Configuring VM Managers

This section includes the following topics:

VM Manager Overview

After you install Prime Network Services Controller on a hypervisor, you must configure Prime Network Services Controller so that it can communicate with the Virtual Machine Manager (VMM) for that hypervisor and the VMs that Prime Network Services Controller manages.

Prime Network Services Controller communicates with the VMM to perform the following actions on the VMs that Prime Network Services Controller manages:

- Obtain the VM attributes that Prime Network Services Controller uses to define security or service policies for Nexus 1000V switches, VSG compute firewalls, and CSR 1000V edge routers.

- Instantiate, start, stop, restart, or delete VMs.

- Map VM network interfaces.

- Instantiate and configure services on service VMs.

For information on configuring VMM connectivity, see the following topics:

- Configuring Connectivity with VMware vCenter, on page 3
- Configuring Connectivity with Microsoft SCVMM, on page 5

Note You must reestablish connectivity with the VMM if you change the Prime Network Services Controller server hostname or fully qualified domain name (FQDN).

Hypervisor and VMM Support

Prime Network Services Controller supports hypervisors and their VMMs as follows:

- VMware ESX with vCenter—All functionality described in VM Manager Overview, on page 1.

- Microsoft Hyper-V with SCVMM—Only read attributes and configure VSG compute firewalls.

Note No other VMMs are supported for managing VMs hosted by VMware ESX or Hyper-V Hypervisor. Although SCVMM can communicate with VMs configured on a VMware ESX hypervisor, Prime Network Services Controller support is restricted to homogeneous environments. That is, you can use SCVMM only with Hyper-V Hypervisor and vCenter only with VMware ESX.

The following table identifies the differences between the supported hypervisors with regard to Prime Network Services Controller features and devices. Other features and devices that Prime Network Services Controller supports but that are not listed in the table are expected to perform consistently on both hypervisors with their respective VMMs.

Table 1: Hypervisors and Prime Network Services Controller Feature Support

Feature	VMware ESX with vCenter	Microsoft Hyper-V Hypervisor with SCVMM
Network attributes	All	All
VM attribute support	Supported: • Cluster name • Guest OS full name • Hypervisor name • Parent application name • Port profile name • Resource pool • VM DNS name • VM name	Supported: • Guest OS full name • Port profile name • VM DNS name • VM name
VM Refresh button	Not supported	Supported
Device and Feature Support		

Feature	VMware ESX with vCenter	Microsoft Hyper-V Hypervisor with SCVMM
ASA 1000V	Supported	Not supported
Citrix NetScaler load balancer	Supported (ESXi)	Not supported
CSR 1000V	Supported	Not supported
Integration with DCNM	Supported (ESXi)	Not supported
InterCloud functionality	Supported	Not supported
VSG	Supported	Supported

Configuring Connectivity with VMware vCenter

Establish connectivity between Prime Network Services Controller and VMware vCenter by performing the following tasks:

1 Exporting the vCenter Extension File, on page 3

2 Registering the vCenter Extension Plug-in in vCenter, on page 4

3 Configuring Connectivity with vCenter, on page 4

Exporting the vCenter Extension File

The first step in configuring connectivity with VMware vCenter is to export the vCenter extension file.

Before You Begin

If you use Internet Explorer, do one of the following to ensure that you can download the extension file:

- Open Internet Explorer in Administrator mode.
- After starting Internet Explorer, choose **Tools > Internet Options > Security**, and uncheck the **Enable Protected Mode** check box.

Procedure

Step 1 In Prime Network Services Controller, choose **Resource Management > VM Managers > VM Managers**.

Step 2 In the VM Managers pane, click **Export vCenter Extension**.

Step 3 Save the vCenter extension file in a directory that the vSphere Client can access because you will need to register the vCenter extension plug-in from within the vSphere Client (see Registering the vCenter Extension Plug-in in vCenter, on page 4).

Step 4 Open the XML extension file to confirm that the content is available.

Registering the vCenter Extension Plug-in in vCenter

Registering the vCenter extension plug-in enables you to create a VM Manager in Prime Network Services Controller and communicate with the vCenter VMM and the VMs that Prime Network Services Controller manages.

Procedure

Step 1 From the VMware vSphere Client, log in to the vCenter server that you want to manage by using Prime Network Services Controller.

Step 2 In the vSphere Client, choose **Plug-ins > Manage Plug-ins**.

Step 3 Right-click the window background and choose **New Plug-in**.
    Tip   Scroll down and right-click near the bottom of the window to view the New Plug-in option.

Step 4 Browse to the Prime Network Services Controller vCenter extension file that you previously exported and click **Register Plug-in**.
The vCenter Register Plug-in window appears, displaying a security warning.

Step 5 In the security warning message box, click **Ignore**.
    Note   If desired, you can install this certificate for further integration with Public Key Infrastructure (PKI) and Kerberos facilities.
A progress indicator shows the task status.

Step 6 When the success message is displayed, click **OK**, and then click **Close**.

Configuring Connectivity with vCenter

After you register the vCenter extension plug-in in vCenter, you can configure connectivity with vCenter in Prime Network Services Controller.

Procedure

Step 1 Choose **Resource Management > VM Managers > VM Managers**, and then click **Add VM Manager**.

Step 2 In the Add VM Manager dialog box, enter the following information and then click **OK**:

- Name—VMM name.

- Description—VMM description.

- Hostname / IP Address—Hostname or IP address of the VMM.

- Port Number—Port number to use for communications.

A successfully added VMM is displayed with the following information:

- Admin State of *enable*.

- Operational State of *up*.

- VMware vCenter version.

Configuring Connectivity with Microsoft SCVMM

Use this procedure to configure Prime Network Services Controller connectivity with Microsoft SCVMM (SCVMM).

Before You Begin

- Confirm that you have the username and password for SCVMM access.

- Install Microsoft Service Provider Framework (SPF) so that Prime Network Services Controller can communicate with SCVMM. For more information, see http://technet.microsoft.com/en-us/library/jj642895.aspx.

- Confirm that SPF is installed correctly and functional in SCVMM by connecting to https://spf_host_ip:8090/SC2012R2/VMM/Microsoft.Management.Odata.Svc.

Procedure

Step 1 Choose **Resource Management > VM Managers**, and then click **Add VM Manager**.

Step 2 In the Add VM Manager dialog box, provide the information described in the following table, and then click **OK**:

Field	Description
Name	VMM name.
Description	VMM description.

Field	Description
Hostname / IP Address	Hostname or IP address of the VMM.
Domain Name / Username	Domain or username for SCVMM access.
Password	Password for SCVMM access.
Port Number	Port to use for communications.

A successfully added VMM is displayed with the following information:

- Admin State of *enable*.
- Operational State of *up*.
- SCVMM version.

Editing a VM Manager

After a VM Manager is added, you can modify its properties as follows:

- Admin State—For vCenter and SCVMM.
- Description—For vCenter and SCVMM.
- Domain Name / Username—SCVMM only.
- Password—SCVMM only.

All other fields are read-only.

Changing the administrative state depends on the current operational state:

- To change the administrative state to enabled, the operational state must be down.
- To change the administrative state to disabled, the operational state must be up.

If your request to change the administrative state fails, resubmit the request when the system has the correct operational state.

Procedure

Step 1 Choose one of the following:

- **Resource Management > VM Managers**

• **InterCloud Management > Enterprise > VM Managers**

Step 2   In the VM Managers tab, select the VM Manager you want to edit, and then click **Edit**.

Step 3   In the Edit VM Manager dialog box, edit the information as required, and then click **OK**.

Field	Description
Name	VM Manager name (read-only).
Description	Description of the VM Manager.
Hostname / IP Address	Hostname or IP address of the VMM (read-only).
Domain Name / Username	(SCVMM only) Domain or username for SCVMM access.
Password	(SCVMM only) Password for SCVMM access.
Port Number	Port to use for communications (read-only).
Admin State	One of the following administrative states for the VM Manager: • enable—When a VM Manager is added to Prime Network Services Controller with the administrative state of enable, the system fetches all VM inventory from the VM Manager. Any changes that occur to the VM on the VM Manager are also fetched. • disable—When a VM Manager is added to Prime Network Services Controller with the administrative state of disable, the system displays all discovered VMs from the VM Manager. Any changes that occur to the VMs on the VM Manager are not fetched. The changes will be fetched by Prime Network Services Controller when the admin state is changed to enable.
Type	VMM vendor (read-only).
Version	VMM version (read-only).

Field	Description
Operational State	One of the following operational states (read-only): • up • unreachable • bad-credentials • comm-err • admin-down • unknown
Operational State Reason	Reason for the operational state (read-only).

Deleting a VM Manager

You cannot delete a VM Manager if a service VM is deployed on the associated VMM.

Procedure

Step 1 Choose one of the following:

> • **Resource Management > VM Managers**
>
> • **InterCloud Management > Enterprise > VM Managers**

Step 2 Choose the VM Manager that you want to delete, and then click **Delete**.

Step 3 When prompted, confirm the deletion.