



## Managing Policies

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- [About Policies, page 1](#)
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### About Policies

A policy is a set of rules that determines where and how a new virtual machine (VM) is provisioned within the infrastructure, based on the availability of system resources.

Cisco UCS Director requires four policies to be set up in order to provision VMs. For SCVMM integration, these are the Hyper-V policies for compute, storage, network, and deployment.

In addition, there are service delivery policies for cost models and for OS license.

### About Service Delivery

For SCVMM integration, you create the following service delivery information:

- Cost models
- OS licenses
- Hyper-V deployment policy

Click tabs in **Policies** > **Virtual/Hypervisor Policies** > **Service Delivery** to perform these tasks.

### Managing Cost Models

For simplified accounting, you can define a cost model. A group's infrastructure resources can be accounted for based on its cost model.

You combine the supported infrastructure resource costs (CPU, memory, and storage) with VM costs to determine the total cost of a VM lifecycle.

For a cost model, you define costs such as the following:

- One-time provisioning cost
- Active and inactive VM costs
- Provisioned, reserved, and used CPU costs
- Provisioned memory cost

**Step 1** On the menu bar, choose **Policies > Virtual/Hypervisor Polices > Service Delivery**.

**Step 2** Click the **Cost Model** tab.

The cost models in the Cisco UCS Director are displayed. The **Cost Model** tab provides the following actions:

Action	Description
<b>Refresh</b>	Refreshes the current page.
<b>Favorite</b>	Adds this page to the <b>Favorites</b> tab which displays the page that you go to most often.
<b>Add</b>	Adds a new cost model in the Cisco UCS Director.

When you choose a cost model, the following actions appear:

Button Name	Description
<b>View</b>	Displays a cost model.
<b>Edit</b>	Edits a cost model.
<b>Delete</b>	Deletes a cost model.
<b>Clone</b>	Clones a cost model.

## Adding a Cost Model

**Step 1** Navigate to the **Cost Model** tab.

For more information about how to navigate to the **Cost Model** tab, see [Managing Cost Models, on page 1](#).

**Step 2** Click **Add**.

**Step 3** In the **Add Cost Model** dialog box, complete the following fields:

Name	Description
Cost Model Name field	The cost model name.
Cost Model Description field	The cost model description.
Cost Model Type drop-down list	Choose <b>HyperV</b> as the cost model type.
Charge Duration drop-down list	Choose the <b>Hourly</b> , <b>Daily</b> , <b>Weekly</b> , <b>Monthly</b> , or <b>Yearly</b> as the change frequency. <b>Note</b> The remaining fields in this dialog box are all defined on an hourly basis.
<b>Fixed Costs</b>	
One Time Cost field	The fixed one-time cost for provisioning the VM.
<b>VM Costs</b>	
Active VM Cost field	The hourly cost of a VM in the active state.
Inactive VM Cost drop-down list	The hourly cost of a VM in the inactive state.
<b>CPU Costs</b>	
CPU Charge Unit drop-down list	Choose the <b>GHz</b> or <b>Cores</b> as the CPU charge unit.
Provisioned CPU Cost field	The hourly provisioned CPU cost per CPU charge unit (GHz). The cost is applicable for active VMs.
Used CPU Cost field	The hourly used CPU cost, based on actual CPU usage. The cost is applicable for active VMs. <b>Note</b> This cost does not include provisioned and reserved cost. If you enter a value in <b>Used CPU Cost</b> , leave the provisioned cost and reserved cost fields empty. If you have specified the provisioned cost and reserved cost, leave the used CPU cost empty.
CPU Core Cost field	The hourly CPU cost per core allocated to a VM.
<b>Memory Costs</b>	
Provisioned Memory Cost field	The hourly provisioned memory cost per GB. The cost is applicable for active VMs. <b>Note</b> The memory cost is calculated in the same manner as CPU cost.
Used Memory Cost field	The hourly reserved memory cost per GB. The cost is applicable for active VMs.
<b>Storage Costs</b>	

Name	Description
Committed Storage Cost field	The hourly committed storage cost per GB for both the active and inactive VMs.
Used Storage Cost field	The hourly reserved storage cost per GB for both the active and inactive VMs.

**Step 4** Click **Add**.

## Managing OS License Details

You can add Windows OS license key data using the **OS License** tab. These license keys are the ones used in VM provisioning, and are mapped to Windows VM images during the creation of a catalog.



**Note** If you entered Windows license key information in the **HyperV System Policy**, the license key entered on the **OS License** tab overrides that value.

**Step 1** On the menu bar, choose **Policies > Virtual/Hypervisor Policies > Service Delivery**.

**Step 2** Click the **OS License** tab.

The OS Licenses in the Cisco UCS Director are displayed. The **OS License** tab provides the following actions:

Action	Description
Refresh	Refreshes the current page.
Favorite	Adds this page to the <b>Favorites</b> tab which displays the page that you go to most often.
Add	Adds an OS license in the Cisco UCS Director.

When you choose an OS license, the following actions appear:

Button Name	Description
View	Displays an OS license.
Edit	Edits an OS license.
Delete	Deletes an OS license after confirmation.
Clone	Clones an OS license.

## Adding OS License Details

**Step 1** Navigate to the **OS License** tab.  
For more information about how to navigate to the **OS License** tab, see .

**Step 2** Click **Add**.

**Step 3** In the **Add License Details** dialog box, complete the following fields:

Name	Description
<b>Windows Version Name</b> field	The Windows version name.
<b>License</b> field	The Windows product ID/license key. <b>Note</b> Key Management Service (KMS) client setup keys are also accepted.
<b>License Owner Name</b> field	The name of the Windows license owner.
<b>Organization</b> field	The organization to be configured in the VM.
<b>License Mode</b> drop-down list	Choose <b>Per-Seat</b> or <b>Per-Server</b> as the license mode.
<b>Number of licensed Users</b> field	The number of licensed users or connections.

**Step 4** Click **Submit**.

## Managing Hyper-V Deployment Policies

The HyperV deployment policy defines system-specific information, such as the following:

- VM name template for the automatic creation of VM names
- Host name template
- VM image type
- OS license pool product ID
- Time zone for the deployment that uses the policy

- Domain and/or workgroup to be used for deployment with this policy

**Step 1** On the menu bar, choose **Policies > Virtual/Hypervisor Policies > Service Delivery**.

**Step 2** Scroll across the tabs to find and click the **HyperV Deployment Policy** tab.

The Hyper-V deployment policies in the Cisco UCS Director are displayed. The **HyperV Deployment Policy** tab provides the following actions:

Action	Description
Refresh	Refreshes the current page.
Favorite	Adds this page to the <b>Favorites</b> tab which displays the page that you go to most often.
Add	Adds a Hyper-V deployment policy.

When you choose an OS license, the following actions appear:

Button Name	Description
View	Displays a Hyper-V deployment policy.
Edit	Edits a Hyper-V deployment policy.
Delete	Deletes a Hyper-V deployment policy.
Clone	Clones a Hyper-V deployment policy.

## Managing Hyper-V Deployment Policies

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- VM image type
- OS license pool product ID
- Time zone for the deployment that uses the policy

- Domain and/or workgroup to be used for deployment with this policy

**Step 1**

On the menu bar, choose **Policies > Virtual/Hypervisor Policies > Service Delivery**.

**Step 2**

Scroll across the tabs to find and click the **HyperV Deployment Policy** tab.

The Hyper-V deployment policies in the Cisco UCS Director are displayed. The **HyperV Deployment Policy** tab provides the following actions:

Action	Description
Refresh	Refreshes the current page.
Favorite	Adds this page to the <b>Favorites</b> tab which displays the page that you go to most often.
Add	Adds a Hyper-V deployment policy.

When you choose an OS license, the following actions appear:

Button Name	Description
View	Displays a Hyper-V deployment policy.
Edit	Edits a Hyper-V deployment policy.
Delete	Deletes a Hyper-V deployment policy.
Clone	Clones a Hyper-V deployment policy.

## Adding a Hyper-V Deployment Policy

**Step 1**

On the menu bar, choose **Policies > Virtual/Hypervisor Policies > Service Delivery**.

**Step 2**

Click the **HyperV Deployment Policy** tab.

**Step 3**

Click **Add**.

**Step 4**

In the **Add Policy** dialog box, complete the following fields:

Name	Description
<b>Policy Name</b> field	The name for the Hyper-V deployment policy.
<b>Policy Description</b> field	The description of the Hyper-V deployment policy.

Name	Description
<b>Power On after deploy</b> check box	Check if you want all VMs deployed using this policy to be automatically powered on.
<b>VM Name Template</b> field	<p>The VM name template for generating VM names, declared in the format <code>\${VARIABLE}</code>. For example: <code>vm-<code>{GROUP_NAME}</code>-SR<code>{SR_ID}</code></code>.</p> <p>The following variable names are permitted:</p> <ul style="list-style-type: none"> <li>• <code>CLOUD_NAME</code>—The name of the cloud that is being deployed.</li> <li>• <code>GROUP_NAME</code>—The name of the group the VM belongs to.</li> <li>• <code>CATALOG_NAME</code>—The name of the catalog item or entry.</li> <li>• <code>USER</code>—The requesting user ID.</li> <li>• <code>SR_ID</code>—The service request ID.</li> <li>• <code>COMMENTS</code>—The requesting user's comments.</li> <li>• <code>PROFILE_NAME</code>—The name of the policy.</li> <li>• <code>LOCATION</code>—The name of the location, as specified during cloud creation.</li> <li>• <code>UNIQUE_ID</code>—A random-ID that makes the name unique.</li> <li>• <code>APPCODE</code>—The application code value specified during catalog creation.</li> <li>• <code>COST_CENTER</code>—The cost center a group or customer organization is associated with that is specified during group or customer organization creation.</li> </ul> <p><b>Note</b> You can append the # character to the <b>VM Name Template</b> to create a unique index number for the <b>VM Name</b>. It can be specified in multiples. For example, if the VM name template is <code>vm-<code>{GROUP_NAME}</code>##</code>, the VM Name is <code>vm-ABCD01</code> for the first VM provisioned with this policy (the group name is ABCD and 01 represents ##).</p>
<b>Recycle VM Name</b> check box	By default, decommissioned VM names that were previously provisioned are used when creating a new VM. Uncheck if you do not want to recycle previously used VM names.
<b>End User VM Name or VM Prefix</b> check box	Check if you want to add the VM prefix specified by the end user in the custom specification page of the service request during VM provisioning.



Name	Description
<b>Host Name Template</b> field	<p>The host name template for generating host names, declared in the format <code>\${VARIABLE}</code>. For example: <code>host-\${GROUP_NAME}-SR\${SR_ID}</code>.</p> <p>The following variable names are permitted:</p> <ul style="list-style-type: none"> <li>• <code>CLOUD_NAME</code>—The name of the cloud that is being deployed.</li> <li>• <code>GROUP_NAME</code>—The name of the group the VM belongs to.</li> <li>• <code>CATALOG_NAME</code>—The name of the catalog item or entry.</li> <li>• <code>USER</code>—The requesting user ID.</li> <li>• <code>SR_ID</code>—The service request ID.</li> <li>• <code>COMMENTS</code>—The requesting user's comments.</li> <li>• <code>PROFILE_NAME</code>—The name of the policy.</li> <li>• <code>LOCATION</code>—The name of the location, as specified during cloud creation.</li> <li>• <code>UNIQUE_ID</code>—A random-ID that makes the name unique.</li> <li>• <code>APPCODE</code>—The application code value specified during catalog creation.</li> <li>• <code>COST_CENTER</code>—The cost center a group or customer organization is associated with that is specified during group or customer organization creation.</li> </ul> <p><b>Note</b> The # character can be appended to the <b>Host Name Template</b> to create a unique index number for the <b>Host Name</b>. It can be specified in multiples.</p> <p><b>Note</b> Hostname is limited to 15 characters and must compliance with Windows NetBIOS limitations. This limitation is applicable for both Windows and Linux VMs.</p>
<b>Recycle Host Name</b> check box	By default, host names from a decommissioned VM that was previously provisioned are used when creating a new host. Uncheck if you do not want to recycle previously used host names.
<b>End User Host Name or Host Prefix</b> check box	Check if you want to add the host prefix specified by the end user in the custom specification page of the service request during host provisioning.
<b>Time Zone</b> drop-down list	Choose the <b>Time Zone</b> for VMs using this policy.
<b>GUI Run Once Commands</b> field	The command to execute inside the VM after the VMs using this policy are provisioned. For example: <code>cmd.exe/c md c:\newfolder</code> .
<b>VM Image Type</b> drop-down list	<p>By default, <b>Windows and Linux</b> appears as the VM image type.</p> <p>If you choose <b>Linux Only</b>, a new <b>Add Policy</b> dialog box appears.</p> <p>For a Linux only VM image, complete the required fields.</p>

Name	Description
<b>Linux Parameters</b>	
Root Password field	The root password of the Linux machine.
DNS Domain Name field	The name of the DNS domain.
<b>Windows Parameters</b>	
Product ID field	The Windows product ID or license key. <b>Note</b> If this value does not match the value in your OS License Pool, that value overrides the key provided here.
Administrator Password field	The administrator password for the template.
Organization Name field	The organization name to be configured with the VM operating system.
Full Name field	The full name of the organization.
Domain/Workgroup drop-down list	Choose either <b>Workgroup</b> or <b>Domain</b> . If you choose <b>Domain</b> , complete the required fields.
Workgroup field	The workgroup name.

**Step 5**

For a **Linux Only** VM image, complete the following fields:

Name	Description
Policy Name field	The name for the Hyper-V deployment policy.
Policy Description field	The description of the Hyper-V deployment policy.
Power On after deploy check box	Check this check box if you want VMs to be automatically powered on after deployment.
VM Name Template field	The VM name template.
Host Name Template field	The host name template.
Time Zone drop-down list	Choose the <b>Time Zone</b> for VMs using this policy.
GUI Run Once Commands field	The command to execute inside the VM after the VMs using this policy are provisioned. For example: <code>cmd.exe/c md c:\newfolder.</code>
VM Image Type drop-down list	Choose <b>Linux Only</b> .

Name	Description
Root Password field	The root password of the Linux machine.
DNS Domain Name field	The name of the DNS domain.

**Step 6** When you choose **Domain**, complete the following fields:

Name	Description
Domain field	The domain name.
Domain Username field	The domain user name. The format of the user name is domain\username.
Domain Password field	The domain password.

**Step 7** Click **Submit**.

## Adding a Hyper-V Computing Policy

**Step 1** On the menu bar, choose **Policies > Virtual/Hypervisor Policies > Computing**.

**Step 2** Click the **HyperV Computing Policy** tab.

**Step 3** Click **Add**.

**Step 4** In the **Add Policy** dialog box, complete the following fields.

**Note** Fields may vary depending on the version of SCVMM cloud selected.

Name	Description
Policy Name field	The policy name.
Policy Description field	The policy description.
Cloud Name drop-down list	Choose the cloud name.
Host Node/Cluster Scope drop-down list	If you want to narrow the scope of the host node, choose another option. The default is <b>All</b> .
Selected Host Nodes field	This field appears when you choose to include or exclude hosts in the <b>Host Node/Cluster Scope</b> drop-down list. Click <b>Select</b> and choose host nodes to include or exclude.

Name	Description
<b>Associate SCVMM Cloud</b> drop-down list	Changes the resource allocation, based on SCVMM cloud selected.
<b>Allow Migration to Different CPU Type</b> check box	Check this check box to allow migration of the provisioned VM to a different CPU type. Leave unchecked if you want to disallow migration.
<b>Enable High Availability</b> check box	Check this check box to enable high availability.  <b>Note</b> This option is required to deploy a VM on cluster resources. Make sure to select the cluster CSVs in the storage policy and common virtual switch available on cluster.
<b>Filter Conditions</b> check boxes	Check the conditions that apply. Any hosts that do not meet these criteria are excluded. For each selected <b>Minimum Condition</b> , choose the boolean operators and enter the condition value in the respective text field.  <b>Note</b> If more than one condition is selected, all selected conditions must match.
<b>Deployment Options</b>	
<b>Override Template</b> check box	Check this check box if you want to override the template properties during deployment.  If checked, complete the required fields.
<b>Resizing Options</b>	
<b>Allow Resizing of VM</b> check box	Check this check box if you want to allow VMs to be resized before or after provisioning.  If checked, complete the required fields.

**Step 5** To override the template, complete the following fields:

Name	Description
<b>Number of vCPUs</b> field	The number of vCPUs.
<b>Enable Dynamic Memory</b> check box	Check this check box to enable dynamic memory.
<b>Memory (MB)</b> field	The memory to be allocated.

**Step 6** To allow VM resizing, complete the following fields:

Name	Description
<b>Permitted values for vCPUs</b> field	The permitted individual values for vCPUs.

Name	Description
Permitted values for Memory in MB field	The permitted individual values for memory (MB)
Permitted values for Startup Memory field	The permitted individual values for startup memory (MB)
Permitted values for Maximum Memory in MB field	The permitted individual values for maximum memory (MB)
Permitted values for Memory Buffer (%) field	The permitted individual values for the memory buffer (percentages)

**Step 7** Click **Submit**.

## Adding a Hyper-V Network Policy

The network policy enables virtual network types to be defined and made available on host nodes.

You can also specify the following:

- Adapter types to assign for provisioned VMs
- Enablement of VLAN
- Extension of the policy to cover multiple vNICs

**Step 1** On the menu bar, choose **Policies > Virtual/Hypervisor Policies > Network**.

**Step 2** Scroll across the tabs to find and click the **Hyper-V Networking Policy** tab.

**Step 3** Click **Add**.

**Step 4** In the **Network Policy Information** dialog box, complete the following fields.

Name	Description
Policy Name field	The policy name.
Policy Description field	The policy description.
Cloud Name drop-down list	Choose the cloud name.
Allow end user to select optional NICs check box	Check this check box to allow end users to select optional NICs.
VM NIC(s) field	The list of VM NICs that are added to the network policy. Click the + icon to add a VM NIC.

**Step 5** To add a VM NIC to the network policy, in the **Add Entry to VM NICs** dialog box, complete the following fields:

Name	Description
NIC Alias field	The name of the NIC alias of the VM network.
Mandatory check box	This check box is enabled when you check the <b>Allow end user to select optional NICs</b> check box. If you want to make the NIC alias as mandatory, check this check box.
Allow end user to choose VM Networks check box	Check this check box to allow end users to choose VM networks during VM provisioning.
Adapter Type drop-down list	Choose <b>SYNTHETIC</b> or <b>EMULATED</b> as the adapter type.
VM Networks field	The list of VM networks that are added to the NIC alias. Click the + icon to add a VM network.

**Step 6** To add a VM network to the network policy, in the **Add Entry to VM Networks** dialog box, complete the following fields:

Name	Description
Network Name field	Click <b>Select</b> and choose a network.
Fields in the <b>Add Entry to VM Networks</b> dialog box vary depending on the network model selected in the <b>Network Name</b> field.	
Subnet drop-down list	This field appears when you choose an external network or a virtualization-based VM network. Choose a subnet from the drop-down list.
VLAN ID drop-down list	This field appears when you choose virtualization-based network without isolation. Choose a VLAN ID from the drop-down list.
Enable MAC Spoofing check box	Check this check box to enable changing of a factory-assigned MAC address on a NIC.
Use DHCP check box	Check this check box to use the DHCP server to assign dynamic IP addresses to devices on a network
Static IP Pool drop-down list	This field appears when the <b>Use DHCP</b> check box is unchecked. Choose the static IP pool from a list of IP pools in SCVMM.
Port Classification drop-down list	(Optional) Choose a port classification from the list of port classifications displayed based on the selected network.

**Step 7** Click **Submit**.

## Adding a Hyper-V Storage Policy

**Step 1** On the menu bar, choose **Policies > Virtual/Hypervisor Policies > Storage**.

**Step 2** Click the **HyperV Storage Policy** tab.

**Step 3** Click **Add**.

**Step 4** In the **Add Policy** dialog box, complete the following fields.

**Note** Fields may vary depending on the version of SCVMM cloud selected.

Name	Description
<b>Policy Name</b> field	The storage policy name.
<b>Policy Description</b> field	The storage policy description.
<b>Cloud Name</b> drop-down list	Choose the SCVMM cloud name.
<b>Scope</b>	
<b>Data Stores Scope</b> drop-down list	If you want to narrow the scope of the data stores, choose another option. The default is <b>All</b> .
<b>Selected Data Stores</b>	This field appears when you choose to include or exclude data store in the <b>Data Stores Scope</b> drop-down list. Click <b>Select</b> and choose data stores to include or exclude.
<b>Use CSV</b> check box	Check this check box if you want to use CSV. <b>Note</b> Using CSV is mandatory if deploying the VM on cluster resources.
<b>Storage Options</b>	
<b>Use Local Storage</b> check box	Check this check box if you want to use local storage.
<b>Use SAN</b> check box	Check this check box if you want to use storage area network (SAN).
<b>Use SMB</b> check box	Check this check box if you want to use server message block (SMB).
<b>Minimum Conditions</b> check boxes	Check the conditions that apply. Any data stores that do not meet these criteria are excluded. For each selected <b>Minimum Condition</b> , choose the boolean operators and enter the condition value in the respective text field. <b>Note</b> If more than one condition is selected, all selected conditions must match.

Name	Description
<b>Deployment Options</b>	
<b>Override Template</b> check box	Check this check box if you want to override the template properties during deployment. If checked, complete the required fields.
<b>Resizing Options for VM Lifecycle</b>	
<b>Allow Resizing of Disk</b> check box	Check this check box to allow disk to be resized during the disk lifecycle.
<b>Permitted Values for Disk in GB</b> field	This field appears when you check the <b>Allow Resizing of Disk</b> check box. The permitted values for disk in GB.
<b>Allow user to select datastores from scope</b> check box	Check this check box to allow users to select datastores from scope.

**Step 5** To override the template, complete the following fields:

Name	Description
<b>Use Dynamic Provisioning</b> check box	Check this check box to enable dynamic memory.
<b>Custom Disk Size (GB)</b> field	The custom disk size to be allocated.

**Step 6** Click **Submit**.

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