FUJITSU Software ServerView Resource Orchestrator Virtual Edition V3.4.0
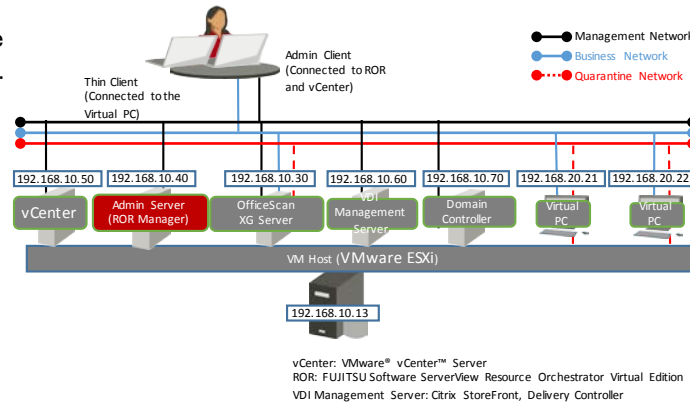## [VMware] Automatic Quarantining Function Setup Guide [Windows Manager]

System Configuration

– Connect the hardware devices shown in the figure to the LAN so they can communicate.
– In the following explanations, the IP addresses shown in the figure are used.

＊ Prepare the admin server with a freshly installed Windows OS.

vCenter: VMware® vCenter™ Server
ROR: FUJITSU Software ServerView Resource Orchestrator Virtual Edition
VDI Management Server: Citrix StoreFront, Delivery Controller

Server Type	OS Type
Admin server	Windows Server 2012 R2 or later
VM host on which the virtual PC operates	VMware ESXi 6 or later

Server Type	Server Name
VM Host (VMware ESXi)	esxi000

Network Type	Subnet Address	Virtual Network Name of XenServer
Management Network	192.168.10.0/24	-
Business Network	192.168.20.0/24	Intranet-LAN
Quarantine Network	192.168.30.0/24	Quarantined-LAN

Note: This system configuration is only an example and does not indicate the entire support scope of the automatic quarantining function. The environment necessary for management of XenDesktop is not explained here.

Before Installing Resource Orchestrator

Perform the following preparations beforehand.

(1) Configure SNMP

To receive hardware monitoring messages, perform configuration so the ″SNMP service″ starts on the admin server and managed servers.
Specify the IP address of the admin server (192.168.10.40) as the SNMP trap destination of managed servers.

(2) Confirm Required Software

Confirm that the following software has been installed:
– VMware vCenter Server
– OfficeScan XG server

(3) Execute the Environment Setup Conditions Check Tool

Use the environment setup conditions check tool to confirm that the configuration is correct.

(4) Virtual PC

Confirm that the virtual PC is deployed on VMware ESXi, using Citrix XenDesktop.
Install the OfficeScan XG agent on the deployed virtual PC, and perform configuration so the virtual PC is managed by the OfficeScan XG server.

(5) OfficeScan XG Server

– Check ″Enable notification via SNMP trap″ in the Virus/Malware sections of the SNMP trap notification settings of Administrator Notification Settings, and define the message to be sent as follows.
virus_name:%v,ip_address:%i,file:%p,datetime:%y,result:%a
– If it is necessary for email notifications to be sent to the administrator, configure the email notification settings for the administrator so that an email is sent to the email address of the administrator when a virus or malware is detected.
– Specify the IP address of the Resource Orchestrator manager in the SNMP trap notification settings of the General Notification Settings.

(6) ROR Manager

Install Windows PowerShell 3.0 or later and VMware vSphere PowerCLI 6.0 or later, and then confirm that VMware PowerCLI is running.

Installation
Refer to the ″Automatic Quarantining Function User's Guide″ for details.

STEP 1 Install the Product

#### ■ Installing the Manager(Windows)

1. Insert the DVD-ROM on the admin server and then select "Virtual Edition" - "Manager installation".

2. Follow the instructions on the wizard to perform the installation. Specify the following values on each screen.

Window	Entry	Value to Enter or Select
Installation Folder Selection	Installation Folder	C:¥Program Files (x86)¥Resource Orchestrator
Admin LAN Selection	Network to use for the admin LAN	192.168.10.40
Authentication Method Selection	Authentication Method	Select "Internal Authentication".
Privileged User Creation	User Account	manage
	Password	Password for "manage" *Displayed as ●●● on the screen.
	Retype password	Password for "manage" *Displayed as ●●● on the screen.

3. When the installation is complete, the completion window is displayed. Follow the instruction displayed in the window to restart the system.
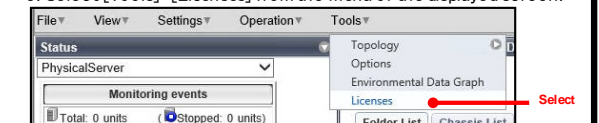

Click "Yes"
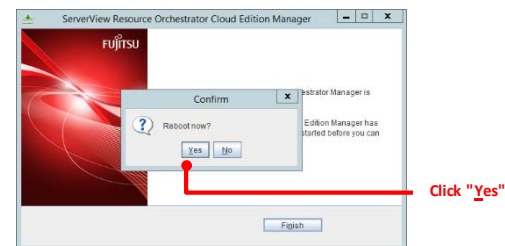
STEP 2 Register the License

1. Start the ROR console from a Web browser.
[URL] https://192.168.10.40:23461

2. The login window is displayed.
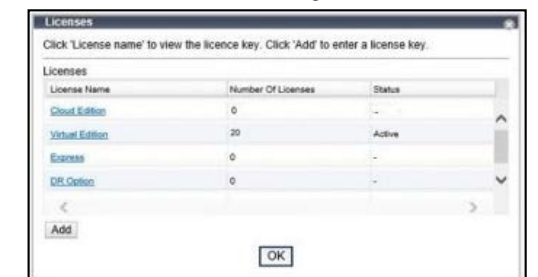Enter ″manage″ for the user ID and the password for the ″manage″ user.

3. Select [Tools]–[Licenses] from the menu of the displayed screen.

4. Click the [OK] button on the Register License window to register the license.

5. Confirm that the license has been registered.

6. Create the file necessary to enable this function.
■ Storage Location: C:¥Program Files(x86)¥Resource Orchestrator¥ SVROR¥Manager¥etc¥conf¥
■ File Name: rorsetup.conf
■ File Format: Empty file

7. Restart the Resource Orchestrator manager.

```
> rcxadm mgrctl stop <RETURN>
> rcxadm mgrctl start <RETURN>
```

STEP 3 Configure Environment Variables

Configure the following as a system environment variable.

Variable Name	Value
ROR_MGR	C:¥Program Files (x86)¥Resource Orchestrator¥SVROR¥Manager

For details, refer to "2.3.1 Configuring Environment Variable" in the "Automatic Quarantining Function User's Guide".

STEP 4 Creating Definition Files

Create definition files. If the definition file already exists, add to it using the following format.
■Storage location of the admin server (ROR manager)
C:¥Program Files(x86)¥Resource Orchestrator¥SVROR¥Manager¥etc¥vm

Definition File Name	Value to Set in the Definition File
register_ipmiless	None (Create an empty file)

C:¥Program Files(x86)¥Resource Orchestrator¥SVROR¥Manager¥etc¥customize_data

Definition File Name	Value to Set in the Definition File
l_server.rcxprop	reserve_ip_address=true
avmgr_network.rcxprop	Intranet-LAN=Quarantined-LAN
server_control.rcxprop	ServerControl,V1.1 esxi000,false

(1) Create a work folder.

```
> mkdir D:¥avmgr <RETURN>
```

(2) On the ROR console, select [File]-[System Configuration File]-[Download Template]. The [File Download] window is displayed.
(3) Click the [Save] button.
(4) Specify the storage directory (D:¥Avmgr) and the file name (rcx-import-avmgr.csv).
(5) Click the [Save] button.
(6) Edit the content of the system configuration file (D:¥Avmgr¥rcx-import-avmgr.csv) as shown below.

Value to Set in the System Configuration File (rcx-import-avmgr.csv)

```
RCXCSV                  V3.5
[Server]
operation,chassis_name,slot_no,server_name,ip_address,mac_address,second_mac_address,snmp_community_name,ipmi_ip_address,ipmi_user_name,ipmi_passwd,ipmi_passwd_enc
new,,,esxi000,192.168.10.13, 90:E5:35:0C:34:AD, 90:E5:35:0C:34:AE,,,,,

[VMManager]
operation,name,ip_address,product,login_name,login_passwd,passwd_enc
new,vCenterServer,192.168.10.50,vmware-vc,administrator,vCenterServer_password,plain

[ServerVMHost]
Operation,server_name,vm_login_name,vm_login_passwd,vm_passwd_enc
new,esxi000,root,esxi000_password,plain
```

STEP 5 Enable Notification
Refer to the "Automatic Quarantining Function User's Guide" for details.

(1) Enable message notifications. Execute the following command.

```
> msgnotice register -name vdimgr -ip 192.168.10.60 -user_name admin -passwd password_of_the_VDI_management_server<RETURN>
> msgnotice enable <RETURN>
```

(2) Authorize remote management. Execute the following command, and confirm that the content of TrustedHosts is a single asterisk ("*") or the IP address for connection to the VDI management server (192.168.10.60).

```
> winrm get winrm/config/client  <RETURN>
```

(3) Configure the VDI management server to allow access from Windows Remote Management. Log in to the VDI management server as a user with administrator privileges, and execute the following command from the command prompt. When the prompt is displayed, enter "y".

```
> winrm quickconfig  <RETURN>
```

(4) Change the PowerShell execution policies. On both the machine to be set up as the admin server of Resource Orchestrator and the VDI management server, change the PowerShell execution policy to "RemoteSigned". Start the PowerShell console using administrator privileges and execute the following command.

```
> Set-ExecutionPolicy  -ExecutionPolicy  RemoteSigned <RETURN>
```

(5) Execute the following command, and confirm that notification has been enabled.

```
> msgnotice info <RETURN>
```

As well as the message notification function, if the function for sending email notification to the administrator or an action other than automatic quarantining has been selected for when infection by a virus is detected, refer to the "Automatic Quarantining Function User's Guide" and then perform configuration.
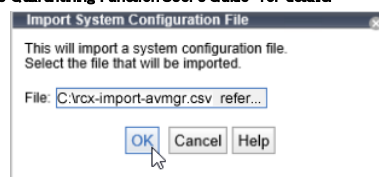
STEP 6 Register Resource
Refer to the "Automatic Quarantining Function User's Guide" for details.

(1) From the ROR console, select [File]-[System Configuration File]-[Import]. The [Import System Configuration File] dialog is displayed.
(2) Specify the system configuration file (rcx-import-avmgr.csv) prepared in "STEP 4 Create Definition Files".
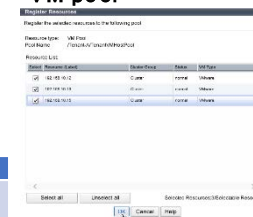(3) Click the [OK] button.

STEP 7 Register Resource Pools

(1) From the orchestration tree, right-click the target server pool, then register the target VM host
(2) From the orchestration tree, right-click the network pool and select [Create Network Resource]-[New].
Register the business network and the quarantine network.

VM pool

Business Network

Window	Entry	Value to Enter or Select
Network resource name	The resource name of the business network	Intranet-LAN
Type	The type of the network resource	Public LAN
Detail configuration		Use configured virtual switches/port profile
VLAN ID	The VLAN ID of the business network	20
Subnet address/mask	Subnet address/mask	192.168.20.0/24
Default gateway	Default gateway	192.168.20.1

Quarantine

Window	Entry	Value to Enter or Select
Network resource name	The resource name of the quarantine network	Quarantined-LAN
Type	The type of the network resource	Public LAN
Detail configuration		Use configured virtual switches/port profile
VLAN ID	The VLAN ID of the quarantine network	30
Subnet address/mask	Subnet address/mask	192.168.30.0/24
Default gateway	Default gateway	192.168.30.1

Network Resource
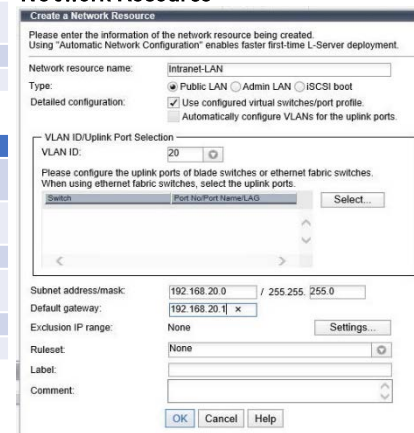
STEP 8 Register Antivirus Software

(1) Register antivirus software. Execute the following command.

```
> rcxadm avmgr create -name corpxg -mgmt_soft_name corp -ip 192.168.10.30 <RETURN>
```

(2) Confirm that the antivirus software is successfully registered. Execute the following command.

```
> rcxadm avmgr list <RETURN>
```

STEP 9 Import the Virtual PC

(1) Create the CSV configuration file. Execute the following command.
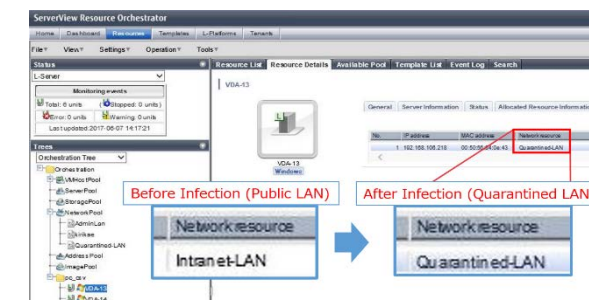
```
> convertVMtoLServer -exportfile D:¥avmgr <RETURN>
```

(2) Import virtual PCs so they can be managed by ROR. Execute the following command.

```
> convertVMtoLServer -file D:¥avmgr¥convertVMtoLserver_20170831000000.csv <RETURN>
```

Tryout

■Download a dummy virus to a virtual PC and confirm that it is transferred to the quarantine network.

(1) Download a dummy virus to a virtual PC.
(2) Confirm that security risks have been detected through email notifications sent by the antivirus software or by checking the system log of the admin server.
(3) Confirm the following:
  - From the ROR console, confirm that the network of the target virtual PC has been switched to the quarantine network.
  - Check the IP address of the virtual PC.

Before Infection (Public LAN) — Network resource — Intranet-LAN
After Infection (Quarantined LAN) — Network resource — Quarantined-LAN

How to Reference the Electronic Manuals

Perform the following procedure to refer to the electronic manuals for Resource Orchestrator:
1. Insert the first DVD-ROM of Resource Orchestrator into the DVD drive.
2. On the initial window that is displayed automatically, click [Documentation] from the left menu and then [Manual].
3. The online manuals are listed in the Web browser. Refer to those in the Virtual Edition section.