failback operation is in progress. - takeover running A takeover operation is in progress.

* Note: When a LAN switch blade is in IBP mode, the details of settings are displayed in this parameter.

-bootagt (optional)

Displays the information about the boot agent used when manipulating images.
The following properties are displayed for each server.

Item Name	Description
PHYSICAL_SERVER	Physical server name
BOOT_AGENT	Set boot agent Displays one of the following: - DOS - Windows PE

The following options can be specified for the migrate subcommand:

-name *guest_name*

Specify the name of the destination target VM guest in *guest_name*.

-to *vmhost*

Specify the name of the destination VM host in *vmhost*.

-mode {live|cold} (optional)

The type of migration method to perform is given for mode.
Depending on the power state of the VM guest to migrate, only one of those types may be available. When omitted, the appropriate type will be chosen depending on the state of the VM guest.
The following values can be specified.

live

Performs a live migration: migration of an active (powered-on) VM guest.

cold

Performs a cold migration: migration of an inactive (powered-off) VM guest.

The power status of the VM guest after migration will be the same as it was before migration.

-home

Specify when performing migration to the VM Home Position.

-name *vmhost* (optional)

Specify the name of the operation target VM host in *vmhost*.

The following options can be specified for the set subcommand:

-attr {vmm_mode={maintenance|active}|vmware.maintenance={maintenance|active}}

Sets or releases VM maintenance mode for the target VM host.

-attr vmm_mode={maintenance|active|maintenance_with_move}

Sets or releases VM maintenance mode for the target VM host, or migrates the VM guest when set.

-attr bootagt={dos|winpe}

Changes the boot agent used when manipulating images to DOS or Windows PE.

When the managed server has the following configuration, this option must be specified before manipulating images to change the boot agent settings.

- SAN data environments using a built-in disk boot, and a physical WWN or VIOM, must be converted to DOS.

- When using the Red Hat Enterprise Linux 6 ext4 file system and one of the following conditions applies, it needs to be changed to Windows PE.

  - SAN boot environment using HBA address rename

  - Rack mount or tower servers have been registered with "Disabled" selected for "Association with server management software (ServerView)"

- In a SAN boot environment using HBA address rename and where the following model or OS is used, it needs to be changed to Windows PE.

  - PRIMERGY BX960 S1

  - XenServer6 or later

This option cannot be specified for the following models:

- SPARC Enterprise

- PRIMEQUEST

Requirements

Permissions

One of the following permissions is required:

- OS Administrator

- Resource Orchestrator Privileged User

Location

Admin server

Examples

- To display a list of registered servers and their properties

```
>rcxadm server list <RETURN>
PHYSICAL_SERVER     SERVER        ADMIN_IP       STATUS     MAINTENANCE
--------------      ------        --------       ------     -----------
blade01             WebServer01   192.168.1.4    normal     ON
rackserver01        AppServer01   192.168.1.2    normal     OFF
rackserver02        DBServer01    192.168.1.6    stop       OFF
rackserver03        DBServer02    192.168.1.7    normal     ON
```

- To display spare server settings

```
>rcxadm server list -spare <RETURN>
SERVER      PRIMARY      SPARE                VLAN_SWITCH AUTO_SWITCH ACTIVE
SWITCHOVER_STATE
------      -------      -----                ----------- ----------- ------
---------------
Server1     blade1-1     blade1-9             ON          ON          blade1-9
failback running
```

```
Server2     blade1-2    blade1-9,blade1-10  OFF        ON          blade1-2
normal
```

- To display a list of physical servers (including physical OS's and VM hosts)

```
>rcxadm server list -type physical <RETURN>
PHYSICAL_SERVER  SERVER      TYPE      ADMIN_IP        STATUS  MAINTENANCE
---------------  ------      ----      --------        ------  -----------
blade1-1         Server1     native    192.168.3.121   stop    ON
blade1-10        -           -         192.168.3.130   stop    -
blade1-2         Server2     native    192.168.3.122   normal  OFF
blade1-3         Server3     native    192.168.3.123   stop    ON
blade1-5         Server5     native    192.168.3.125   normal  ON
blade1-7         vmesx1      vm_host   192.168.3.127   normal  OFF
blade1-8         Server8     native    192.168.3.128   normal  OFF
blade1-9         -           -         192.168.3.129   stop    -
```

- To display a list of VM guests

```
>rcxadm server list -type vmguest <RETURN>
PHYSICAL_SERVER  SERVER      VM_HOST       ADMIN_IP        STATUS
---------------  ------      -------       --------        ------
blade1-7         vm-1        vmesx1        192.168.3.127   normal
blade1-7         vm-2        vmesx1        192.168.3.127   normal
```

- To display a list of all server resources (including physical OS's, VM hosts, and VM guests)

```
>rcxadm server list -type all <RETURN>
PHYSICAL_SERVER  SERVER      TYPE      VM_HOST    ADMIN_IP        STATUS
MAINTENANCE
---------------  ------      ----      -------    --------        ------
-----------
blade1-1         Server1     native    -          192.168.3.121   stop    ON
blade1-10        -           -         -          192.168.3.130   stop    -
blade1-2         Server2     native    -          192.168.3.122   normal  OFF
blade1-3         Server3     native    -          192.168.3.123   stop    ON
blade1-5         Server5     native    -          192.168.3.125   normal  ON
blade1-7         vmesx1      vm_host   -          192.168.3.127   normal  OFF
blade1-7         vm-1        vm_guest  vmesx1     192.168.3.127   normal  OFF
blade1-7         vm-2        vm_guest  vmesx1     192.168.3.127   normal  OFF
blade1-8         Server8     native    -          192.168.3.128   normal  OFF
blade1-9         -           -         -          192.168.3.129   stop    -
```

- To migrate an active VM guest

```
>rcxadm server migrate -name vm_guest01 -to vm_host02 -mode live <RETURN>
```

- To migrate an inactive VM guest

```
>rcxadm server migrate -name vm_guest01 -to vm_host02 -mode cold <RETURN>
```

- When displaying the information for the current boot agent

```
>rcxadm server list -bootagt <RETURN>
PHYSICAL_SERVER  BOOT_AGENT
---------------  ----------
blade1-1         DOS
blade1-10        Windows PE
blade1-2         DOS
```

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

 Note

. . . .

- A VM guest can be configured to automatically start or stop whenever its VM host starts up or shuts down. This can be achieved by setting up the VM guest's startup and shutdown options in the server virtualization software used.
  For more information, please refer to the server virtualization software manual.

- As a result of power operation being performed on a VM guest, an error may occur if the VM guest is moved to another VM host and processes executed.
  Refer to "D.3 Functional Differences between Products" in the "Design Guide VE" for details.

- VM guests should be properly configured in order to use the "stop" or "restart" subcommands.
  Stopping or restarting a VM guest that was not properly configured will result in an error unless the -force option is specified.
  Refer to "D.2 Configuration Requirements " in the "Design Guide VE" for details.

- For PRIMEQUEST servers, the warning message will not be displayed, even if there is a chance that the switchover will not be correctly performed using Reserved SB settings.

- If ServerView Deployment Manager is used on the admin LAN, the switchover and failback subcommands cannot be used if the managed servers do not fulfill the following conditions.
  For more details, please refer to "Appendix B Co-Existence with ServerView Deployment Manager" in the "Setup Guide VE".

  - Servers in local boot environments

  - Servers in SAN boot environments without VIOM profiles

- The changes to the boot agent are valid while the physical server is registered. After reregistering the physical server, change the boot agent using the command if necessary.

. . . .

Chapter 4 Image Operations

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

4.1 rcxadm image

Name

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

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

Format

```
rcxadm image backup -server resource [-comment comment] [-nowait] [-force]
rcxadm image restore -server resource [-version version] [-nowait]
rcxadm image create -server resource -name image [-comment comment] [-nowait]
rcxadm image deploy -server resource [:hostname][,resource[:hostname]]... -name image [-version
version] [-nowait]
rcxadm image delete -server resource -version version
rcxadm image delete -name image -version version
rcxadm image list -type {backup|cloning} {[-server resource]|[-name image]}
rcxadm image list -server [resource]
```

Information

rcximage is an abbreviated form of the rcxadm image command. Both forms provide the same subcommands and options, and produce the same results.

Point

A list of system images can be obtained using one of the following two methods.

   a. **rcxadm image list -type backup [-server** *resource***]**

   b. **rcxadm image list -server [**ature*resource*]

Method b. is only supported only for compatibility purposes with Systemwalker Resource Coordinator Virtual Server Edition V13.2.0 and V13.3.0. As future versions may not support this method, it is recommended to use method a. instead.

Description

rcxadm image is the command used to perform operations involving system images and cloning images.
Backup and restore operations are done by collecting a system image from a managed server (physical OS or VM host) and storing it on the admin server disk. This system image can later be restored to the same managed server.
Cloning is done by collecting a cloning image from a reference server, and storing it on the admin server disk. Cloning images can later be distributed to other servers (either individually or simultaneously to multiple servers). All image operations (backup, restore, and cloning) are performed remotely over the network.
Before using this command, refer to the overview and sections about each operation mentioned in the following manuals.

   - "Chapter 16 Backup and Restore" in the "User's Guide VE"

   - "Chapter 17 Cloning [Physical Servers]" in the "User's Guide VE"

If any one of the "backup", "restore", "create", or "deploy" subcommands is executed, the target server is automatically placed into maintenance mode until processing completes. Once complete, the server is set back to its original mode.

 Note
. . . .

- The number of cloning image versions that can be kept for a given cloning image (identified by its name attribute) is limited.
  Using the create subcommand to collect a new cloning image when the limit has already been reached will fail and display an error.
  In such a case, use the delete subcommand to delete one of the existing versions before collecting a new version of the cloning image.
  Existing versions can be checked using the list subcommand.
  By default, this limit is set to 3 versions per cloning image.
  For details on changing the maximum number of cloning image versions, refer to "8.4 Changing the Maximum Number of Cloning Image Versions"" in the "User's Guide VE".

- This command is not available if ServerView Deployment Manager is used on the admin LAN. For more details, please refer to "Appendix B Co-Existence with ServerView Deployment Manager" in the "Setup Guide VE".

. . . .

Subcommands

backup

Backs up a system image from the specified server (physical OS or VM host) to the admin server.

restore

Restores a system image to the specified server (physical OS or VM host).

create

Collects a cloning image from the specified server (physical OS).

deploy

Deploys a cloning image to one or multiple servers (physical OS).

delete

- System image deletion

  Deletes a system image belonging to the specified server (physical OS or VM host).

- Cloning image deletion

  Deletes the specified cloning image.

list

System Image List

Displays a list of system images for the specified server.
The following properties are displayed for each server.

Item Name	Description
SERVERNAME	Name of the server (physical OS or VM host) from which the system image was backed up
VERSION	Version number of the system image
BACKUPDATE	Backup date and time of the system image
COMMENT	Comment describing the system image

Cloning Image Display

Displays a list of cloning images for the specified server.
The following properties are displayed for each server.

Item Name	Description
NAME	Name of the cloning image
VERSION	Version of cloning images
CREATIONDATE	Creation date and time of the cloning image
COMMENT	Comment describing the cloning image

Options

The following option can be specified for the backup, restore, create, or deploy subcommands:

-nowait (optional)

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

The following option can be specified for the backup, restore or delete subcommand:

-server *resource*

Specify the name of the target server (physical OS or VM host) in *resource*.

The following options can be specified for the deploy or delete subcommand:

-name *image*

Specify the name of the target cloning image in *image*.

-version *version* (optional)

Specify the version of the target cloning image to distribute in *version*.
This option can be omitted when deploying the latest cloning image version.

The following option can be specified for the backup subcommand:

-comment *comment* (optional)

Specify a *comment* to help identify the system image.
Enter a string no longer than 128 characters (either single or double-byte characters).
Note that percent signs ("%"), backslashes ("\") and double quotes (") cannot be used for *comment*.

📑 Note

When using blank spaces in *comment*, enclose the whole character string, *comment*, in double quotes (").

-force (optional)

Forces execution of a server backup when the target server's status is one of the following:

- normal

- warning

- unknown

- error

- fatal

The following option can be specified for the restore subcommand:

-version *version* (optional)

Specify the version number of the system image to restore in *version*.
If omitted, the latest version of the system image will be restored.

The following options can be specified for the create subcommand:

-server *resource*

Specify the name of the target server (physical OS) in *resource*.

-name *image*

Specify a name to assign to the collected cloning image in *image*.
Enter a string that is no more than 32 characters long, where the first character is a letter and the remaining characters are alphanumeric characters or underscores ("_").

-comment *comment* (optional)

Specify a *comment* to help identify the cloning image.
Enter a string no longer than 128 characters (either single or double-byte characters).
Note that percent signs ("%"), backslashes ("\") and double quotes (") cannot be used for *comment*.

🔖 Note

When using blank spaces in *comment*, enclose the whole character string, *comment*, in double quotes (").

The following option can be specified for the deploy subcommand:

-server *resource*[[:*hostname*],...]

Specify the name of the server(s) (physical server) to deploy a cloning image to in *resource*.
Multiple server names can be specified using commas (",").
The name attributed to a server after deployment can be specified in *hostname*. This is done by adding a colon (":") and the *hostname* string behind each physical server's resource identifier string. If the *hostname* string is omitted, the post-deployment server name is set to the following.

- When a physical OS has not been registered

  Physical server (*resource*) name

- When a physical OS has been registered

  Physical OS name

Use the following syntax for the *hostname*.

[Windows]
A string of up to 63 characters, including alphanumeric characters, underscores ("_"), and hyphens ("-").
Hostnames made of only numbers are not allowed.

[Linux]
A string of up to 64 characters, including alphanumeric characters, hyphens ("-"), periods ("."), and underscores ("_").

🔖 Note

When using SUSE Linux Enterprise Server, server names including periods (".") cannot be configured for post-deployment server names of cloning images.

📖 Information

As the physical OS name of a managed server refers to that server's hostname, it is recommended to use only characters specified in the RFC (Request For Comments) 952. Those characters are listed below.

- Alphanumeric Characters

- Hyphens ("-")

- Periods (".") [Linux]

....

The following options can be specified for the delete subcommand:

-version *version*

Specify the version number of the system image or cloning image to delete in *version*.

The following options can be specified for the list subcommand:

-type {backup|cloning}

Specify the type of image to list up.

- If "backup" is specified

A list of system images is displayed.

- If "cloning" is specified

A list of cloning images is displayed.

-server *resource*

Specify the name of the server (physical OS or VM host) for which to display system images in *resource*. This option should not be specified if the "-type" option has been set to "cloning".

- If the "-type" option is set

Omitting this option will output a list of system images for all managed servers.

- If the "-type" option is not set

The same list of system images (for all servers) can be output by specifying only the -server option without specifying a *resource* (this command usage differs from that of Systemwalker Resource Coordinator Virtual Server Edition V13.2.0 and V13.3.0. Refer to "Point" at the top of this section for details).

-name *image*

Specify the name of the cloning image to display in *image*.
If omitted, a list of all cloning images will be displayed.

Requirements

Permissions

One of the following permissions is required:

- OS Administrator

- Resource Orchestrator Privileged User

Location

Admin server

Examples

- To create a system image backup

>**rcxadm image backup -server blade07 -comment "Database Server-2"** <RETURN>

- To restore a system image to a managed server

```
>rcxadm image restore -server blade07 -version 2 <RETURN>
```

- To delete a system image

```
>rcxadm image delete -server blade07 -version 2 <RETURN>
```

- To display a list of all system images

```
>rcxadm image list -type backup -server blade07 <RETURN>
SERVERNAME    VERSION    BACKUPDATE           COMMENT
----------    -------    ----------           -------
blade07       2          2007/11/01-10:06:35  Database Server-1
blade07       3          2007/11/12-15:16:55  Database Server-2
```

- To display a list of all system images

```
>rcxadm image list -type backup <RETURN>
SERVERNAME    VERSION    BACKUPDATE           COMMENT
----------    -------    ----------           -------
blade01       2          2007/11/01-10:06:35  Application Server-1
blade01       3          2007/11/12-15:16:55  Application Server-2
blade05       2          2007/12/01-10:06:35  File Server-1
blade05       3          2007/12/12-15:16:55  File Server-2
blade07       2          2007/01/31-20:46:25  Database Server-1
```

- To collect a cloning image

```
>rcxadm image create -server blade01 -name AppImage -comment "Windows" <RETURN>
```

- To deploy a cloning image

```
>rcxadm image deploy -server blade08:db02,blade09 -name AppImage -version 2 <RETURN>
```

- To delete a cloning image

```
>rcxadm image delete -name AppImage -version 2 <RETURN>
```

- To display a list of image versions for a given cloning image

```
>rcxadm image list -type cloning -name AppImage <RETURN>
NAME        VERSION    CREATIONDATE         COMMENT
----        -------    ------------         -------
AppImage    1          2008/11/12-16:54:05  Windows
AppImage    2          2008/11/13-10:16:53  Windows+patch
```

- To display a list of all cloning images

```
>rcxadm image list -type cloning <RETURN>
NAME        VERSION    CREATIONDATE         COMMENT
----        -------    ------------         -------
AppImage    1          2008/11/12-16:54:05  Windows
AppImage    2          2008/11/13-10:16:53  Windows+patch
DBImage     1          2008/11/13-13:21:38  Redhat
DBImage     2          2008/11/14-04:39:27  -
```

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

Chapter 5 Control and Environment Setup

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

5.1 deployment_service_uninstall

Name

- Manager

  [Windows Manager]
  Installation_folder**SVROR\Manager\bin\deployment_service_uninstall.bat** - Uninstallation of the related services

  [Linux Manager]
  /opt/FJSVrcvmr/bin/deployment_service_uninstall.sh - Uninstallation of the related services

- Agent

  [Windows]
  Installation_folder**Agent\bin\deployment_service_uninstall.bat** - Uninstallation of the related services

  [Linux]
  /opt/FJSVrcxat/bin/deployment_service_uninstall.sh - Uninstallation of the related services

Format

```
deployment_service_uninstall.bat
deployment_service_uninstall.sh
```

Description

deployment_service_uninstall is the command used to uninstall the related services from Resource Orchestrator.
When installing ServerView Deployment Manager in environments where Resource Orchestrator has been installed, run this command after installing Resource Orchestrator.
Please stop managers and agents before using this command.
After using this command, please start managers and agents.

For information on starting and stopping managers, refer to "2.1 Starting and Stopping the Manager" in the "Operation Guide VE".
For information on starting and stopping agents, refer to "2.2 Starting and Stopping the Agent" in the "Operation Guide VE".

Requirements

Permissions

OS Administrator

Location

Admin server, managed server

Examples

- To uninstall the related services from manager

  >**deployment_service_uninstall.bat** <RETURN>

Exit Status

This command returns the following values:

0

   The command executed successfully.

non-zero

   An error has occurred.

5.2 rcxadm agtctl

Name

[Windows] [Hyper-V]
Installation_folder**Agent\bin\rcxadm agtctl** - Agent control

[Linux] [VMware] [Xen] [KVM]
/opt/FJSVrcxat/bin/rcxadm agtctl - Agent control

[Solaris]
/opt/FJSVrcvat/bin/rcxadm agtctl - Agent control

Format

```
rcxadm agtctl start
rcxadm agtctl stop
rcxadm agtctl modify -manager ip
rcxadm agtctl snap [-dir directory] [-full]
```

Description

rcxadm agtctl is the command used to start and stop agents, collect troubleshooting data and modify the admin LAN IP address of the manager that is registered in the agent.

For information on starting and stopping agents, refer to "2.2 Starting and Stopping the Agent" in the "Operation Guide VE".
For information on collecting troubleshooting data, refer to "1.1.1 Collecting Initial Troubleshooting Data" and "1.1.2 Collecting Exhaustive Troubleshooting Data" in the "Troubleshooting".
For information on changing the manager's admin LAN IP address, refer to "8.1 Changing Admin IP Addresses" in the "User's Guide VE".

Subcommands

start

   Starts the Agent.

stop

   Stops the Agent.

modify [Physical server] [Hyper-V]

   Modifies the admin LAN IP address of the manager that is registered in the agent.

snap

   Collects troubleshooting data from the managed server.

   The collected data is stored in the following compressed files:

[Windows] [Hyper-V]
rcxtssnap_*server_name*.jar

[Linux] [Solaris] [VMware] [Xen] [KVM]
When collecting troubleshooting data, data is compressed on managed servers using the bzip2, the gzip, or the compress command.
Depending on the command used, the name assigned to troubleshooting data will be one of the following.
Resource Orchestrator uses the command with the best compression ratio (bzip2 -> gzip -> compress) available on the managed server.

- When Compressing with bzip2

  rcxtssnap_*server_name*.tar.bz2

- When Compressing with gzip

  rcxtssnap_*server_name*.tar.gz

- When Compressing with compress

  rcxtssnap_*server_name*.tar.Z

Options

Specify the following options when using the modify subcommand:

-manager *ip*

   Specify the new manager IP address.

The following options can be specified for the snap subcommand:

-dir *directory*(Optional)

   Specify the folder used to store the collected data in *directory*.
   If this option is omitted, the data will be stored in the following folder:

   [Windows] [Hyper-V]
   The folder defined by the TEMP environment variable

   [Linux] [Solaris] [VMware]
   /tmp

📌 Note

- When using full paths in the *dir* and the TEMP environment variable

  The length of the full path string must not exceed 100 characters. If more than 100 characters are used the troubleshooting data cannot be collected, and message number 67131 or message number 67265 will be displayed.

- When using relative paths in the *dir* and the TEMP environment variable

  When specifying a relative folder path, its equivalent full path must not exceed 100 characters (calculated using the Windows 8.3 format (*)). If the converted full path string exceeds 100 characters, the troubleshooting data will not be collected, and the "Message number 67131" will be displayed.

  * Note: This rule specifies that the file name can be a maximum of 8 characters, with a file extension of up to 3 characters

- The following symbols cannot be specified in the name of the folder in which the collected data is stored:

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

[Windows] [Hyper-V]

- When specifying a folder using a relative path, specify the folder adding ".\" as the first characters.

  -dir .*folder_name*

-full (Optional)

Collects exhaustive managed server troubleshooting data. This data is required to isolate the cause of a problem which could not be identified from initial troubleshooting data alone.
This requires significantly more disk space for the generated data files. This option can be omitted when collecting troubleshooting data for an initial investigation (first diagnostic).

Requirements

Permissions

OS Administrator

Location

Managed server

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

5.3 rcxadm authctl

Name

[Windows Manager]
Installation_folder**SVROR\Manager\bin\rcxadm authctl** - user authentication directory service connection settings

[Linux Manager]
/opt/FJSVrcvmr/bin/rcxadm authctl - user authentication directory service connection settings

Format

```
rcxadm authctl register {-host hostname|-ip ip_address} [-port port] -base base_dn -bind bind_dn [-
method {SSL|PLAIN}] {-passwd password|-passwd_file password_file}
rcxadm authctl unregister
rcxadm authctl show
rcxadm authctl modify {[{-host hostname|-ip ip_address}] [-port port] [-base base_dn] [-bind bind_dn
{-passwd password|-passwd_file password_file}] [-method {SSL|PLAIN}]}
rcxadm authctl diffcert
rcxadm authctl refreshcert -alias alias
rcxadm authctl sync
```

Description

rcxadm authctl is the command to operate the connection information of the directory server that retains user authentication information.

Only OS administrators can execute this command.

When using the following subcommands, stop the manager prior to command execution:

- register

- unregister

- modify

- refreshcert

- sync

Subcommands

register

    Registers directory server connection information. When executing this command, the directory server is not connected.

unregister

    Deletes the connection information of registered directory servers.

show

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

```
host: Host name or IP address
port: Port_number
base: Base DN
bind: Administrative_user_DN
method: Encryption_communication_method
```

modify

    Modifies the connection information of registered directory servers.

diffcert

    Displays difference between the CA certificate (keystore) registered with ServerView Operations Manager and the CA certificate (keystore) registered in Resource Orchestrator, using alias.

    This command cannot be used for the following configurations:

- ServerView Operations Manager has not been installed.

- Internal authentication is used as the authentication method

    Difference of the CA certificate (keystore) is displayed using alias in the following format:

```
svs_cms
ldaphost.fujitsu.com
```

refreshcert

    Imports the certificate of ServerView Operations Manager corresponding to the specified alias into Resource Orchestrator.

    Specify the alias displayed by the diffcert command.

    This command cannot be used for the following configurations:

- ServerView Operations Manager has not been installed.

- Internal authentication is used as the authentication method

    If a root CA certificate has been registered with ServerView Operations Manager, specify that root CA certificate.

    To import the server certificate, specify the alias for the following certificate:

- Server certificate of ServerView Operations Manager

- Server certificate of the directory server to be used

    It is unnecessary when using the OpenDS provided with ServerView Operations Manager.

🛈 Note

The certificate is imported using the specified alias. The existing certificate is deleted in the following cases:

- There is a certificate which has the same alias

- There is a certificate which has the same content as the certificate to be imported

🅿 Point

When executing the command, create a copy of the keystore (truststore-cacerts) file for Resource Orchestrator in the following format. When a file with the same name already exists, it will be overwritten.

[Windows Manager]

- Source File

  Installation_folder\SVROR\Manager\runtime\jre6\lib\security\cacerts

- Destination File

  Installation_folder\SVROR\Manager\runtime\jre6\lib\security\cacerts.org

[Linux Manager]

- Source File

  /opt/FJSVrcvmr/runtime/jre6/lib/security/cacerts

- Destination File

  /opt/FJSVrcvmr/runtime/jre6/lib/security/cacerts.org

sync

Synchronizes the directory server connection settings of Resource Orchestrator with those of ServerView Operations Manager. When directory server configuration information is not already registered, it will be registered with Resource Orchestrator using the settings of ServerView Operations Manager.

This command cannot be used for the following configurations:

- ServerView Operations Manager has not been installed.

Options

The following options can be specified when using the register and modify subcommands:

-port *port* (optional)

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

- SSL

  636

- PLAIN

  389

-method {SSL|PLAIN} (optional)

Specify the communication encryption method for the directory server. Specify one of the following:

- When encrypted communication is enabled

  SSL

- When encrypted communication is not enabled

  PLAIN

When this option is omitted, the -method SSL is regarded as being specified.

The following options can be specified when using the register subcommand:

-host *hostname*

Specify the host name for the directory server using an FQDN or an IP address.

-ip *ip_address*

Specify the IP address of the directory server. This option is for compatibility. Use the -host option.

-base *base_dn*

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

-bind *bind_dn*

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

-passwd *password*

Specify the password for the administrative user name of the directory server.

-passwd_file *password_file*

Specify the password file for the administrative user name of the directory server. Enter the password file using the following format (remove the quotation marks).

"userdn,password"

Specify the following options when using the modify subcommand:

-host *hostname*

Specify the host name for the directory server using an FQDN or an IP address.

-ip *ip_address* (optional)

Specify the IP address of the directory server. This option is for compatibility. Use the -host option.

-base *base_dn* (optional)

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

-bind *bind_dn* (optional)

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

-passwd *password* (optional)

Specify the password for the administrative user name of the directory server.

-passwd_file *password_file* (optional)

Specify the password file for the administrative user name of the directory server. Enter the password file using the following format (remove the quotation marks).

"userdn,password"

Specify the following options when using the refreshcert subcommand:

-alias *alias*

Specify the alias of the certificate to import into the CA certificate of Resource Orchestrator.

When using blank spaces or symbols in the specified string, enclose the whole string in double quotes (").

An alias which contains double quotes (") as character elements cannot be specified for this command. Remove any double quotes (") included in the alias before executing this command.

> 🛈 **Note**
>
> - Enter a string of 1 or more characters for the administrative user name.
>
> - Enter a string no longer than 128 characters for the password.
>
> - When changing the configuration of the administrative user name and password, specify both files.
>
> - When using blank spaces in the specified string, enclose the whole specified string in double quotes ("). Note that it is not necessary to use double quotations (") when specifying the character string in the password file.

Requirements

Permissions

OS Administrator

Location

Admin server

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

5.4 rcxadm certctl

Name

- Manager

[Windows Manager]
Installation_folder**SVROR\Manager\bin\rcxadm certctl** - SSL certificate operations

[Linux Manager]
/opt/FJSVrcvmr/bin/rcxadm certctl - SSL certificate operations

- Agent

[Windows] [Hyper-V]
Installation_folder**Agent\bin\rcxadm certctl** - SSL certificate operations

[Linux] [VMware] [Xen] [KVM]
/opt/FJSVrcxat/bin/rcxadm certctl - SSL certificate operations

[Solaris]
/opt/FJSVrcvat/bin/rcxadm certctl - SSL certificate operations

Format

```
rcxadm certctl list
rcxadm certctl delete -alias alias
rcxadm certctl init
```

Description

rcxadm certctl is the command used to manage the certificates required for SSL communication between a manager and its agents.
For more information regarding this command, refer to "4.3 Cloning Issues Following Manager Re-installation" in "Troubleshooting".

Note

The manager or agent must be stopped in order to use this command.
For information on stopping managers and their agents, refer to "5.11 rcxadm mgrctl" and "5.2 rcxadm agtctl".

Subcommands

list

Displays a list of current SSL certificates. Each certificate stored in the certificates data file is indexed by a unique alias (*). The example below shows how to display aliases using the list subcommand.

Example

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

Keystore type: jks
Keystore provider: SUN

The keystore contains 4 entries.

client1 (*), May 10, 2007, trustedCertEntry,
Certificate fingerprints (MD5): 0F:4E:1C:DB:19:AE:3B:82:9D:74:93:6C:46:D8:7C:D2
...
```

delete

Deletes the data of the designated SSL certificate.

init

Initializes the file used to store SSL certificates data.

Option

The following option can be specified for the delete subcommand:

-alias *alias*

Specify the alias of the SSL certificate to delete in *alias*.

Requirements

Permissions

OS Administrator

Location

Admin server, managed server

Examples

- To display a list of SSL certificates currently used by the manager

> >**rcxadm certctl list** <RETURN>

- To delete an SSL certificate used by the manager

> >**rcxadm certctl delete -alias** *alias* <RETURN>

- To initialize the file used by the manager to store SSL certificates data

> >**rcxadm certctl init** <RETURN>

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

5.5 rcxadm dbctl

Name

[Windows Manager]
Installation_folder**SVROR\Manager\bin\rcxadm dbctl** - Management of the database for Resource Orchestrator

[Linux Manager]
/opt/FJSVrcvmr/bin/rcxadm dbctl - Management of the database for Resource Orchestrator

Format

```
rcxadm dbctl modify -passwd
```

Description

rcxadm dbctl is the command used for management of the database for Resource Orchestrator.

📝 Note

. . . .

The manager must be stopped in order to use this command.
For information on stopping managers, refer to "5.11 rcxadm mgrctl".

. . . .

Subcommands

modify

Changes the database configuration for Resource Orchestrator.

Options

-password

Changes the database password for Resource Orchestrator.
When the password of the OS user account (rcxdb) for use in connection with Resource Orchestrator has been changed, this command must be executed.
It is also possible to change the password for the OS user account (rcxdb) directly using this command.
When changing the password, enter the following interactively.

1. New Password

2. New Password for Confirmation

🛑 Note

. . . .

For the password, enter a string including upper case alphabetic characters, lower case alphabetic characters, and numerals. The length of the string must be the length allowed by the OS of the admin server.

. . . .

Requirements

Permissions

OS Administrator

Location

Admin server

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

5.6 rcxadm deployctl

Name

[Windows Manager]
Installation_folder**Agent\bin\rcxadm deployctl** - Encryption of license information definition files

[Linux Manager]
/opt/FJSVrcxat/bin/rcxadm deployctl - Encryption of license information definition files

Format

```
rcxadm deployctl passwd -encrypt
```

Description

rcxadm deployctl is the command used to encrypt the administrator password on managed servers running on Windows Server 2008, after editing the license information definition file.
The license information definition file is created by installing the Resource Orchestrator Agent. With the cloning function, use this file to

perform Windows license authorization.
For details on how to use this command, refer to "17.2 Collecting" in the "User's Guide VE".

Subcommands

passwd

Encrypts the administrator password that is included in the license information definition file.

Options

-encrypt

Always specify this option when encrypting the password.

Requirements

Permissions

OS Administrator

Location

Managed server

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

5.7 rcxadm eventctl

Name

[Windows Manager]
Installation_folder**SVROR\Manager\bin\rcxadm eventctl** - Event control

[Linux Manager]
/opt/FJSVrcvmr/bin/rcxadm eventctl - Event control

Format

```
rcxadm eventctl add -destination host -community snmp_community
rcxadm eventctl delete -destination host -community snmp_community
rcxadm eventctl list
```

Description

rcxadm eventctl is the command used to send Resource Orchestrator events as SNMP traps.
For information on the usage of this command, refer to "A.2 Sending SNMP Traps" in the "Setup Guide VE".

Subcommands

add

Registers the SNMP trap transmission destination. A maximum of Five destinations can be registered.

delete

Deletes a registered SNMP trap transmission destination.

list

Displays a list of registered SNMP trap transmission destinations.
The following properties are displayed for each server.

Item Name	Description
DESTINATION	Host name or IP address
COMMUNITY	SNMP community name

Options

The following options can be specified for the set subcommand, when specifying add or delete:

-destination *host*

Specify the IP address or server name of the server that is the SNMP trap transmission destination for *host*.
For the server name, enter a string of up to 64 alphanumeric characters and numerals.

"%", "+", ",", "-", ".", "/", ":", "=", "@", "_", "~"

-community *snmp_community*

Specify SNMP community name or server name of the server that is the SNMP trap transmission destination for *snmp_community*.
For the SNMP community name, enter a string of up to 32 alphanumeric characters, hyphens ("-"), and underscores ("_").

Requirements

Permissions

One of the following permissions is required:

- OS Administrator

- Resource Orchestrator Privileged User

Location

Admin server

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

5.8 rcxadm imagemgr

Name

[Windows Manager]
Installation_folder**SVROR\Manager\bin\rcxadm imagemgr** - Image management settings

[Linux Manager]
/opt/FJSVrcvmr/bin/rcxadm imagemgr - Image management settings

Format

```
rcxadm imagemgr info
rcxadm imagemgr set -attr imagedir=dir
rcxadm imagemgr set -attr {backup|clone}.maxversion=value
```

Description

rcxadm imagemgr is the command used to change the image files folder location, or the maximum number of image versions that can be kept in Resource Orchestrator.

For details on changing the maximum number of system image versions, refer to "8.3 Changing the Maximum Number of System Image Versions" in the "User's Guide VE".
For details on changing the maximum number of cloning image versions, refer to "8.4 Changing the Maximum Number of Cloning Image Versions"" in the "User's Guide VE".
A new folder should be created when changing the location of the image file storage folder.
For details on changing the path for the image file storage folder, refer to "8.5 Changing the Image Folder Location" in the "User's Guide VE".

Subcommands

info

Displays current image settings (the maximum number of image versions and the location of the image files folder).
The following properties are displayed for each server.

Table 5.1 info Subcommand Display Parameters

Item Name	Description
backup.maxversion	Maximum number of system image versions
clone.maxversion	Maximum number of cloning image versions
imagedir	Location of the image files folder

set

Sets a new location for the image files folder, or sets a new limit for the number of image versions.

Options

The following options can be specified for the set subcommand:

-attr imagedir=*dir*

Specify a new location (path) for the image files folder in *dir*.
The specified folder path should match the following requirements.

- The specified path should be no more than 100 characters long

- The specified path should include none of the following characters

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

[Windows Manager]
"/"

[Linux Manager]
"\"

- Only local folder paths are allowed (UNC paths are not permitted)

- Folders must be created beforehand

- When using blank spaces in the specified path, enclose the whole specified path in double quotes (")

- Do not add "\" to the end of the specified path

- The specified path should not point to any of the following folders

[Windows Manager]
Installation_folder\SVROR\Manager

[Linux Manager]
/opt/FJSVrcvmr

/etc/opt/FJSVrcvmr

/var/opt/FJSVrcvmr

- The specified folder is empty

[Linux]
If a partition (file-system) was specially created to store image files, this partition will include a "lost+found" folder, and therefore cannot be considered as empty.

In that case, be sure to create and use a dedicated directory to store image files within that partition.

- The specified path should have proper security settings

[Linux]
For safer administration, it is recommended to use either the following permissions settings for each ancestor directory of the image files directory.

- Give write permissions only to system administrators

- Use the sticky bit to prevent other users from renaming or deleting image files

If permissions are not set as above, this command may fail to change the image files folder location.

When changing the image files folder location, image files are copied to the new location, which may take some time to complete.

-attr {backup|clone}.maxversion=*value*

Changes the maximum number of image file versions.

- To change the maximum number of system image versions

Specify backup.

- To change the maximum number of cloning image versions

Specify clone.
Specify a new maximum number of image file versions in *value*.
Enter a numerical value between 1 and 10 in *value*.

Requirements

Permissions

OS Administrator

Location

Admin server

The manager should be stopped when changing the image files folder location. For information on stopping managers, refer to "2.1 Starting and Stopping the Manager" in the "Operation Guide VE".

If the ROR console was opened, the Web browser should be refreshed after changing the maximum number of image file versions.

Examples

- When specifying a path for the image files folder that includes no blank spaces

[Windows Manager]
When changing to C:\temp

> **>rcxadm imagemgr set -attr imagedir=C:\temp** <RETURN>

[Linux Manager]
When changing to /tmp

> **# rcxadm imagemgr set -attr imagedir=/tmp** <RETURN>

- When specifying a path for the image files folder that includes blank spaces

[Windows Manager]
When changing to C:\temp\Resource Orchestrator VE

> **>rcxadm imagemgr set -attr imagedir=C:\temp Resource Orchestrator VE"** <RETURN>

[Linux Manager]
When changing to \tmp\Resource Orchestrator VE

> **# rcxadm imagemgr set -attr imagedir="/tmp/Resource Orchestrator VE"** <RETURN>

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

5.9 rcxadm lanctl

Name

[Windows]
Installation_folder**Agent\bin\rcxadm lanctl** - Network parameters configuration

[Linux]
/opt/FJSVrcxat/bin/rcxadm lanctl - Network parameters configuration

Format

```
rcxadm lanctl set
rcxadm lanctl unset
rcxadm lanctl enable
rcxadm lanctl disable
```

Description

rcxadm lanctl is the command used to configure network parameters for network interfaces on managed servers.

This command cannot be used on managed servers running SUSE Linux Enterprise Server as their operating system.

Subcommands

set

Applies the settings previously defined in the network configuration file to the managed server's network interfaces.
For more information regarding the network configuration file, refer to "17.6 Network Parameter Auto-Configuration for Cloning Images" in the "User's Guide VE".

unset

Clears the network parameters previously applied to the managed server's network interfaces via the set subcommand.

enable

Enables the network parameter auto-configuration function for cloning image deployment.

disable

Disables the network parameter auto-configuration function for cloning image deployment.

Requirements

Permissions

OS Administrator

Location

Managed server

Examples

- To apply the network parameters configuration

>**rcxadm lanctl set** <RETURN>

- To undo the network parameters configuration

>**rcxadm lanctl unset** <RETURN>

- To enable the network parameter auto-configuration function

>**rcxadm lanctl enable** <RETURN>

- To disable the network parameter auto-configuration function

>**rcxadm lanctl disable** <RETURN>

Exit Status

This command returns the following values:

0

    The command executed successfully.

non-zero

    An error has occurred.

5.10 rcxadm license

Name

[Windows Manager]
Installation_folder**SVROR\Manager\bin\rcxadm license** - license control

[Linux Manager]
/opt/FJSVrcvmr/bin/rcxadm license - license control

Format

```
rcxadm license add -lkey license_key
rcxadm license list
```

Description

rcxadm license is the command used to register licenses or to check the licenses already registered.

Subcommands

add

    Registers a license.

list

    To display a list of registered licenses.

Option

-lkey *license_key*

    Specify a license key to be registered in *license_key*.

Requirements

Permissions

    One of the following permissions is required:

     - OS Administrator

     - Resource Orchestrator Privileged User

Location

    Admin server

Examples

- To display a list of registered licenses.

```
>rcxadm license list <RETURN>
LICENSE_ NAME    NUMBER_OF_LICENSES  STATUS
---------------  ------------------  --------
Cloud Edition       10               Inactive
Virtual Edition     5                Active
Express             1                Active
DR option           0                -
NS option           0                -
```

Exit Status

This command returns the following values:

0

   The command executed successfully.

non-zero

   An error has occurred.

5.11 rcxadm mgrctl

Name

[Windows Manager]
Installation_folder**SVROR\Manager\bin\rcxadm mgrctl** - Manager control

[Linux Manager]
/opt/FJSVrcvmr/bin/rcxadm mgrctl - Manager control

Format

```
rcxadm mgrctl start
rcxadm mgrctl stop
rcxadm mgrctl modify {-ip ip |-port name=number}
rcxadm mgrctl snap [-dir directory] [-full|-all]
```

Description

rcxadm mgrctl is the command used to start and stop managers, collect troubleshooting data, and change admin LAN IP addresses and port numbers.
For information on starting and stopping managers, refer to "2.1 Starting and Stopping the Manager" in the "Operation Guide VE".
For information on collecting troubleshooting data, refer to "1.1.1 Collecting Initial Troubleshooting Data" and "1.1.2 Collecting Exhaustive Troubleshooting Data" in "Troubleshooting".
For information on methods for changing IP addresses and port numbers, refer to "8.1 Changing Admin IP Addresses" and "8.2 Changing Port Numbers" in the "User's Guide VE".

[Windows Manager]
If port numbers are changed, the following lines in the *Windows_system_folder*\system32\drivers\etc\services file are automatically updated.

[Linux Manager]
If the port number has been changed, the following lines in the \etc\services file will be changed automatically.

```
# service name  port number/protocol name
rcxmgr        23460/tcp
rcxweb        23461/tcp
rcxtask        23462/tcp
rcxmongrel1   23463/tcp
rcxmongrel2   23464/tcp
rcxdb         23465/tcp
nfdomain      23457/tcp
nfagent       23458/tcp
```

🈁 Note

···

- In a clustered manager configuration, this command should not be used to start or stop the manager.

  [Windows Manager]

  - Start the manager

    In the Failover Cluster Management tree, right-click [Services and Applications] for managers, and select [Bring this service or application online] from the popup menu.

  - Stop the manager

    In the Failover Cluster Management tree, right-click [Services and Applications] for managers, and select [Take this service or application offline] from the popup menu.

  [Linux Manager]
  Use the cluster system administration view (Cluster Admin) to start or stop the manager.
  Refer to the PRIMECLUSTER manual for details.

···

Subcommands

start

  Starts the manager.

stop

  Stops the manager.

modify

  Modifies the IP address used by the manager in the admin LAN or its port number.

snap

  Collects troubleshooting data.

Options

Specify the following options when using the modify subcommand:

-ip *ip*

  Specify the new manager IP address.

-port *name=number*

  Specify the port name to be modified in *name*, and the new port number in *number*.
  The port name can be one of the following values:

  - rcxmgr

  - rcxweb

- rcxtask

- rcxmongrel1

- rcxmongrel2

- rcxdb

- nfdomain

- nfagent

The following options can be specified for the snap subcommand:

-dir *directory*(Optional)

Specify the folder used to store the collected data in *directory*.
When omitted, the data will be stored in the folder specified by the TEMP environment variable:

> 📌**Note**
>
> ⋯⋯
>
> - When using full paths in the *dir* and the TEMP environment variable
>
>   The length of the full path string must not exceed 100 characters. If more than 100 characters are used the troubleshooting data cannot be collected, and message number 67131 or message number 67265 will be displayed.
>
> - When using relative paths in the *dir* and the TEMP environment variable
>
>   When specifying a relative folder path, its equivalent full path must not exceed 100 characters (calculated using the Windows 8.3 format (*)). If the converted full path string exceeds 100 characters, the troubleshooting data will not be collected, and the "Message number 67131" will be displayed.
>
>   * Note: This rule specifies that the file name can be a maximum of 8 characters, with a file extension of up to 3 characters
>
> - The following symbols cannot be specified in the name of the folder in which the collected data is stored:
>
>   """, "|", "*", "?", "/", "<", ">", ",", "%", "&", "^", "=", "!", ";"
>
>   [Windows Manager]
>   "/"
>
>   [Linux Manager]
>   "\"
>
> ⋯⋯

-full (Optional)

Collects exhaustive troubleshooting data from the admin server. This data is required to isolate the cause of a problem which could not be identified from initial troubleshooting data alone.
This requires significantly more disk space for the generated data files. This option can be omitted when collecting troubleshooting data for an initial investigation (first diagnostic).

-all (Optional)

This option collects troubleshooting data not only from the admin server, but from all the managed servers as well. This option cannot be used together with the -full option.
Since only data required for initial troubleshooting is collected, it does not require much disk space. The data can also be collected quickly and sent easily via email.
Data collected from both the admin server and managed servers is stored in the directory specified by dir on the admin server from which the command was executed.
If the user account does not have administrative authority within the operating system, it is necessary to log in as a Resource Orchestrator privileged user (using the rcxlogin command) to use this option.
For information on the rcxlogin command, refer to "2.1 rcxlogin".

- Collected Files

  The collected data is stored in the following compressed files:

- Admin Server

  [Windows Manager]
  rcxtssnap_*server_name*.jar
  The *server_name* part will be in lower case when the -all option is specified, or upper case when omitted.

  [Linux Manager]
  rcxtssnap_*server_name*.tar.bz2
  The *server_name* part will be in lower case when the -all option is specified, or upper case when omitted.

- Managed Server

  [Windows] [Hyper-V]
  Managed_server\rcxtssnap_*physical_server_name*.jar

  [Linux] [VMware]
  Managed_server\rcxtssnap_*physical_server_name*.tar.bz2
  The managed server's name is displayed in *Managed_server*.

Note

[Linux] [VMware]
When collecting troubleshooting data, data is compressed on managed servers using either the bzip2 or the gzip compression command. Depending on the command used, the resulting file extension will be either one of the following.
Resource Orchestrator uses the command with the best compression ratio (bzip2 -> gzip) available on the managed server.

- When Compressing with bzip2

*.tar.bz2

- When Compressing with gzip

*.tar.gz

Execution Log

- Data Collection Results

  rcxtssnap_result.txt

  This file displays collection results in the following format:

Server_name:*Result*

  Server_name
  For a managed server, the physical server name is displayed.
  For an admin server, the server name is displayed.

  Result
  OK: Indicates that the data collection was successful.
  NG: Indicates that the data collection failed.

Example

```
blade1:OK
blade2:NG
blade4:NG
blade5:OK
Manager:OK
```

- Error Log

  Admin server
  rcxtssnap_*server_name*_error.txt

Managed server

[Windows]
Managed_Server\rcxtssnap_*physical_server_name*_error.txt

[Linux]
Managed_Server\rcxtssnap_*physical_server_name*_error.txt

Requirements

Permissions

OS Administrator
Note that when logged in as a Resource Orchestrator privileged user (using the rcxlogin command), only the -all option of the troubleshooting data collection subcommand (snap) can be used.

Location

Admin server

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

5.12 rcxadm servermgr

Name

[Windows Manager]
Installation_folder**SVROR\Manager\bin\rcxadm servermgr** - Server management software operations

[Linux Manager]
/opt/FJSVrcvmr/bin/rcxadm servermgr - Server management software operations

Format

```
rcxadm servermgr register -name name [-label label] [-comment comment] -soft_name soft_name
rcxadm servermgr list [-verbose]
rcxadm servermgr show -name name
rcxadm servermgr unregister -name name
rcxadm servermgr modify -name name [-label label] [-comment comment]
rcxadm servermgr refresh -name name
```

Description

rcxadm servermgr is the command used to perform operations of server management software.

Subcommands

register

Registers server management software.

list

Displays a list of server management software information.

The following detailed information is displayed:

Table 5.2 Server Management Software Information

Item Name	Description
NAME	Server management software name
LABEL	Label of the server management software
COMMENT (*)	Comment for the server management software
SOFT NAME	Name of the server management software
STATUS	Status of the server management software

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

show

Displays the detailed information of the server management software.

The following detailed information is displayed:

Table 5.3 Detailed Information of Server Management Software

Item Name	Description
Name	Server management software name
Label	Label of the server management software
Comment	Comment for the server management software
Soft name	Name of the server management software
Version	Version of the server management software
Status	Status of the server management software

unregister

Unregisters the server management software.

modify

Modifies the following items of server management software:

- Label

- Comment

refresh

Updates server management software information.

Options

-name *name*

In *name*, specify the resource name of the target server management software.

-soft_name *soft_name*

In *soft_name*, specify the server management software. The specifiable names are shown below.

- When using BMC BladeLogic Server Automation

Specify "blade_logic".

-verbose

Specify when displaying detailed information.

-label *label*

In *label*, specify the label of the target server management software.

-comment *comment*

In *comment*, specify the comment for the target server management software.

Examples

- To display the list of server management software information:

```
>rcxadm servermgr list <RETURN>
NAME          LABEL    SOFT NAME                      STATUS
----          -----    ---------                      ------
BladeLogic    -        BMC BladeLogic Server Automation   normal
```

- To display the detailed list of server management software information:

```
>rcxadm servermgr list -verbose <RETURN>
NAME          LABEL    COMMENT    SOFT NAME                      STATUS
----          -----    -------    ---------                      ------
BladeLogic    -        -          BMC BladeLogic Server Automation   normal
```

- To display the detailed information for server management software:

```
>rcxadm servermgr show -name BladeLogic <RETURN>
Name: BladeLogic
Label:
Comment:
Soft name: BMC BladeLogic Server Automation
Version: 8.2.01.273
Status: normal
```

5.13 rcxadm storagemgr

Name

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

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

Format

```
rcxadm storagemgr register -name name -soft_name soft_name
rcxadm storagemgr list
rcxadm storagemgr unregister -name name
```

Description

rcxadm storagemgr is the command used to operate storage management software.

Subcommands

register

Registers storage management software.

list

Displays a list of storage management software information.

unregister

Unregisters storage management software.

Options

The following option can be specified when using the register and unregister subcommands:

-name *name*

Specify the resource name of the target operation storage management software for *name*.
For the resource name for registration, enter a string of up to 32 alphanumeric characters, hyphens ("-"), and underscores ("_"). This name should start with an alphabet character.

The following option can be specified when using the register subcommand:

-soft_name *soft_name*

Specify the storage management software for *soft_name*.
Specify "esc", when using ETERNUS SF Storage Cruiser.

Examples

- To display a list of storage management software

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

Requirements

Permissions

One of the following permissions is required:

- OS Administrator

- Resource Orchestrator Privileged User

Location

Admin server

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

5.14 rcxadm vmmgr

Name

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

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

Format

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

Description

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

Subcommands

list

Displays a list of VM management software information.

The following detailed information is displayed:

Table 5.4 VM Management Software Information

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

show

Displays the detailed information for VM management software.

The following detailed information is displayed:

Table 5.5 Detailed Information for VM Management Software

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

refresh

    The regular update of VM management software is forcibly implemented.

Options

-name *name*

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

Requirements

Permissions

    - OS Administrator

    - Resource Orchestrator Privileged User

Location

    Admin server

Examples

- To display a list of VM management software information:

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

- To display the detailed information for VM management software:

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

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

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

0

The command executed successfully.

non-zero

An error has occurred.

Chapter 6 Backup and Restoration Operations for Configuration Definition Information

This chapter explains how to use the commands to backup and restore the configuration of Resource Orchestrator.

6.1 rcxbackup

Name

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

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

Format

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

Description

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

Back up configuration definition information of Resource Orchestrator using this command for restoration in case the configuration definition information is damaged.

Configuration definition information cannot be backed up while resource operations are being performed.
Backup of configuration definition information can only be performed when no operation is being executed for the resources.

When executing the command while the manager is running, backup will be performed after the operations are completed.

When this command is executed while the manager is being stopped, this command will be returned without waiting for the completion of operations being executed, regardless of the presence or absence of the specified options.

Options

-dir *directory*

In *directory*, specify a directory to use for backup of the configuration definition information of Resource Orchestrator.

When omitting the directory specification, or the destination is defined in the following definition file, the backup is saved in the specified directory.

If the directory specification is omitted in the definition file, the backup is saved in the following directory:

Storage Location of Definition Files

[Windows Manager]
Installation_folder**SVROR\Manager\etc\customize_data\Manager_backup.rcxprop**

[Linux Manager]
/var/opt/FJSVrcrmr/customize_data/manager_backup.rcxprop

Storage Location of Backup Files

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

[Linux Manager]
/var/opt/FJSVrcxmr/backup

-immediate

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

Backup of configuration definition information can only be performed when no operation is being executed for the resources. If an operation is being executed, this command will return an error.

-timeout *value*

Use this option to wait the number of seconds specified in *value* for completion of the operation being performed on the admin server. If the operation is not completed within the specified time, this command will return an error.

If this option is omitted, the default value (3600 seconds) is set.

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

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

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

Requirements

Permissions

- OS Administrator

- Resource Orchestrator Privileged User

Location

Admin server

Examples

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

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

🛈 Note

- Specify the command using an absolute path.

- When specifying folders or directories, take note of the following points.

    - Do not specify the system installation folder or the installation directory for the -dir option.

    - Do not use double-byte characters or the following symbols to specify folders or directories for the -dir option.

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

    [Windows Manager]
    "/"

[Linux Manager]
"\"

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

- For the -timeout option, 172,800 or less seconds can be specified.

- Do not stop or start the manager during execution of this command.

- If this command fails, a folder or a directory that has a name starting with tmp will be created in the folder or directory specified for the -dir option. If the problem is still not resolved after performing the actions based on the output error message, collect the folder or the directory as troubleshooting data, and contact Fujitsu technical staff. Delete these folders or directories when they are no longer necessary.

- Do not execute this command while resource operations are being performed.

- If the configuration definition information is being updated when the periodical backup operation starts, the backup operation will be postponed until the update is complete.

- When an operation is being executed on the admin server, "INFO: Manager operation is still running." is displayed periodically.

6.2 rcxkeydefbackup

Name

[Windows Manager]
Installation_folder**SVROR\Manager\bin\rcxkeydefbackup** - Backup of other definition and management information

[Linux Manager]
/opt/FJSVrcvmr/bin/rcxkeydefbackup - Backup of other definition and management information

Format

```
rcxkeydefbackup [-dir directory] [[-immediate]|[-timeout value]]
```

Description

rcxkeydefbackup is the command used for backup of the other definition and management information of Resource Orchestrator.

Back up the following other definition and management information of Resource Orchestrator using this command for restoration in case the information is damaged.

Table 6.1 List of Items for Backup/Restore [Windows Manager]

No	Overview	Item
1	Certificates	*Installation_folder*\SVROR\Manager\etc\opt\FJSVssmgr\current\certificate (*1)
		Installation_folder\SVROR\Manager\etc\opt\FJSVrcxdm\certificate (*1)
		Installation_folder\SVROR\Manager\sys\apache\conf\ssl.crt
		Installation_folder\SVROR\Manager\sys\apache\conf\ssl.key
2	Session encryption keys	*Installation_folder*\SVROR\Manager\rails\config\rcx_secret.key
3	Definition files	*Installation_folder*\SVROR\Manager\etc\customize_data (*1)
		Installation_folder\SVROR\Manager\etc\vm (*1)
4	Image management information (*2)	The number of system image versions
		The number of cloning images versions
		Image file storage folder

*1: All files in the specified directory are targeted.
*2: The values displayed using the rcxadm imagemgr info command are targeted.

Table 6.2 List of Items for Backup/Restore [Linux Manager]

No	Overview	Item
1	Certificates	/etc/opt/FJSVrcvmr/opt/FJSVssmgr/current/certificate (*1) /etc/opt/FJSVrcvmr/sys/apache/conf/ssl.crt /etc/opt/FJSVrcvmr/sys/apache/conf/ssl.key
2	Session encryption keys	/opt/FJSVrcvmr/rails/config/rcx_secret.key
3	Definition files	/etc/opt/FJSVrcvmr/customize_data (*1) /etc/opt/FJSVrcvmr/vm (*1)
4	Image management information (*2)	The number of system image versions The number of cloning images versions Image file storage directory

*1: All files in the specified directory are targeted.
*2: The values displayed using the rcxadm imagemgr info command are targeted.

Other definition and management information cannot be backed up while resource operations are being performed. Backup of other definitions and management information can only be performed when no operation is being executed for the resources.

When executing the command while the manager is running, backup will be performed after the operations are completed.

When this command is executed while the manager is stopped, this command will be returned regardless of the presence or absence of the specified options. Completion of operations being executed will not be waited for.

Options

-dir *directory*

In *directory*, specify a directory to back up other definition and management information of Resource Orchestrator.

When this option is omitted, if the destination is defined in the following definition file, the information is saved in the specified folder or directory:

[Windows Manager]
Installation_folder\SVROR\Manager\etc\customize_data\Manager_backup.rcxprop

[Linux Manager]
/var/opt/FJSVrcrmr/customize_data/manager_backup.rcxprop

If the destination is not defined, the information is saved in the following folder or directory:

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

[Linux Manager]
/var/opt/FJSVrcrmr/backup

-immediate

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

Backup can only be performed when no operation is being executed for the resources. If an operation is being executed, this command will return an error.

-timeout *value*

Use this option to wait the number of seconds specified in *value* for completion of the image operation being performed on the admin server. If the operation is not completed within the specified time, this command will return an error.

If this option is omitted, the default value (3600 seconds) is set.

When this command is periodically executed while the manager is operating, if heavy operations such as cloning image collection are ongoing, execution of the command will be delayed until the relevant operation is completed. Specify this option to terminate execution of the command within a fixed time.

When an operation is being executed on the admin server, "INFO: Manager operation is still running." is displayed periodically.

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

Requirements

Permissions

- OS Administrator

- Resource Orchestrator Privileged User

Location

Admin server

Examples

>**rcxkeydefbackup -dir /dir1 -immediate** <RETURN>

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

🖼 **Note**

. . . .

- When specifying folders or directories, take note of the following points:

    - Do not specify the system installation folder or the installation directory for the -dir option.

    - Do not use double-byte characters or the following symbols to specify folders or directories for the -dir option.

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

      [Windows Manager]
      "/"

      [Linux Manager]
      "\"

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

    - During restoration, the certificates, configuration definition information, OS property definition files, system images and cloning images must have been backed up at the same point in time. It is recommended to store the backed up information in folders with names including the date and time of backup.

    - For the -timeout option, "172800" or less seconds can be specified.

- Do not stop or start the manager during execution of this command.

- If this command fails, a folder or a directory that has a name starting with tmp will be created in the folder or directory specified for the -dir option.
  If the problem is still not resolved after performing the actions based on the output error message, collect the folder or the directory as troubleshooting data, and contact Fujitsu technical staff. Delete these folders or directories after collecting the troubleshooting data.

6.3 rcxkeydefrestore

Name

[Windows Manager]
Installation_folder**SVROR****Manager****bin****rcxkeydefrestore** - Restoration of other definition and management information

[Linux Manager]
/opt/FJSVrcvmr/bin/rcxkeydefrestore - Restoration of other definition and management information

Format

```
rcxkeydefrestore -file filename
```

Description

rcxkeydefrestore is the command used for the restoration of other definition and management information of Resource Orchestrator.

Options

-file *filename*

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

Requirements

Permissions

- OS Administrator

- Resource Orchestrator Privileged User

Location

Admin server

Examples

>**rcxkeydefrestore -file mgr_20110123_1159.bz2** <RETURN>

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

6.4 rcxrestore

Name

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

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

Format

```
rcxrestore -file filename
```

Description

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

Options

-file *filename*

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

Requirements

Permissions

- OS Administrator

- Resource Orchestrator Privileged User

Location

Admin server

Examples

> \>**rcxrestore -file mgr_20110123_1159.bz2** <RETURN>

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

Note

. . . .

- Specify the command using an absolute path.

- When specifying files, take note of the following points.

    - Do not use double-byte characters or the following symbols to specify files for the -file option.

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

      [Windows Manager]
      "/"

      [Linux Manager]
      "\"

    - The file path can be specified using up to 100 characters.

    - For restoration, the certificates, configuration definition information, OS property definition files, system images, and cloning images must have been backed up at the same point in time. It is recommended to store the backed up information in folders with names including the date and time of backup.

- Do not stop or start the manager during execution of this command. If this command fails, a folder or a directory that has a name starting with tmp will be created in the folder or directory specified for the -file option. If the problem is still not resolved after performing the actions based on the output error message, collect the folder or the directory as troubleshooting data, and contact Fujitsu technical staff. Delete these folders or directories when they are no longer necessary.

. . . .

6.5 scwbackup

Name

[Windows Manager]
Installation_folder**SVROR\Manager\bin\scwbackup** - Backup of image file information

[Linux Manager]
/opt/FJSVrcvmr/bin/scwbackup - Backup of image file information

Format

```
scwbackup [-dir directory] [[-immediate]|[-timeout value]]
```

Description

scwbackup is the command used for backing up the image file information of Resource Orchestrator.

This command backs up the following image file information of Resource Orchestrator using this command for restoration in case ServerView Deployment Manager information is damaged:

- System Images and Cloning Images

Table 6.3 List of Items for Backup/Restore [Windows Manager]

No	Overview	Item
1	System images (*1)	Image_file_storage_folder\Managed server name@0@0@Management information@Management information@Version (*2)
2	Cloning images (*1)	Image_file_storage_folder\Cloning image name@Version (*2)

*1: All files in the folder are the objects to be backed up or restored.
*2: *Image_file_storage_folder* is *the_value_of_imagedir_displayed_by_executing_the_rcxadm imagemgr_info_command* \Cloneimg.

Table 6.4 List of Items for Backup/Restore [Linux Manager]

No	Overview	Item
1	System images (*1)	*Image_file_storage_directory*/Managed server name@0@0@Management information@Management information@Version (*2)
2	Cloning images (*1)	*Image_file_storage_directory*/Cloning image name@Version (*2)

*1: All files in the specified directory are targeted.
*2: *Image_file_storage_directory* is *The_value_of_imagedir_displayed_by_executing_the_rcxadm imagemgr_info_command*/ CLONEIMG.

- Information Related to Image Files

Table 6.5 List of Items for Backup/Restore [Windows Manager]

No	Overview	Item

1	Registry	- For 32-bit operating systems
		
		    HKEY_LOCAL_MACHINE\SOFTWARE\Fujitsu\SystemcastWizard
		
		- For 64-bit operating systems (*1)
		
		    HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Fujitsu\SystemcastWizard

2	Database	*Installation_folder*\ScwPro\scwdb\scwdb1.mdb *Installation_folder*\ScwPro\scwdb\scwdb1.mdw
3	DHCP configuration information file	*Installation_folder*\ScwPro\bin\ipTable.dat
4	IP address configuration file	*Installation_folder*\ScwPro\bin\localipaddress.txt
5	AWWN definition file (*2)	*Installation_folder*\ScwPro\tftp\rcbootimg\awwn_XXX.XXX.XXX.XXX.cfg (*3) *Installation_folder*\ScwPro\tftp\rcbootimg_awwn_XXX.XXX.XXX.XXX.cfg (*3)
6	BROADCAST configuration file for client connection requests	*Installation_folder*\ScwPro\bin\bcastaddress.txt

*1: For 64-bit operating systems, it is redirected to Wow6432Node.

*2: In VIOM environments, this file does not exist.

*3: For XXX.XXX.XXX.XXX, an IP address is set.

Table 6.6 List of Items for Backup/Restore [Linux Manager]

No	Overview	Item
1	Configuration file	/etc/opt/FJSVscw-common/scwconf.reg
2	Database	/var/opt/FJSVscw-deploysv/scwdb/scwdb1.db /var/opt/FJSVscw-deploysv/scwdb/scwdb2.db
3	DHCP configuration information file	/var/opt/FJSVscw-pxesv/ipTable.dat
4	bootcfg configuration file (*1)	/etc/opt/FJSVscw-pxesv/ClientBoot/*
5	AWWN definition file (*2)	/var/opt/FJSVscw-tftpsv/tftproot/rcbootimg/awwn_XXX.XXX.XXX.XXX.cfg (*3) /var/opt/FJSVscw-tftpsv/tftproot/rcbootimg/_awwn_XXX.XXX.XXX.XXX.cfg (*3)
6	BROADCAST configuration file for client connection requests	/opt/FJSVscw-deploysv/sys/bcastaddress.txt

*1: All files in the specified directory are targeted.

*2: In VIOM environments, this file does not exist.

*3: For XXX.XXX.XXX.XXX, an IP address is set.

Image file information cannot be backed up while an image operation is being performed for a VM host.

Backup of image file information is only performed when no operation is being executed.

When executing the command while the manager is running, backup will be performed after the operations are completed.

When this command is executed while the manager is stopped, this command will be returned regardless of the presence or absence of the specified options. Completion of operations being executed will not be waited for.

Options

-dir *directory*

In *directory*, specify a folder or a directory to back up the image file information of Resource Orchestrator.

If previous backup information remains in the specified folder or directory, the previous backup information will be reused in the backup operation for system images and cloning images.

When this option is omitted, if the destination is defined in the following definition file, the information is saved in the specified folder or directory:

[Windows Manager]
Installation_folder\SVROR\Manager\etc\customize_data\Manager_backup.rcxprop

[Linux Manager]
/var/opt/FJSVrcrmr/ customize_data/manager_backup.rcxprop

If the destination is not defined, the information is saved in the following folder or directory:

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

[Linux Manager]
/var/opt/FJSVrcrmr/backup

-immediate

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

Backup can only be performed when no operation is being executed for the resources. If an operation is being executed, this command will return an error.

-timeout *value*

Use this option to wait the number of seconds specified in *value* for completion of the image operation being performed on the admin server. If the operation is not completed within the specified time, this command will return an error.

If this option is omitted, the default value (3600 seconds) is set.

When this command is periodically executed while the manager is operating, if heavy operations such as cloning image collection are ongoing, execution of the command will be delayed until the relevant operation is completed. Specify this option to terminate execution of the command within a fixed time.

When an operation is being executed on the admin server, "INFO: Manager operation is still running." is displayed periodically.

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

Requirements

Permissions

- OS Administrator

- Resource Orchestrator Privileged User

Location

Admin server

Examples

> **scwbackup -dir /scwdir0 -immediate** <RETURN>

Exit Status

This command returns the following values:

0

The command executed successfully.

non-zero

An error has occurred.

Note

- When specifying folders or directories, take note of the following points:

    - Do not specify the system installation folder or the installation directory for the -dir option.

    - Do not use double-byte characters or the following symbols to specify folders or directories for the -dir option.

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

    [Windows Manager]
    "/"

[Linux Manager]
"\"

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

- For restoration, the certificates, configuration definition information, OS property definition files, system images, and cloning images must have been backed up at the same point in time. It is recommended to store the backed up information in folders with names including the date and time of backup.

- For the -timeout option, "172800" or less seconds can be specified.

- Do not stop or start the manager during execution of this command.

- If this command fails, a folder or a directory that has a name starting with tmp will be created in the folder or directory specified for the -dir option.
If the problem is still not resolved after performing the actions based on the output error message, collect the folder or the directory as troubleshooting data, and contact Fujitsu technical staff.
Delete these folders or directories after collecting the troubleshooting data.

6.6 scwrestore

Name

[Windows Manager]
Installation_folder**SVROR\Manager\bin\scwrestore** - Restoration of image file information

[Linux Manager]
/opt/FJSVrcvmr/bin/scwrestore - Restoration of image file information

Format

```
scwrestore -dir directory
```

Description

scwrestore is the command used for restoration of image file information of Resource Orchestrator.

Options

-dir *directory*

In *directory*, specify a directory name created as a result of collection using the backup command.

Requirements

Permissions

- OS Administrator

- Resource Orchestrator Privileged User

Location

Admin server

Examples

>**scwrestore -dir** */scwdir0/mgr_20110123_1159* <RETURN>

Exit Status

This command returns the following values:

0

    The command executed successfully.

non-zero

    An error has occurred.

![Note icon] Note

....

- When specifying files, take note of the following points:

    - Do not use double-byte characters or the following symbols to specify folders or directories for the -dir option.

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

      [Windows Manager]
      "/"

      [Linux Manager]
      "\"

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

- Do not stop or start the manager during execution of this command.

- If this command fails, a folder or a directory that has a name starting with tmp will be created in the folder or directory specified for the -dir option.
  If the problem is still not resolved after performing the actions based on the output error message, collect the folder or the directory as troubleshooting data, and contact Fujitsu technical staff.
  Delete these folders or directories after collecting the troubleshooting data.

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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.

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.

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.

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.

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.

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.

Express

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

external FTP server

An FTP server used to relay network device files between the ROR manager and network devices that do not possess their own FTP server function.

FC switch (Fibre Channel Switch)

A switch that connects Fibre Channel interfaces and storage devices.

fibre channel switch blade

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

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.

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.

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.

LAN switch blades

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

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.

logical volume

A logical disk that has been divided into multiple partitions.

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.

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.

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.

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.

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.

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.

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.

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