CHAPTER 8

Managing Virtual Machines Using the Cisco SRE-V CLI

Note We recommend that you use the vSphere Client GUI instead of the Cisco SRE-V CLI to manage virtual machines. See Chapter 7, "Managing Virtual Machines."

You can use the Cisco SRE-V CLI to export, import, power-on, power-off, shutdown, delete, troubleshoot, or view details about virtual machines. See the following topics for more information:

Exporting the Virtual Machine to a Remote Location

To export the virtual machine in OVF format and upload it to a specified remote location, use the following command:

virtual-machine export *vm name remote url* **[username** *username* **password** *password***]**

PREREQUISITES

Make sure that the virtual machine that you want to export is not running.

SUMMARY STEPS

From the Console Manager interface, enter:

1. **virtual-machine export** *vm name remote url* **[username** *username* **password** *password***]**

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose

Step 1	**virtual-machine export** *vm name remote url* **[username** *username* **password** *password***]**
	
	Example:
	`SRE-Module# virtual-machine export Win2K3 ftp://ftpserver.com/dir`
	`.....`
	`COMPLETE`
		Exports the virtual machine in OVF format and uploads it to a specified remote location.
		• *vm name*—Unique string used to identify the virtual machine. Maximum string length: 32 alphanumeric characters.
		Note If the virtual machine name contains a space, make sure that you add the name in quotes, otherwise, the export operation will fail. For example "Win 2K3".
		• *remote url*—URL where the virtual machine (Microsoft Windows image) must be exported. Supported protocols: FTP, FTPS, and SFTP.
		• **username** *username*—(Optional) Specifies the login name of the user who has access to the remote site.
		username—Unique string to log into the remote site.
		• **password** *password*—(Optional) Specifies the password used with the username to access the remote site.
		password—Unique string used with the username to access the remote site.

Related Topic

- Importing the Virtual Machine to VMware vSphere Hypervisor, page 8-3

Importing the Virtual Machine to VMware vSphere Hypervisor

To import a virtual machine in OVF format from a specified remote location to a data store in VMware vSphere Hypervisor™, use the following command:

virtual-machine import *remote url* **datastore** *data store name* **[username** *username* **password** *password***] [name** *vm name***]**

PREREQUISITES

Make sure you have done the following:

- Cisco SRE-V license is activated.
- Firewall rules are set up correctly so that the Cisco SRE Service Module console manager interface can reach the remote URL.
- VMware vSphere Hypervisor™ default gateway IP address is configured. See the "Setting up the VMware vSphere Hypervisor Default Gateway" section on page 7-1.
- Read the "Important Information About Creating Virtual Machines" section on page 7-5.

SUMMARY STEPS

From the Console Manager interface, enter:

1. **virtual-machine import** *remote url* **datastore** *data store name* **[username** *username* **password** *password***] [name** *vm name***]**

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose

Step 1	**virtual-machine import** *remote url* **datastore** *data store name* **[username** *username* **password** *password***] [name** *vm name***]**
	
	Example:
	`SRE-Module# virtual-machine import ftp://1.1.1.1/x/y.ovf datastore datastore1`
	
	`Evaluation licenses are being activated in the device for the following feature(s):`
	
	`Feature Name: SRE-V-HOST-LIC`
	`----------`
	`-- EULA contents --`
	`----------`
	`ACCEPT? [y/n]? y----------`
	`.....`
	`COMPLETE`
		Imports the virtual machine from the specified remote location to a data store in VMware vSphere Hypervisor™. The imported image must be in OVF format.
		
		Note Make sure that the OVF file name does not contain a space, otherwise, the import operation will fail.
		
		• *remote url*—URL where the virtual machine to be imported is located. Supported protocols: FTP, FTPS, and SFTP.
		• **datastore** *data store name*—Specifies the name of the data store where the virtual machine you are importing must reside.
		
		data store name—Name of the data store where the virtual machine you are importing must reside.
		• **username** *username*—(Optional) Specifies the login name of the user who has access to the remote site.
		
		username—Unique string to log into the remote site.
		• **password** *password*—(Optional) Specifies the password used with the username to provide access to the remote site.
		
		password—Unique string used with the username to access the remote site.
		• **name** *vm name*—(Optional) Specifies the name of the virtual machine.
		
		vm name—Unique string used to identify the virtual machine. Maximum string length: 32 alphanumeric characters.
		
		Note If the virtual machine name contains a space, make sure that you add the name in quotes, otherwise, the import operation will fail. For example "Win 2K3".

Note If you purchased the Cisco SRE-V Option 3 (Hardware, plus Virtualization software, plus Microsoft Windows software), a virtual machine is provided to you by default. Both the Virtualization software license and the Microsoft Windows software license on this virtual machine are preactivated. If you choose to export this virtual machine and then import it back, you must do the following, otherwise, the Microsoft Windows software license activation will fail:

- Manually add the following configuration lines to the OVF file in the Virtual Hardware section:

```
<VirtualHardwareSection>
    ....
    ....
      <vmw:ExtraConfig vmw:key="acpi.passthru.slic" vmw:value="true"/>
      <vmw:ExtraConfig vmw:key="acpi.passthru.slicvendor" vmw:value="true"/>
      <vmw:ExtraConfig vmw:key="smbios.addhostvendor" vmw:value="true"/>
```

- Before you power on the virtual machine, verify that the VMX files contain the following parameters. If these parameters are missing, you must add them:

```
uuid.action = "create"
pcie.reportDataLink= "TRUE"
```

Related Topic

- Exporting the Virtual Machine to a Remote Location, page 8-2

Deleting a Virtual Machine

To remove the specified virtual machine from the inventory and delete all of its files from the data store, use the following command:

virtual-machine delete *vm name* **[noconfirm]**

PREREQUISITES

Make sure that virtual machine is shut down or powered off.

SUMMARY STEPS

From the Console Manager interface, enter:

1. **virtual-machine delete** *vm name* **[noconfirm]**

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose

Step 1	**virtual-machine delete** *vm name* **[noconfirm]**
	
	Example:
	`SRE-Module# virtual-machine delete windows-2008`
	`This will delete the virtual machine and all of its related files. Do you wish to continue? (y/n) y`
		Removes the specified virtual machine from the inventory and deletes all of its files from the data store.
		• *vm name*—Unique string used to identify the virtual machine. Maximum string length: 32 alphanumeric characters. The virtual machine name is case sensitive.
		• **noconfirm**—(Optional) Powers on, powers off, or shuts down the specified virtual machine without providing a confirmation message.

Managing System Logs

System logs list events, alarms, and assorted logs that contain information about activities in your vSphere environment. For information about storing, removing, and viewing logs see the following sections:

Storing System Logs in a File in the Local Datastore

To store system logs in a file in the local datastore, use the following command:

hypervisor set syslog local datastore *datastore name* **file** *file name*

SUMMARY STEPS

From the Console Manager interface, enter:

1. **hypervisor set syslog local datastore** *datastore name* **file** *file name*

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose
Step 1	**hypervisor set syslog local datastore** *datastore name* **file** *file name* **Example:** `SRE-Module# hypervisor set syslog local datastore datastore0 file /var/log/mysyslog.log`	Specifies the file in a local datastore in which the system logs are stored. • *datastore name*—Name of the datastore in which to store the system log file. • **file** *file name*—Specifies the name of the file in which to store the system logs. *file name*—Name of the file in which to store the system logs.

Storing System Logs in a Remote Server

To store system log file in a remote server, use the following command:

hypervisor set syslog remote hostname *hostname* **port** *port number*

SUMMARY STEPS

From the Console Manager interface, enter:

1. **hypervisor set syslog remote hostname** *hostname* **port** *port number*

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose
Step 1	**hypervisor set syslog remote hostname** *hostname* **port** *port number* **Example:** `SRE-Module# hypervisor set syslog remote hostname 1.100.50.11 port 1000`	Specifies the remote server in which the system logs are stored. • *hostname*—Hostname or IP address of the remote server in which to store the system logs. • **port** *port number*—Specifies the port number of the remote syslog server in which to store the system logs. *port number*—Port number of the remote syslog server in which to store the system logs.

Removing System Logs from a Local File or a Remote Server

To remove the system logs from a local file in the datastore or from a remote server, use the following command:

hypervisor unset syslog {local | remote}

SUMMARY STEPS

From the Console Manager interface, enter:

1. **hypervisor unset syslog {local | remote}**

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose

Step 1	`hypervisor unset syslog {local | remote}`
	
	Example:
	`SRE-Module# hypervisor set syslog remote hostname 1.100.50.11 port 1000`
		Removes the system logs from a local file in the datastore or from a remote server.
		• **local**—Removes the system logs from the local file in the datastore in which the logs reside.
		• **remote**—Removes the system logs from the remote server in which the logs reside.

Viewing VMware vSphere Hypervisor Logs

To display system messages, system boot logs, and host VMware vSphere Hypervisor™ logs, use the following command:

show hypervisor log {messages | config | mgmt-agent}

SUMMARY STEPS

From the Console Manager interface, enter:

1. **show hypervisor log {messages | config | mgmt-agent}**

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose
Step 1	**show hypervisor log {messages | config | mgmt-agent}** **Example:** `SRE-Module# show hypervisor log config`	Displays system messages, system boot logs, and host VMware vSphere Hypervisor™ logs. • **messages**—Displays the VMware vSphere Hypervisor™ system messages. This log file is located at /var/log/messages. File size: Approximately 1.1 MB. • **config**—Displays the VMware vSphere Hypervisor™ system boot logs. This log file is located at /var/log/sysboot.log. File size: Approximately 12 K. • **mgmt-agent**—Displays the VMware vSphere Hypervisor™ host logs. This log file is located at /var/log/VMware/hostd.log. File size: Approximately 512 K.

Viewing VMware vSphere Hypervisor Datastore Information

To view details such as name, capacity, and free space available on all of the existing datastores in VMware vSphere Hypervisor™, use the following command:

show hypervisor datastore [all]

SUMMARY STEPS

From the Console Manager interface, enter:

1. **show hypervisor datastore [all]**

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose

Step 1	**show hypervisor datastore [all]**
	
	Example:
	`SRE-Module# show hypervisor datastore`
	`Name Capacity Free Space`
	`datastore1 500GB 200GB`
		Displays details, such as the name, capacity, and free space available on all of the existing data stores in the VMware vSphere Hypervisor™.
		• **all**—(Optional) Displays details, such as the name, capacity, and free space available on all of the existing data stores in the VMware vSphere Hypervisor™.

Changing the VMware vSphere Hypervisor Root Password

The root password is the password used between the Management virtual machine and the VMware vSphere Hypervisor™. The root password is used internally for management purposes, which you can change. To change the root password, you provide a password seed. The system uses the password seed to generate the new root password.

To change the root password, use the following command:

hypervisor set password seed *password_seed*

SUMMARY STEPS

From the Console Manager interface, enter:

1. **hypervisor set password seed** *password_seed*

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose
Step 1	**hypervisor set password seed** *password_seed* **Example:** `SRE-Module# hypervisor set password seed Ci5co$ysTems`	Specifies the password seed, which the system uses to generate the new root password. After the new password is generated, it takes effect immediately. Ensure that you keep the password seed securely. You cannot retrieve the root password, but the password seed is required to help recover the root password for technical assistance. • **seed** *password_seed*—Unique string used by the system to generate the root password. The seed password is case sensitive and can contain a mix of characters from the following four character classes: – Lowercase letters – Uppercase letters – Digits – Special characters, such as ~ ! @ # $ % ^ & * ( ) - _ + = / < > . ,

Starting the Disk Revalidation Process

To start the disk revalidation process, use the following command:

hypervisor set disk revalidation

SUMMARY STEPS

From the Console Manager interface, enter:

1. **hypervisor set disk revalidation**

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose

Step 1	**hypervisor set disk revalidation [unlock** *device_node*]
	
	Example:
	`SRE-Module# hypervisor set disk revalidation`
	`This command will start disk revalidation process.`
	`The system will reboot and restore missing local datastores. A new name will be assigned when a local datastore is recovered.`
	`We recommend that you shutdown all the virtual machines before you continue.`
	`Are you sure you want to continue?[confirm]`
	
	`SRE-Module# hypervisor set disk revalidation unlock /vmfs/devices/disks/naa.5000cca597ce2666:1)`
	`This command will start disk revalidation process and unlock datastore at device /vmfs/devices/disks/T10.5000cca597ce2333:3.`
	`The system will reboot and restore missing local datastores. A new name will be assigned when a local datastore is recovered.`
	`We recommend that you shutdown all the virtual machines before you continue.`
	`Are you sure you want to continue?[confirm]`
		Starts the disk revalidation process. When prompted, confirm that you want to continue with the operation. After the disk validation process completes, the system reboots and restores missing local datastores.
		
		Note When a local datastore is restored, a new name is assigned to it.
		
		• **unlock** *device_node*—(Optional) Starts the disk revalidation process and unlocks the datastore of the specified device.

Moving the System in or out of Maintenance Mode

To move the system in or out of maintenance mode, use the following command:

hypervisor {set | unset disk} maintenance

SUMMARY STEPS

From the Console Manager interface, enter:

1. **hypervisor {set | unset disk} maintenance**

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose

Step 1	**hypervisor {set | unset} disk maintenance**
	
	Example:
	`SRE-Module# hypervisor set disk maintenance`
	
	`SRE-Module# hypervisor unset disk maintenance`
		Moves the system in or out of maintenance mode. When prompted, confirm that you want to continue with the operation. The command is executed and the system reboots.
		• **set**—Moves the system into maintenance mode.
		Note In disk maintenance mode, the datastores and virtual machines are maintained but the system logs and temporary files that are not stored in the datastore are deleted.
		• **unset**—Moves the system out of maintenance mode.

Viewing Information About a Specific Virtual Machine

To view details such as CPU, memory size, disk size, interfaces, status, and VMware tools about a specific virtual machine, use the following command:

show virtual-machine name *vm name*

SUMMARY STEPS

From the Console Manager interface, enter:

1. **show virtual-machine name** *vm name*

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose

Step 1	**show virtual-machine name** *vm name*
	
	Example:
	`SRE-Module# show virtual-machine name Win2K3`
	`CPU: 2 vCPUs`
	`Memory Size: 1 GB`
	`vDisk(s): Disk 1(200 GB)`
	`vNIC(s): NIC 1(MAC=1234.5678.ABCD)`
	`NIC 2(MAC=1234.5678.EFGH)`
	`Status: Running`
	`VMware Tools: Installed`
		Displays details such as, CPU, memory size, disk size, interfaces, status, and VMware tools about a specific virtual machine.
		• *vm name*—Unique string used to identify the virtual machine. Maximum string length: 32 alphanumeric characters. The virtual machine name is case sensitive.

Viewing Information About All Virtual Machines

To view a list of all of the virtual machines in the system and their running status, use the following command:

show virtual-machine [all]

SUMMARY STEPS

From the Console Manager interface, enter:

1. **show virtual-machine [all]**

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose

Step 1	**show virtual-machine [all]**
	
	Example:
	`SRE-Module# show virtual-machine`
	`Name Status`
	`Win2K3 Running`
	`Win2K8 Stopped`
		Lists all of the virtual machines in the system and their running status: Running or Stopped.
		• **all**—(Optional) Lists all the virtual machines in the system and their running status: Running or Stopped.
		Note The management virtual machine is not displayed in the list.

Viewing VMware vSphere Hypervisor Management Settings

The management network is the network that is used to connect to the VMware vSphere Hypervisor™ remotely. To view the VMware vSphere Hypervisor™ management network settings, such as the hostname, IP address, subnet mask, IP gateway, and DNS server, use the following command:

show hypervisor ip

SUMMARY STEPS

From the Console Manager interface, enter:

1. **show hypervisor ip**

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose

Step 1	**show hypervisor ip**
	
	Example:
	`SRE-Module# show hypervisor ip`
	`Hostname:  esxi-blade`
	`IP Address:  1.100.80.30`
	`Subnet Mask: 255.255.255.0`
	`IP Gateway:  1.100.80.1`
	`Preferred DNS Server:  1.100.80.5`
	`Alternative DNS Server:  1.100.80.6`
		Displays the VMware vSphere Hypervisor™ management network settings, such as the hostname, IP address, subnet mask, IP gateway, and the primary and secondary DNS servers.
		
		Note The preferred DNS server is the primary DNS server and the alternative DNS server is the secondary DNS server.

Viewing vSwitches in the VMware vSphere Hypervisor

To view the vSwitches and port groups in VMware vSphere Hypervisor™, use the following command:

show hypervisor vswitch [all]

SUMMARY STEPS

From the Console Manager interface, enter:

1. **show hypervisor vswitch [all]**

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose
Step 1	`show hypervisor vswitch [all]`	Displays all of the existing vSwitches and port groups in the VMware vSphere Hypervisor™. See the "Information About vSwitches" section on page 7-8. • **all**—(Optional) Displays all of the existing vSwitches and port groups in the VMware vSphere Hypervisor™.

Example:

```
SRE-Module# show hypervisor vswitch
Switch Name      Num Ports   Used Ports  Configured Ports  MTU     Uplinks
vSwitch0         128         3           128               1500    vmnic2

  PortGroup Name        VLAN ID  Used Ports  Uplinks
  portgroup0            0        0           vmnic2
  Management Network    0        1           vmnic2

Switch Name      Num Ports   Used Ports  Configured Ports  MTU     Uplinks
hgSwitch         8           3           8                 1500

  PortGroup Name        VLAN ID  Used Ports  Uplinks
  hgNet                 0        2

Switch Name      Num Ports   Used Ports  Configured Ports  MTU     Uplinks
ciscoSwitch      8           3           8                 1500    vmnic1

  PortGroup Name        VLAN ID  Used Ports  Uplinks
  CiscoReserved         0        1           vmnic1
```

Viewing VMkernel NICs in the VMware vSphere Hypervisor

The VMkernel TCP/IP stack handles traffic for VMware vSphere Hypervisor™ services such as, VMware vMotion, ISCSI, NFS, and host management.

To view all of the VMkernel NICs on the VMware vSphere Hypervisor™, use the following command:

show hypervisor vmknic [all]

SUMMARY STEPS

From the Console Manager interface, enter:

1. **show hypervisor vmknic [all]**

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose
Step 1	`show hypervisor vmknic [all]`	Displays all of the VMkernel NICs on the VMware vSphere Hypervisor™. • **all**—(Optional) Displays all of the VMkernel NICs on the VMware vSphere Hypervisor™.

Example:

```
SRE-Module# show hypervisor vmknic
Intf. Portgroup/DVPort    IP Address      Netmask         MAC
---------------------------------------------------------------------------
vmk0  Management Network  1.100.50.160    255.255.255.0   00:23:eb:a1:05:e7
vmk1  hgNet               169.254.1.1     255.255.255.0   00:50:56:73:96:e8

2 total VMkernel nic(s)
```

Power on, Power off, or Shut Down a Virtual Machine

To power on, power off, or shut down a virtual machine, use the following command:

virtual-machine {power-on | power-off | shutdown} *vm name* **[noconfirm]**

PREREQUISITES

- To power on a virtual machine, make sure that the virtual machine is not running.
- To power off a virtual machine, make sure that the virtual machine is running.
- To shut down a virtual machine, verify the following:
  - Make sure that the virtual machine is running.
  - Make sure that VMware tools are installed on the virtual machine.

SUMMARY STEPS

From the Console Manager interface, enter:

1. **virtual-machine {power-on | power-off | shutdown}** *vm name* **[noconfirm]**

DETAILED STEPS

To perform configuration tasks on the Cisco SRE Service Module, you must enter the Cisco SRE-V command environment, and then enter the configuration commands. See the "Entering the Cisco SRE-V Command Environment" section on page 5-3.

	Command or Action	Purpose

Step 1	**virtual-machine {power-on | power-off | shutdown}** *vm name* **[noconfirm]**
	
	Example:
	`SRE-Module# virtual-machine power-on windows-2008`
	
	`SRE-Module# virtual-machine power-off windows-2008`
	`This will do a forced shutdown of the virtual machine. This may cause data loss or corruption. Do you wish to continue? (y/n) n`
	`SRE-Module# virtual-machine power-off noconfirm windows-2008`
	
	`SRE-Module# virtual-machine shutdown windows-2008`
	`The virtual machine "windows-2008" cannot be shutdown, no VMware tools installed.`
		Powers on, powers off, or shuts down the specified virtual machine.
		• **power-on**—Powers on the virtual machine.
		• **power-off**—Powers off the virtual machine. The power-off command causes a forced shutdown of the virtual machine, which might result in loss or corruption of data.
		• **shutdown**—Shuts down the virtual machine gracefully. Only the virtual machines that have VMware tools installed on them shutdown gracefully.
		• *vm name*—Unique string used to identify the virtual machine. Maximum string length: 32 alphanumeric characters. The virtual machine name is case sensitive.
		• **noconfirm**—(Optional) Powers on, powers off, or shuts down the specified virtual machine without providing a confirmation message.