Managing SCVMM Infrastructure

This chapter contains the following sections:

SCVMM Integration

To integrate SCVMM in Cisco UCS Director, perform the following actions:

- Install and configure the PowerShell agent (PSA).
- Add the PSA to Cisco UCS Director.
- Enable WinRM and WinRS on SCVMM and all SCVMM hosts.
- Make sure that the domain account used to connect SCVMM belongs to the local administrator group for SCVMM and SCVMM hosts.
- Ensure that a PowerShell Agent is added to the Hyper-V account when you create a Hyper-V account in Cisco UCS Director.

Configuring a PowerShell ExecutionPolicy Server

Step 1 Verify the current policy by executing Get-Executionpolicy cmdlet from the PowerShell command shell.

```
PS C:\Users\administrator\ Get-ExecutionPolicy Restricted
```

Note Make sure that you choose the correct policy type based on your infrastructure architecture. It is typically unrestricted.

Step 2 Type Set-ExecutionPolicy-ExecutionPolicy ExecutionPolicy unrestricted and press **Enter** to modify an existing execution policy.

```
PS C:\Users\administrator\ Set-ExecutionPolicy -ExecutionPolicy unrestricted

Execution Policy Change
```

```
The execution policy helps protect you from scripts that you do not trust.
Changing the execution policy might expose you to the security risks described in the about
_Execution_Policies help topic.
Do you want to change the execution policy?
[Y] Yes [N} No [S] Suspend [?] Help (default is "Y"): y
```

Enabling WinRM and WinRS

The PowerShell Agent executes cmdlets and scripts on the target server in a PowerShell remote session. To accept remote PowerShell commands, enable Windows Remote Management (WinRM), change the startup type to *Automatic*, create a "listener" to respond to WinRS commands, and start the service on each computer you want to work with. This provides connectivity to Windows Remote Shell (WinRS), the client side of WS-Management protocol.

To enable WinRM, run a configuration command. The command creates a "listener" and also opens an exception for WinRM in Windows Firewall.

Step 1 Open a command prompt, and enter the command:
winrm quickconfig

You receive the following output:

```
WinRM is not set up to allow remote access to this machine for management.
The following changes must be made:

Set the WinRM service type to delayed auto start.
Start the WinRM service.
Create a WinRM listener on HTTP://* to accept WS-Man requests to any IP on this machine.
Enable the WinRM firewall exception.
Make these changes [y/n]?
```

Step 2 Enter **y**.
You receive the following output:

```
Make these changes [y/n]? y

WinRM has been updated for remote management.

WinRM service type changed successfully.
WinRM service started.
Created a WinRM listener on HTTP://* to accept WS-Man requests to any IP on this machine.
WinRM firewall exception enabled.
```

Step 3 Verify that WinRM is enabled by executing the following command:
get-service winrm

Step 4 Configure the value `" * "` in the TrustedHosts table of WinRM by executing the following command:
winrm set winrm/config/client @{TrustedHosts="*"}

When you are working with computers in workgroups or home groups, either use HTTPS as the transport or add the remote machine to the TrustedHosts configuration settings to enable authentication.

Note Configuring WinRM over HTTP or HTTPS depends on the requirements of the specific environment. HTTPS is only necessary if a secure connection is required. For more details, see https://blogs.technet.microsoft.com/meamcs/2012/02/24/how-to-force-winrm-to-listen-interfaces-over-https/.

What to Do Next

Make sure that the domain account used for connecting to a target server belongs to the local administrator group.

Managing SCVMMs

In Cisco UCS Director, one SCVMM installation is considered as a cloud. Each cloud requires a unique name.

Step 1 Choose **Administration** > **Virtual Accounts**.

Step 2 Choose a virtual account to execute the following actions on the account:

Button Name	Description
View	Displays the cloud details.
Edit	Edits a cloud.
Delete	Deletes a cloud after confirmation.
Test Connectivity	Tests the connectivity of Cisco UCS Director to an SCVMM cloud.
Manage Tag	Adds a tag to the cloud, edits the assigned tag, and deletes the tag from the cloud. **Note** The tags that are assigned with the Taggable Entities as virtual accounts when you create a tag are displayed. For more information on the tab library, see Cisco UCS Director Administration Guide.
Report Metadata	Provides underlying information about how the data is formatted for the virtual accounts page.

Adding a Cloud

In Cisco UCS Director, one SCVMM installation is considered as a cloud. Each cloud requires a unique name.

Step 1 Choose **Administration** > **Virtual Accounts**.

Step 2 On the **Virtual Accounts** page, click **Add**.

Step 3 On **Add Cloud** page, select **Hyper-V** from the **Cloud Type** drop-down list.

Step 4 On the **Add Cloud** screen, complete the following fields:

Name	Description
Cloud Name field	The name of the cloud. All reports refer to the cloud using this cloud name. **Note** The following special characters are not allowed in a cloud name: **.**, **$**,**@**.
Credential Policy Option	
User Credential Policy check box	Check this check box to use a policy to assign credentials to the account.
Credential Policy field	Choose the credential policy from the drop-down list. This field appears only when the **User Credential Policy** check box is checked. Complete the rest of the fields for this option.
PowerShell Agent drop-down list	Choose a PowerShell agent for Hyper-V. This field appears only when the **User Credential Policy** check box is unchecked.
Server Address field	The IP address of the SCVMM server.
Server User ID field	The user ID of the SCVMM server. This field appears only when the **User Credential Policy** check box is unchecked.
Server Password field	The password of the SCVMM server. This field appears only when the **User Credential Policy** check box is unchecked.
Domain field	The domain of the SCVMM server. This field appears only when the **User Credential Policy** check box is unchecked.
Description field	The description of the cloud.
Contact Email field	The email address that you can use to contact the administrator or other person responsible for this account.
Location field	The location of this account.

Name	Description
Pod drop-down list	Choose a pod to which this account belongs.
Service Provider field	(Optional) The name of the service provider associated with this account, if any.

Step 5 Click **Add**.

What to Do Next

Test the connectivity to the cloud account.

Testing Cloud Connectivity

Step 1 Choose **Administration** > **Virtual Accounts**.

Step 2 On the **Virtual Accounts** page, choose an SCVMM cloud.

Step 3 Click **Test Connectivity**.
Review the message to verify the connection.

Step 4 Click **Close**.

What to Do Next

Verify that the cloud and the cloud data are being collected.

Verifying Cloud Discovery

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, choose an SCVMM cloud.
It may take a few minutes to complete automatic discovery and populate all the data. Cisco UCS Director displays a set of tabs that contain information about the components of the account that it has discovered. By default, the **Summary** tab appears. It provides the graphical view of cloud information in a dashboard format.

Viewing the Topology

You can view the topology of VM network, host network, and cluster network.

Step 1 Choose **Virtual** > **Compute**.

Step 2 On the **Compute** page, choose the cloud.

Step 3 To view the network connectivity of VMs, click **VMs** and do the following:

a) Choose a VM and click **View Details**.

b) Click **VM Network Connectivity**.

c) Choose the VM network connectivity and click **View Connectivity**.
The **VM Network Connectivity** screen is displayed with a view of the topology and connectivity of the devices in the VM.

d) If desired, you can modify the following view options:

- **View Mode** drop-down list—Adjusts the spacing and positioning of the devices. The mode determines which options are available for you to customize the topology view. You can choose between the following view modes:
  - **Hierarchical**
  - **Concentric**
  - **Circular**
  - **Force Directed**
- **Allow Item Spacing** check box—Increases the distance between devices for the Hierarchical view mode.
- **Distance** control—Adjusts the distance between devices for the Concentric view mode.
- **Radius** control—Changes the radius of the circle and therefore adjusts the distance between devices for the Circular view mode.
- **Rigidity** control—Adjusts the rigidity for the Force Directed view.
- **Force Distance** control—Adjusts the distance between devices for the Force Directed view.

e) Click **Close** to return to the **VM Network Connectivity** tab.

Step 4 To view the network connectivity of cluster network, click **Clusters** and do the following:

a) Choose a cluster and click **View Details**.

b) Click **Cluster Network Connectivity**.

c) Choose the network connectivity and click **View Connectivity**.
The **Cluster Network Connectivity** screen is displayed with a view of the topology and connectivity of the devices in the cluster network.

d) If desired, you can modify the following view options:

- **View Mode** drop-down list—Adjusts the spacing and positioning of the devices. The mode determines which options are available for you to customize the topology view. You can choose between the following view modes:

- **Hierarchical**
- **Concentric**
- **Circular**
- **Force Directed**

- **Allow Item Spacing** check box—Increases the distance between devices for the Hierarchical view mode.
- **Distance** control—Adjusts the distance between devices for the Concentric view mode.
- **Radius** control—Changes the radius of the circle and therefore adjusts the distance between devices for the Circular view mode.
- **Rigidity** control—Adjusts the rigidity for the Force Directed view.
- **Force Distance** control—Adjusts the distance between devices for the Force Directed view.

e) Click **Close** to return to **Cluster Network Connectivity**.

Step 5 To view the network connectivity of host, click **Host Nodes** and do the following:

a) Choose a host node and click **View Details**.
b) Click **Host Network Topology**.
c) Choose the host network topology and click **View Connectivity**.
The **Cluster Network Connectivity** screen is displayed with a view of the topology and connectivity of the devices in the cluster network.

d) If desired, you can modify the following view options:

- **View Mode** drop-down list—Adjusts the spacing and positioning of the devices. The mode determines which options are available for you to customize the topology view. You can choose between the following view modes:
  - **Hierarchical**
  - **Concentric**
  - **Circular**
  - **Force Directed**
- **Allow Item Spacing** check box—Increases the distance between devices for the Hierarchical view mode.
- **Distance** control—Adjusts the distance between devices for the Concentric view mode.
- **Radius** control—Changes the radius of the circle and therefore adjusts the distance between devices for the Circular view mode.
- **Rigidity** control—Adjusts the rigidity for the Force Directed view.
- **Force Distance** control—Adjusts the distance between devices for the Force Directed view.

e) Click **Close** to return to **Host Network Topology**.