Configuring Service Profiles

This chapter includes the following sections:

Service Profiles that Override Server Identity

This type of service profile provides the maximum amount of flexibility and control. This profile allows you to override the identity values that are on the server at the time of association and use the resource pools and policies set up in Cisco UCS Manager to automate some administration tasks.

You can disassociate this service profile from one server and then associate it with another server. This re-association can be done either manually or through an automated server pool policy. The burned-in settings, such as UUID and MAC address, on the new server are overwritten with the configuration in the service profile. As a result, the change in server is transparent to your network. You do not need to reconfigure any component or application on your network to begin using the new server.

This profile allows you to take advantage of and manage system resources through resource pools and policies, such as the following:

- Virtualized identity information, including pools of MAC addresses, WWN addresses, and UUIDs
- Ethernet and Fibre Channel adapter profile policies
- Firmware package policies
- Operating system boot order policies

Service Profiles that Inherit Server Identity

This hardware-based service profile is the simplest to use and create. This profile uses the default values in the server and mimics the management of a rack-mounted server. It is tied to a specific server and cannot be moved to another server.

You do not need to create pools or configuration policies to use this service profile.

This service profile inherits and applies the identity and configuration information that is present at the time of association, such as the following:

- MAC addresses for the two NICs
- For the Cisco UCS CNA M71KR adapters, the WWN addresses for the two HBAs
- BIOS versions
- Server UUID

Important The server identity and configuration information inherited through this service profile may not be the values burned into the server hardware at manufacture if those values were changed before this profile is associated with the server.

Service Profile Templates

With a service profile template, you can quickly create several service profiles with the same basic parameters, such as the number of vNICs and vHBAs, and with identity information drawn from the same pools.

Tip If you need only one service profile with similar values to an existing service profile, you can clone a service profile in the Cisco UCS Manager GUI.

For example, if you need several service profiles with similar values to configure servers to host database software, you can create a service profile template, either manually or from an existing service profile. You then use the template to create the service profiles.

Cisco UCS supports the following types of service profile templates:

Initial template	Service profiles created from an initial template inherit all the properties of the template. However, after you create the profile, it is no longer connected to the template. If you need to make changes to one or more profiles created from this template, you must change each profile individually.
Updating template	Service profiles created from an updating template inherit all the properties of the template and remain connected to the template. Any changes to the template automatically update the service profiles created from the template.

Creating Service Profiles

Creating a Service Profile with the Expert Wizard

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.

Step 3 Expand the node for the organization where you want to create the service profile.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Right-click the organization and select **Create Service Profile (expert)**.

Step 5 In the **Create Service Profile (expert)** wizard, complete the following:

- Page 1: Identifying the Service Profile , page 3
- Page 2: Configuring the Storage Options, page 5
- Page 3: Configuring the Networking Options, page 9
- Page 4: Setting the vNIC/vHBA Placement, page 12
- Page 5: Setting the Server Boot Order, page 14
- Page 6: Specifying the Server Assignment, page 16
- Page 7: Adding Operational Policies, page 18

Page 1: Identifying the Service Profile

This procedure directly follows the steps in Creating a Service Profile with the Expert Wizard, page 3. It describes how to set the identity of a service profile on the **Identify Service Profile** page of the **Create Service Profile (expert)** wizard.

Procedure

Step 1 In the **Name** field, enter a unique name that you can use to identify the service profile.
This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.

Step 2 From the **UUID Assignment** drop-down list, do one of the following:

Option	Description
Select (pool default used by default)	Assigns a UUID from the default UUID Suffix pool. Continue with Step 4.
Hardware Default	Uses the UUID assigned to the server by the manufacturer. If you choose this option, the UUID remains unassigned until the service profile is associated with a server. At that point, the UUID is set to the UUID value assigned to the server by the manufacturer. If the service profile is later moved to a different server, the UUID is changed to match the new server. Continue with Step 4.
XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX	Uses the UUID that you manually assign. Continue with Step 3.
Pools *Pool_Name*	Assigns a UUID from the UUID Suffix pool that you select from the list at the bottom of the drop-down list. Each pool name is followed by two numbers in parentheses that show the number of UUIDs still available in the pool and the total number of UUIDs in the pool. Continue with Step 4.

Step 3 (Optional) If you selected the **XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX** option, do the following:

a) In the **UUID** field, enter the valid UUID that you want to assign to the server which uses this service profile.

b) To verify that the selected UUID is available, click the **here** link.

Step 4 (Optional) In the text box, enter a description of this service profile.
The description can contain up to 256 characters.

Step 5 Click **Next**.

What to Do Next

Complete the steps in Page 2: Configuring the Storage Options, page 5.

Page 2: Configuring the Storage Options

This procedure directly follows Page 1: Identifying the Service Profile , page 3. It describes how to configure the storage options for a service profile on the **Storage** page of the **Create Service Profile (expert)** wizard.

Procedure

Step 1 From the **Local Storage** drop-down list, choose one of the following:

Option	Description
Select Local Storage Policy to use	Assigns the default local disk storage policy to this service profile. Continue with Step 4.
Create a Specific Storage Policy	Enables you to create a local disk policy that can only be accessed by this service profile. Continue with Step 2.
Storage Policies ***Policy_Name***	Select an existing local disk policy from the list at the bottom of the drop-down list. Cisco UCS Manager assigns this policy to the service profile. If you do not want use any of the existing policies, but instead want to create a policy that all service profiles can access, continue with Step 3. Otherwise, continue with Step 4.

Step 2 (Optional) If you chose **Create a Specific Storage Policy**, do the following:

a) From the **Mode** drop-down list, choose one of the following:

- **Any Configuration**—For a server configuration that carries forward the local disk configuration without any changes.
- **No Local Storage**—For a diskless workstation or a SAN only configuration. If you select this option, you cannot associate any service profile which uses this policy with a server that has a local disk.
- **No RAID**—For a server configuration that removes the RAID and leaves the disk MBR and payload unaltered.
- **RAID Mirrored**—For a 2-disk RAID 1 server configuration.
- **RAID Stripes**—For a 2-disk RAID 0 server configuration.

Note If you choose **No RAID** and you apply this policy to a server that already has an operating system with RAID storage configured, the system does not remove the disk contents. Therefore, there may be no visible differences after you apply the **No RAID** mode.

To make sure that any previous RAID configuration information is removed from a disk, apply a scrub policy that removes all disk information after you apply the **No RAID** configuration mode.

b) Continue with Step 4.

Step 3 (Optional) To create a local disk configuration policy that will be available to all service profiles, do the following:

a) Click the **Create Local Disk Configuration Policy** link.

b) In the **Create Local Disk Configuration** dialog box, complete the fields.
For more information, see Creating a Local Disk Configuration Policy.

c) Click **OK**.

d) From the **Local Storage** drop-down list, choose the policy you created.

Step 4 From the **Scrub Policy** drop-down list , choose one of the following:

Option	Description
<not set>	Does not include a scrub policy in the service profile.
Policy_Name	Assigns an existing scrub policy to the service profile. If you do not want use any of the existing policies, but instead want to create a policy that all service profiles can access, continue with Step 5. Otherwise, continue with Step 6.

Step 5 (Optional) To create a scrub policy that will be available to all service profiles, do the following:

a) Click the **Create Scrub Policy** link .

b) In the **Create Scrub Policy** dialog box, complete the fields.
For more information, see Creating a Scrub Policy.

c) Click **OK**.

d) From the **Scrub Policy** drop-down list , choose the policy you created.

Step 6 In the **How would you like to configure SAN storage?** field, click one of the following options:

Option	Description
Simple	Allows you to create a maximum of two vHBAs for this service profile. Continue with Step 7.
Expert	Allows you to create an unlimited number of vHBAs for this service profile. Continue with Step 8.
No vHBAs	Does not include any vHBAs for connections to a Fibre Channel SAN in the service profile. Continue with Step 9.
Hardware Inherited	Uses the vHBAs assigned to the Fibre Channel adapter profile associated with the server. Continue with Step 9.

Step 7 (Optional) If you chose the simple SAN storage option, do the following:

a) From the **WWNN Assignment** drop-down list, choose one of the following:

- Choose **Select (pool default used by default)** to use the default WWN pool.
- Choose **Derived from vHBA** to use a WWN derived from the first vHBA you specify.
- Choose one of the options listed under **Manual Using OUI** and then enter the WWN in the **World Wide Node Name** field.

  You can specify a WWNN in the range from 20:00:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF:FF. You can click the **here** link to verify that the WWNN you specified is available.
- Choose a WWN pool name from the list to have a WWN assigned from the specified pool. Each pool name is followed by two numbers in parentheses that show the number of WWNs still available in the pool and the total number of WWNs in the pool.

b) In the **vHBA 0 (Fabric A)** area, complete the following fields:

- In the **Name** field, enter a unique name for the vHBA.
- From the **Select VSAN** drop-down list, choose the name of the VSAN with which this vHBA should be associated.

If the VSAN you need is not in the drop-down list, click the **Create VSAN** link. For more information, see Creating a Named VSAN.

c) Repeat Step 7b in the **vHBA 1 (Fabric B)** area to create a VSAN for that vHBA.
d) Continue with Step 9.

Step 8 (Optional) If you chose the expert SAN storage option, do the following:

a) From the **WWNN Assignment** drop-down list, choose one of the following:

- Choose **Select (pool default used by default)** to use the default WWN pool.
- Choose **Derived from vHBA** to use a WWN derived from the first vHBA you specify.
- Choose one of the options listed under **Manual Using OUI** and then enter the WWN in the **World Wide Node Name** field.

  You can specify a WWNN in the range from 20:00:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF:FF. You can click the **here** link to verify that the WWNN you specified is available.
- Choose a WWN pool name from the list to have a WWN assigned from the specified pool. Each pool name is followed by two numbers in parentheses that show the number of WWNs still available in the pool and the total number of WWNs in the pool.

b) Click **Add** on the icon bar of the table to open the **Create vHBA** dialog box.
c) Complete the following fields to specify the identity information for the vHBA:

Name	Description
Name field	The name of this vHBA. This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.

Name	Description
Use SAN Connectivity Template check box	Check this check box if you want to use a template to create the vHBA. Cisco UCS Manager GUI displays the **vHBA Template** drop-down list from which you can select the appropriate template, and the **Adapter Performance Profile** area from which you can select an adapter profile. **Note** You can only select this option if one or more SAN connectivity templates exist in the system.
Create vHBA Template link	Click this link if you want to create a vHBA template.
WWPN Assignment drop-down list	If you want to: • Use the default WWPN pool, leave this field set to **Select (pool default used by default)**. • Use the WWPN assigned to the server by the manufacturer, select **Hardware Default**. • A specific WWPN, select **20:00:00:25:B5:00:00:00**, **20:XX:XX:XX:XX:XX:XX:XX**, or **5X:XX:XX:XX:XX:XX:XX:XX** and enter the WWPN in the **WWPN** field. To verify that this WWPN is available, click the corresponding link. • A WWPN from a pool, select the pool name from the list. Each pool name is followed by a pair of numbers in parentheses. The first number is the number of available WWN addresses in the pool and the second is the total number of WWPN addresses in the pool. To create a new WWPN pool, click **WWPN Pool**.

d) In the **VSAN** area, complete the following fields:

Name	Description
Fabric ID field	The fabric interconnect associated with the component.
Select VSAN drop-down list box	The VSAN with which this vHBA is associated.
Create VSAN link	Click this link if you want to create a VSAN.
Pin Group drop-down list box	The pin group with which this vHBA is associated.
Create SAN Pin Group link	Click this link if you want to create a pin group.
Persistent Binding field	This can be: • **disabled** • **enabled**

Name	Description
Max Data Field Size field	The maximum size of the Fibre Channel frame payload bytes that the vHBA supports. Enter an integer between 256 and 2112. The default is 2048.
Operational Parameters Section	
Stats Threshold Policy drop-down list box	The threshold policy with which this vHBA is associated.

e) In the **Adapter Performance Profile** area, complete the following fields:

Name	Description
Adapter Policy drop-down list box	The Fibre Channel adapter policy with which this vHBA is associated.
Create Fibre Channel Adapter Policy link	Click this link if you want to create a Fibre Channel adapter policy.
QoS drop-down list box	The quality of service policy with which this vHBA is associated.
Create QoS Policy link	Click this link if you want to create a QoS policy.

f) Click **OK**.

Step 9 Click **Next**.

What to Do Next

Complete Page 3: Configuring the Networking Options, page 9.

Page 3: Configuring the Networking Options

This procedure directly follows Page 2: Configuring the Storage Options, page 5. It describes how to configure the networking options, including LAN connectivity, on the **Networking** page of the **Create Service Profile (expert)** wizard.

Procedure

Step 1 In the **How would you like to configure LAN connectivity?** field, click one of the following options:

Option	Description
Simple	Allows you to create a maximum of two vNICs, in dual fabric mode, for this service profile. Continue with Step 2.

Option	Description
Expert	Allows you to create an unlimited number of vNICs for this service profile. Continue with Step 3.
No vNICs	Does not include any vNICs for connections to a LAN in the service profile. Any server associated with this service profile will not be able to communicate with a LAN unless you modify the service profile to add vNICs. Continue with Step 4.
Hardware Inherited	Uses the vNICs assigned to the Ethernet adapter profile associated with the server. Continue with Step 4.

Step 2 (Optional) If you chose the simple LAN connectivity option, do the following:

a) In the **vNIC 0 (Fabric A)** area, complete the following fields:

- In the **Name** field, enter a unique name for the vNIC.
- From the **Select Native VLAN** drop-down list, choose the name of the VLAN with which this vNIC should communicate.

If the VLAN you need is not in the drop-down list, click the **Create VLAN** link. For more information, see Creating a Named VLAN.

b) Repeat Step 2a in the **vNIC 1 (Fabric B)** area to create a VLAN for that vNIC.

c) Continue with Step 4.

Step 3 If you chose the expert LAN connectivity option, do the following:

a) Click **Add** on the icon bar of the table to open the **Create vNICs** dialog box.

b) Complete the following fields to specify the identity information for the vNIC:

Name	Description
Name field	Enter a name for this vNIC.
Use LAN Connectivity Template check box	Check this check box if you want to use a template to create the vNIC. Cisco UCS Manager GUI displays the **vNIC Template** drop-down list from which you can select the appropriate template, and the **Adapter Performance Profile** area from which you can select an adapter profile. **Note** You can only select this option if one or more LAN connectivity templates exist in the system.
Create vNIC Template link	Click this link if you want to create a vNIC template.
MAC Address Assignment drop-down list	If you want to: • Use the default MAC address pool, leave this field set to **Select (pool default used by default)**.

Name	Description
	• Use the MAC address assigned to the server by the manufacturer, select **Hardware Default**. • A specific MAC address, select **02:25:B5:XX:XX:XX** and enter the address in the **MAC Address** field. To verify that this address is available, click the corresponding link. • A MAC address from a pool, select the pool name from the list. Each pool name is followed by a pair of numbers in parentheses. The first number is the number of available MAC addresses in the pool and the second is the total number of MAC addresses in the pool.

c) In the **Fabric Interconnect** area, complete the following fields:

Name	Description
Fabric ID field	The fabric interconnect associated with the component. If you want this vNIC to be able to access the second fabric interconnect if the default one is unavailable, check the **Enable Failover** check box. **Note** Do not select **Enable Failover** if you plan to associate this vNIC configuration with a server that has a Cisco UCS 82598KR-CI 10-Gigabit Ethernet Adapter. If you do so, Cisco UCS Manager generates a configuration fault when you associate the service profile with the server.
VLAN Trunking field	If you want to use VLAN trunking, click **Yes**. Otherwise, select **No**.
Select VLAN drop-down list	The VLAN with which this vNIC is associated.
Create VLAN link	Click this link if you want to create a VLAN.
Native VLAN check box	Check this check box if this vNIC is associated with the native VLAN.
MTU field	The maximum transmission unit, or packet size, that this vNIC accepts. Enter an integer between 1500 and 9216.
Pin Group drop-down list	Choose the LAN pin group you want associated with this vNIC.
Create LAN Pin Group link	Click this link if you want to create a LAN pin group.
Operational Parameters Section	
Stats Threshold Policy drop-down list	The statistics collection policy with which this vNIC is associated.

d) In the **Adapter Performance Profile** area, complete the following fields:

Name	Description
Adapter Policy drop-down list	The Ethernet adapter policy with which this vNIC is associated.
Create Ethernet Adapter Policy link	Click this link if you want to create an Ethernet adapter policy.
QoS drop-down list	The quality of service policy with which this vNIC is associated.
Create QoS Policy link	Click this link if you want to create a quality of service policy.
Network Control Policy drop-down list	The network control policy with which this vNIC is associated.
Create Network Control Policy Policy link	Click this link if you want to create a network control policy.

e) Click **OK**.

Step 4 Click **Next**.

What to Do Next

Complete Page 4: Setting the vNIC/vHBA Placement, page 12.

Page 4: Setting the vNIC/vHBA Placement

This procedure directly follows Page 3: Configuring the Networking Options, page 9. It describes how to set the vNIC and vHBA placement options on the **vNIC/vHBA Placement** page of the **Create Service Profile (expert)** wizard.

Procedure

Step 1 From the **Select Placement** drop-down list, choose one of the following:

Option	Description
Let System Perform Placement	Specifies that Cisco UCS Manager determines the vNIC/vHBA placement for the server associated with the service profile. The placement is determined by the order set in the **PCI Order** table. Continue with Step 2.
Specify Manually	Enables you to specify the virtual network connection to which each vNIC and vHBA is assigned for the server associated with the service profile. Continue with Step 3.

Option	Description
vNIC/vHBA Placement Profiles *Placement Profile Name*	Assigns an existing vNIC/vHBA placement profile to the service profile. If you choose this option, Cisco UCS Manager displays the details of the profile. If you do not want use any of the existing profiles, but instead want to create a profile that all service profiles can access, click **Create Placement Profile** and continue with Step 4. Otherwise, continue with Step 5.

Step 2 (Optional) If you chose **Let System Perform Placement**, do the following:

a) Use one or more of the following buttons to adjust the order of the vNICs and vHBAs:

Name	Description
Move Up button	Moves the selected virtual interface to a higher priority in the list.
Move Down button	Moves the selected virtual interface to a lower priority in the list.
Delete button	Deletes the selected virtual interface.
Reorder button	Returns the virtual interfaces to their original order.
Modify button	Enables you to modify the currently-selected virtual interface. **Note** You can change any options for the virtual interface except its name.

b) Continue with Step 5.

Step 3 (Optional) If you chose **Specify Manually**, do the following:

a) On the appropriate tab in the **vNIC/vHBA** table, click a vNIC or vHBA.

b) In the **Virtual Host Interface** table, click a vCON row and if necessary, choose one of the following values from the **Selection Preference** column:

- **all**
- **assigned-only**
- **exclude-dynamic**
- **exclude-unassigned**

c) Click **Assign**.
If you need to undo an assignment, click **Remove**.

d) Repeat Steps a through c until you have assigned all vNICs and vHBAs.

e) When you have specified all vNIC and vHBA placements, continue with Step 5.

Step 4 If you clicked **Create Placement Profile**, do the following in the **Create Placement Profile** dialog box:

a) In the **Name** field, enter a unique name for the profile.

This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.

b) In the **Selection Preference** column for each **Virtual Slot**, choose one of the following from the drop-down list:

- **all**
- **assigned-only**
- **exclude-dynamic**
- **exclude-unassigned**

c) Click **OK**.

d) After the dialog box closes, choose the policy you created from the **Select Placement** drop-down list.

Step 5 Click **Next**.

What to Do Next

Complete Page 5: Setting the Server Boot Order, page 14

Page 5: Setting the Server Boot Order

This procedure directly follows Page 4: Setting the vNIC/vHBA Placement, page 12. It describes how to set the server boot order options on the **Server Boot Order** page of the **Create Service Profile (expert)** wizard.

Tip We recommend that the boot order in a boot policy include either a local disk or a SAN LUN, but not both, to avoid the possibility of the server booting from the wrong storage type. If you configure a local disk and a SAN LUN for the boot order storage type and the operating system or logical volume manager (LVM) is configured incorrectly, the server may boot from the local disk rather than the SAN LUN.

For example, on a server with Red Hat Linux installed, where the LVM is configured with default LV names and the boot order is configured with a SAN LUN and a local disk, Linux reports that there are two LVs with the same name and boots from the LV with the lowest SCSI ID, which could be the local disk.

Procedure

Step 1 From the **Boot Policy** drop-down list, choose one of the following:

Option	Description
Select Boot Policy to use	Assigns the default boot policy to this service profile. Continue with Step 7.
Create a Specific Boot Policy	Enables you to create a local boot policy that can only be accessed by this service profile. Continue with Step 3.

Option	Description
Boot Policies *Policy_Name*	Assigns an existing boot policy to the service profile. If you choose this option, Cisco UCS Manager displays the details of the policy. If you do not want use any of the existing policies but instead want to create a policy that all service profiles can access, click **Create Boot Policy** and continue with Step 2. Otherwise, continue with Step 7.

Step 2 If you chose to create a boot policy, in the **Create Boot Policy** dialog box, enter a unique name and description for the policy.
This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.

Step 3 (Optional) To reboot all servers that use this boot policy after you make changes to the boot order, check the **Reboot on Boot Order Change** check box.

Step 4 (Optional) To ensure that Cisco UCS Manager uses any vNICs or vHBAs in the order shown in the **Boot Order** table, check the **Enforce vNIC/vHBA Name** check box.
If you do not check this check box, Cisco UCS Manager uses the priority specified in the vNIC or vHBA.

Step 5 To add a local disk, virtual CD-ROM, or virtual floppy to the boot order, do the following:

a) Click the down arrows to expand the **Local Devices** area.
b) Click one of the following links to add the device to the **Boot Order** table:

- **Add Local Disk**
- **Add CD-ROM**
- **Add Floppy**

c) Add another boot device to the **Boot Order** table, or click **OK** to finish.

Step 6 To add a LAN boot to the boot order, do the following:

a) Click the down arrows to expand the **vNICs** area.
b) Click the **Add LAN Boot** link.
c) In the **Add LAN Boot** dialog box, enter the name of the vNIC that you want to use for the LAN boot in the **vNIC** field, then click **OK**.
d) Add another device to the **Boot Order** table, or click **OK** to finish.

Step 7 To add a SAN boot to the boot order, do the following:

a) Click the down arrows to expand the **vHBAs** area.
b) Click the **Add SAN Boot** link.
c) In the **Add SAN Boot** dialog box, complete the following fields, then click **OK**:

Name	Description
vHBA field	Enter the name of the vHBA you want to use for the SAN boot.
Type field	This can be: • **primary**—If the server boots using a SAN WWN address, this is the first address it tries. Each boot policy can have only one primary SAN boot location.

Name	Description
	• **secondary**—If the server cannot boot from the primary SAN location, it attempts to boot from this location. Each boot policy can have only one secondary SAN boot location.

d) If this vHBA points to a bootable SAN image, click the **Add SAN Boot Target** link and, in the **Add SAN Boot Target** dialog box, complete the following fields, then click **OK**:

Name	Description
Boot Target LUN field	The LUN that corresponds to the location of the boot image.
Boot Target WWPN field	The WWPN that corresponds to the location of the boot image.
Type field	This can be: • **primary**—If the server boots using a SAN WWN address, this is the first address it tries. Each boot policy can have only one primary SAN boot location. • **secondary**—If the server cannot boot from the primary SAN location, it attempts to boot from this location. Each boot policy can have only one secondary SAN boot location.

e) Add another boot device to the **Boot Order** table, or click **OK** to finish.

Step 8 Click **Next**.

What to Do Next

Complete Page 6: Specifying the Server Assignment, page 16

Page 6: Specifying the Server Assignment

This procedure directly follows Page 5: Setting the Server Boot Order, page 14. It describes how to specify the way a server is assigned to the service profile on the **Server Assignment** page of the **Create Service Profile (expert)** wizard.

Procedure

Step 1 From the **Server Assignment** drop-down list, choose one of the following:

Option	Description
Assign Later	Allows you to assign a server after you have created and configured the service profile. Continue with Step 6.
Pre-provision a slot	Specifies the chassis and slot that contains the server which will be assigned to the service profile. If the server is not in the slot or is otherwise unavailable, the service profile will be associated with the server when it becomes available. Continue with Step 2.
Select existing Server	Displays a table of available, unassociated servers that you can use to select the server which will be assigned to the service profile. Continue with Step 3.
Select from a Pool ***Pool_Name***	Select a server pool from the list at the bottom of the drop-down list. Cisco UCS Manager assigns a server from this pool to the service profile. Continue with Step 4.

Step 2 If you chose **Pre-provision a slot**, do the following:

a) In the **Chassis Id** field, enter the number of the chassis where the selected server is located.
b) In the **Slot Id** field, enter the number of the slot where the selected server is located.
c) Continue with Step 4.

Step 3 If you chose **Select existing Server**, do the following:

a) In the **Select** column of the table of available servers, click the radio button for the server that meets the needs of this service profile.
b) Continue with Step 4.

Step 4 In the **Power State** field, click one of the following radio buttons to set the power state that will be applied to the server when it is associated with this service profile:

- **Down** if you want the server to be powered down before the profile is associated with the server.
- **Up** if you want the server to be powered up before the profile is associated with the server

By default, the server is powered up.

Step 5 (Optional) In the **Firmware Management** area, do the following to use policies to update the firmware on the server associated with the service profile:

a) Click the down arrows on the **Firmware Management** bar to expand the area.
b) Complete the following fields:

Name	Description
Host Firmware drop-down list	To associate a host firmware package with this service profile, choose its name from the drop-down list.
Create Host Firmware Package link	Click this link if you want to create a host firmware package.

Name	Description
Management Firmware drop-down list	To associate a management firmware package with this service profile, choose its name from the drop-down list.
Create Management Firmware Package link	Click this link if you want to create a management firmware package.

Step 6 Click **Next**.

What to Do Next

Complete Page 7: Adding Operational Policies, page 18.

Page 7: Adding Operational Policies

This procedure directly follows Page 6: Specifying the Server Assignment, page 16. It describes how to add operational policies to the service profile on the **Operational Policies** page of the **Create Service Profile (expert)** wizard. These policies are optional.

Procedure

Step 1 To provide external access to the BMC on the server, click the down arrows on the **External IPMI Management Configuration** bar and add an IPMI profile and a serial over LAN policy.
If you do not want to provide external access, continue with Step 4.

Step 2 To add an IPMI profile to the service profile, do one of the following:

a) To add an existing policy, select the desired IPMI profile from the **IPMI Profile** drop-down list.
b) If the **IPMI Profile** drop-down list does not include an IPMI profile with the desired user access, click the **Create IPMI Profile** link to create an IPMI profile that is available to all service profiles.
For more information about how to create an IPMI profile, see Creating an IPMI Profile.
c) If you chose to create an IPMI profile, select that profile from the **IPMI Profile** drop-down list.

Step 3 To add a Serial over LAN policy to the service profile, do one of the following:

a) To add an existing policy, select the desired Serial over LAN policy from the **SoL Configuration Profile** drop-down list.
b) To create a Serial over LAN policy that is only available to this service profile, select **Create a Specific SoL Policy** from the **SoL Configuration Profile** drop-down list and complete the **Admin State** field and the **Speed** drop-down list.
c) To create a Serial over LAN policy that is available to all service profiles, click the **Create Serial over LAN Policy** link and complete the fields in the dialog box.
d) If you chose to create a Serial over LAN policy that is available to all service profiles, select that policy from the **SoL Configuration Profile** drop-down list.

Step 4 To monitor thresholds and collect statistics for the associated server, do the following:

a) Click the down arrows on the **Monitoring Configuration** bar.
b) To add an existing policy, select the desired threshold policy from the **Threshold Policy** drop-down list.

c) To create a threshold policy that is available to all service profiles, click the **Create Threshold Policy** link and complete the fields in the dialog box.
d) If you chose to create a threshold policy that is available to all service profiles, select that policy from the **Threshold Policy** drop-down list.

Step 5 Click **Finish**.

Creating a Service Profile that Inherits Server Identity

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.

Step 3 Expand the node for the organization where you want to create the service profile.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Right-click the organization and select **Create Service Profile**.

Step 5 In the **Naming** area of the **Create Service Profile** dialog box, complete the following fields:

a) In the **Name** field, enter a unique name that you can use to identify the service profile.
This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.

b) In the **Description** field, enter a description of this service profile.

Step 6 In the **vNICs** area of the **Create Service Profile** dialog box, complete the following fields:

Name	Description
Primary vNIC Section	
Primary vNIC check box	Check this check box if you want to create a vNIC for this service profile. If you check this box, Cisco UCS Manager GUI displays the rest of the fields in this section.
Name field	The name of the vNIC.
Fabric field	The fabric interconnect that this vNIC is associated with.
Network drop-down list	The LAN that this vNIC is associated with.
Secondary vNIC Section	
Secondary vNIC check box	Check this check box if you want to create a second vNIC for this service profile. If you check this box, Cisco UCS Manager GUI displays the rest of the fields in this section.
Name field	The name of the vNIC.

Name	Description
Fabric field	The fabric interconnect that this vNIC is associated with.
Network drop-down list	The LAN that this vNIC is associated with.

Step 7 In the **vHBAs** area of the **Create Service Profile** dialog box, complete the following fields:

Name	Description
Primary vHBA Section	
Primary vHBA check box	Check this check box if you want to create a vHBA for this service profile. If you check this box, Cisco UCS Manager GUI displays the rest of the fields in this section.
Name field	The name of the vHBA.
Fabric field	The fabric interconnect that this vHBA is associated with.
Secondary vHBA Section	
Secondary vHBA check box	Check this check box if you want to create a second vHBA for this service profile. If you check this box, Cisco UCS Manager GUI displays the rest of the fields in this section.
Name field	The name of the vHBA.
Fabric field	The fabric interconnect that this vHBA is associated with.

Step 8 In the **Boot Order** area of the **Create Service Profile** dialog box, complete the following fields:

Name	Description
Primary Boot Device Section	
Primary Boot Device check box	Check this check box if you want to set a boot device for this service profile. If you check this box, Cisco UCS Manager GUI displays the rest of the fields in this section.
Type field	This can be: • **local-disk**—The server boots from its local disk. **Note** If you select this option, you cannot select **local-disk** or **san** as your secondary boot type. • **san**—The server boots from an image stored in a SAN. If you select this option, Cisco UCS Manager GUI displays the **SAN** area.

Name	Description
	• **lan**—The server boots from the LAN. If you select this option, Cisco UCS Manager GUI displays the **Network** area that lets you specify which vNIC the server should use for the PXE boot. • **virtual CD-ROM**—The server boots from a virtual CD-ROM. • **virtual Floppy**—The server boots from a virtual floppy.
SAN area	If **Type** is set to **san**, this area contains the following field: • **vHBA**—The vHBA used to access the SAN boot image • **LUN**—The LUN that corresponds to the location of the boot image • **WWN**—The WWN that corresponds to the location of the boot image
Network (PXE) area	If **Type** is set to **lan**, this area contains the **vNIC** drop-down list from which you can choose the vNIC from which the server should boot.
Secondary Boot Device Section	
Secondary Boot Device check box	Check this check box if you want to set a second boot device for this service profile. If you check this box, Cisco UCS Manager GUI displays the rest of the fields in this section.
Type field	This can be: • **local-disk**—The server boots from its local disk. • **san**—The server boots from an image stored in a SAN. If you select this option, Cisco UCS Manager GUI displays the **SAN** area. • **lan**—The server boots from the LAN. If you select this option, Cisco UCS Manager GUI displays the **Network** area that lets you specify which vNIC the server should use for the PXE boot. • **virtual CD-ROM**—The server boots from a virtual CD-ROM. • **virtual Floppy**—The server boots from a virtual floppy.
SAN area	If **Type** is set to **san**, this area contains the following field: • **vHBA**—The vHBA used to access the SAN boot image • **LUN**—The LUN that corresponds to the location of the boot image • **WWN**—The WWN that corresponds to the location of the boot image

Name	Description
Network (PXE) area	If **Type** is set to **lan**, this area contains the **vNIC** drop-down list from which you can choose the vNIC from which the server should boot.

Step 9 (Optional) In the **Select** column of the **Server Association (optional)** area, click the radio button for a server to associate this service profile with that server.

Step 10 Click **OK**.

Creating a Hardware Based Service Profile for a Server

You cannot move a hardware based service profile to another server.

Procedure

Step 1 In the **Navigation** pane, click the **Equipment** tab.

Step 2 On the **Equipment** tab, expand **Equipment ➤ Chassis ➤** ***Chassis Number*** **➤ Servers**.

Step 3 Choose the server for which you want to create a hardware based service profile.

Step 4 In the **Work** pane, click the **General** tab.

Step 5 In the **Actions** area, click **Create Service Profile**.

Step 6 In the **Create Service Profile for Server** dialog box, do the following:

a) Click the **Hardware Based Service Profile** radio button.

b) In the **Name** field, enter a unique name for the service profile.
This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.

c) If you want Cisco UCS Manager to create vNICs for the service profile, check the **Create Default vNICs** check box.

d) If you want Cisco UCS Manager to create vHBAs for the service profile, check the **Create Default vHBAs** check box.

e) Click **OK**.

Cisco UCS Manager inherits and automatically applies the identity and configuration information in the server, creates the service profile, and associates it with the server.

Working with Service Profile Templates

Creating a Service Profile Template

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profile Templates**.

Step 3 Expand the node for the organization where you want to create the service profile template.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Right-click the organization and select **Create Service Profile Template**.

Step 5 In the **Create Service Profile Template** wizard, complete the following:

- Page 1: Identifying the Service Profile Template, page 23
- Page 2: Specifying the Template Storage Options, page 24
- Page 3: Specifying the Template Networking Options, page 29
- Page 4: Setting the vNIC/vHBA Placement, page 32
- Page 5: Specifying the Template Server Boot Order Options, page 34
- Page 6: Specifying the Template Server Assignment Options, page 36
- Page 7: Specifying Template Policy Options, page 37

Page 1: Identifying the Service Profile Template

This procedure directly follows the steps in Creating a Service Profile Template, page 23. It describes how to set the identity of a service profile template on the **Identify Service Profile Template** page of the **Create Service Profile Template** wizard.

Procedure

Step 1 In the **Name** field, enter a unique name that you can use to identify this service profile template.
This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.

Step 2 In the **Type** field, click one of the following radio buttons:

- **Initial Template**—Any service profiles created from this template are not updated if the template changes
- **Updating Template**—Any service profiles created from this template are updated if the template changes

Step 3 From the **UUID Assignment** drop-down list, choose one of the following:

Option	Description
Select (pool default used by default)	Assigns a UUID from the default UUID Suffix pool.
Hardware Default	Uses the UUID assigned to the server by the manufacturer. If you choose this option, the UUID remains unassigned until the service profile is associated with a server. At that point, the UUID is set to the UUID value assigned to the server by the manufacturer. If the service profile is later moved to a different server, the UUID is changed to match the new server.
Pools ***Pool_Name***	Assigns a UUID from the UUID Suffix pool that you select from the list at the bottom of the drop-down list. Each pool name is followed by two numbers in parentheses that show the number of UUIDs still available in the pool and the total number of UUIDs in the pool.

Step 4 (Optional) In the text box, enter a description of this service profile template.
The description can contain up to 256 characters.

Step 5 Click **Next**.

What to Do Next

Complete the steps in Page 2: Specifying the Template Storage Options, page 24.

Page 2: Specifying the Template Storage Options

This procedure directly follows Page 1: Identifying the Service Profile Template, page 23. It describes how to configure the storage options for a service profile template on the **Storage** page of the **Create Service Profile Template** wizard.

Procedure

Step 1 From the **Local Storage** drop-down list, choose one of the following:

Option	Description
Select Local Storage Policy to use	Assigns the default local disk storage policy to every service profile created from this template. Continue with Step 4.
Create a Specific Storage Policy	Enables you to create a local disk policy that can only be accessed by a service profile created from this template. Continue with Step 2.

Option	Description
Storage Policies *Policy_Name*	Select an existing local disk policy from the list at the bottom of the drop-down list. Cisco UCS Manager assigns this policy to every service profile created from this template. If you do not want use any of the existing policies but instead want to create a new policy that all service profiles and templates can access, continue with Step 3. Otherwise, continue with Step 4.

Step 2 (Optional) If you chose **Create a Specific Storage Policy**, do the following:

a) From the **Mode** drop-down list, choose one of the following:

- **Any Configuration**—For a server configuration that carries forward the local disk configuration without any changes.
- **No Local Storage**—For a diskless workstation or a SAN only configuration. If you select this option, you cannot associate any service profile which uses this policy with a server that has a local disk.
- **No RAID**—For a server configuration that removes the RAID and leaves the disk MBR and payload unaltered.
- **RAID Mirrored**—For a 2-disk RAID 1 server configuration.
- **RAID Stripes**—For a 2-disk RAID 0 server configuration.

Note If you choose **No RAID** and you apply this policy to a server that already has an operating system with RAID storage configured, the system does not remove the disk contents. Therefore, there may be no visible differences after you apply the **No RAID** mode.

To make sure that any previous RAID configuration information is removed from a disk, apply a scrub policy that removes all disk information after you apply the **No RAID** configuration mode.

b) Continue with Step 4.

Step 3 (Optional) To create a local disk configuration policy that will be available to all service profiles and templates, do the following:

a) Click the **Create Local Disk Configuration Policy** link.

b) In the **Create Local Disk Configuration** dialog box, complete the fields.
For more information, see Creating a Local Disk Configuration Policy.

c) Click **OK**.

d) From the **Local Storage** drop-down list, choose the policy you created.

Step 4 From the **Scrub Policy** drop-down list, choose one of the following:

Option	Description
<not set>	Does not include a scrub policy in a service profile created from this template.

Option	Description
Policy_Name	Assigns an existing scrub policy to every service profile created from this template. If you do not want use any of the existing policies, but instead want to create a new policy that all service profiles and templates can access, continue with Step 5. Otherwise, continue with Step 6.

Step 5 (Optional) To create a scrub policy that will be available to all service profiles and templates, do the following:

a) Click the **Create Scrub Policy** link.

b) In the **Create Scrub Policy** dialog box, complete the fields.
For more information, see Creating a Scrub Policy.

c) Click **OK**.

d) From the **Scrub Policy** drop-down list, choose the policy you created.

Step 6 In the **How would you like to configure SAN storage?** field, click one of the following options:

Option	Description
Simple	Allows you to create a maximum of two vHBAs for every service profile created from this template. Continue with Step 7.
Expert	Allows you to create an unlimited number of vHBAs for every service profile created from this template. Continue with Step 8.
No vHBAs	Does not include any vHBAs for connections to a Fibre Channel SAN in a service profile created from this template. Continue with Step 9.

Step 7 (Optional) If you chose the simple SAN storage option, do the following:

a) From the **WWNN Assignment** drop-down list, choose one of the following:

- Choose **Select (pool default used by default)** to use the default WWN pool.
- Choose **Derived from vHBA** to use a WWN derived from the first vHBA you specify.
- Choose one of the options listed under **Manual Using OUI** and then enter the WWN in the **World Wide Node Name** field.

  You can specify a WWNN in the range from 20:00:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF:FF. You can click the **here** link to verify that the WWNN you specified is available.
- Choose a WWN pool name from the list to have a WWN assigned from the specified pool. Each pool name is followed by two numbers in parentheses that show the number of WWNs still available in the pool and the total number of WWNs in the pool.

b) In the **vHBA 0 (Fabric A)** area, complete the following fields:

- In the **Name** field, enter a unique name for the vHBA.

- From the **Select VSAN** drop-down list, choose the name of the VSAN with which this vHBA should be associated.

If the VSAN you need is not in the drop-down list, click the **Create VSAN** link. For more information, see Creating a Named VSAN.

c) Repeat Step 7b in the **vHBA 1 (Fabric B)** area to create a VSAN for that vHBA.
d) Continue with Step 9.

Step 8 (Optional) If you chose the expert SAN storage option, do the following:

a) From the **WWNN Assignment** drop-down list, choose one of the following:

- Choose **Select (pool default used by default)** to use the default WWN pool.
- Choose **Derived from vHBA** to use a WWN derived from the first vHBA you specify.
- Choose one of the options listed under **Manual Using OUI** and then enter the WWN in the **World Wide Node Name** field.

  You can specify a WWNN in the range from 20:00:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF:FF. You can click the **here** link to verify that the WWNN you specified is available.
- Choose a WWN pool name from the list to have a WWN assigned from the specified pool. Each pool name is followed by two numbers in parentheses that show the number of WWNs still available in the pool and the total number of WWNs in the pool.

b) Click **Add** on the icon bar of the table to open the **Create vHBA** dialog box.
c) Complete the following fields to specify the identity information for the vHBA:

Name	Description
Name field	The name of this vHBA. This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.
Use SAN Connectivity Template check box	Check this check box if you want to use a template to create the vHBA. Cisco UCS Manager GUI displays the **vHBA Template** drop-down list from which you can select the appropriate template, and the **Adapter Performance Profile** area from which you can select an adapter profile. **Note** You can only select this option if one or more SAN connectivity templates exist in the system.
Create vHBA Template link	Click this link if you want to create a vHBA template.
WWPN Assignment drop-down list	If you want to: • Use the default WWPN pool, leave this field set to **Select (pool default used by default)**. • Use the WWPN assigned to the server by the manufacturer, select **Hardware Default**.

Name	Description
	• A specific WWPN, select **20:00:00:25:B5:00:00:00**, **20:XX:XX:XX:XX:XX:XX:XX**, or **5X:XX:XX:XX:XX:XX:XX:XX** and enter the WWPN in the **WWPN** field. To verify that this WWPN is available, click the corresponding link. • A WWPN from a pool, select the pool name from the list. Each pool name is followed by a pair of numbers in parentheses. The first number is the number of available WWN addresses in the pool and the second is the total number of WWPN addresses in the pool. To create a new WWPN pool, click **WWPN Pool**.

d) In the **VSAN** area, complete the following fields:

Name	Description
Fabric ID field	The fabric interconnect associated with the component.
Select VSAN drop-down list box	The VSAN with which this vHBA is associated.
Create VSAN link	Click this link if you want to create a VSAN.
Pin Group drop-down list box	The pin group with which this vHBA is associated.
Create SAN Pin Group link	Click this link if you want to create a pin group.
Persistent Binding field	This can be: • **disabled** • **enabled**
Max Data Field Size field	The maximum size of the Fibre Channel frame payload bytes that the vHBA supports. Enter an integer between 256 and 2112. The default is 2048.
Operational Parameters Section	
Stats Threshold Policy drop-down list box	The threshold policy with which this vHBA is associated.

e) In the **Adapter Performance Profile** area, complete the following fields:

Name	Description
Adapter Policy drop-down list box	The Fibre Channel adapter policy with which this vHBA is associated.

Name	Description
Create Fibre Channel Adapter Policy link	Click this link if you want to create a Fibre Channel adapter policy.
QoS drop-down list box	The quality of service policy with which this vHBA is associated.
Create QoS Policy link	Click this link if you want to create a QoS policy.

f) Click **OK**.

Step 9 Click **Next**.

What to Do Next

Complete Page 3: Specifying the Template Networking Options, page 29.

Page 3: Specifying the Template Networking Options

This procedure directly follows Page 2: Specifying the Template Storage Options, page 24. It describes how to configure the networking options, including LAN connectivity, on the **Networking** page of the **Create Service Profile Template** wizard.

Procedure

Step 1 In the **How would you like to configure LAN connectivity?** field, click one of the following options:

Option	Description
Simple	Allows you to create a maximum of two vNICs, in dual fabric mode, for every service profile created from this template. Continue with Step 2.
Expert	Allows you to create an unlimited number of vNICs for every service profile created from this template. Continue with Step 3.
No vNICs	Does not include any vNICs for connections to a LAN in a service profile created from this template. Any server associated with these service profiles cannot communicate with a LAN unless you modify the individual service profile later. Continue with Step 4.

Step 2 (Optional) If you chose the simple LAN connectivity option, do the following:

a) In the **vNIC 0 (Fabric A)** area:

- In the **Name** field, enter a unique name for the vNIC.

- From the **Select Native VLAN** drop-down list, choose the name of the VLAN with which this vNIC should communicate.

If the VLAN you need is not in the drop-down list, click the **Create VLAN** link. For more information, see Creating a Named VLAN.

b) Repeat Step 2a in the **vNIC 1 (Fabric B)** area to create a VLAN for that vNIC.
c) Continue with Step 4.

Step 3 If you chose the expert LAN connectivity option, do the following:

a) Click **Add** on the icon bar of the table to open the **Create vNICs** dialog box.
b) Complete the following fields to specify the identity information for the vNIC:

Name	Description
Name field	Enter a name for this vNIC.
Use LAN Connectivity Template check box	Check this check box if you want to use a template to create the vNIC. Cisco UCS Manager GUI displays the **vNIC Template** drop-down list from which you can select the appropriate template, and the **Adapter Performance Profile** area from which you can select an adapter profile. **Note** You can only select this option if one or more LAN connectivity templates exist in the system.
Create vNIC Template link	Click this link if you want to create a vNIC template.
MAC Address Assignment drop-down list	If you want to: • Use the default MAC address pool, leave this field set to **Select (pool default used by default)**. • Use the MAC address assigned to the server by the manufacturer, select **Hardware Default**. • A specific MAC address, select **02:25:B5:XX:XX:XX** and enter the address in the **MAC Address** field. To verify that this address is available, click the corresponding link. • A MAC address from a pool, select the pool name from the list. Each pool name is followed by a pair of numbers in parentheses. The first number is the number of available MAC addresses in the pool and the second is the total number of MAC addresses in the pool.

c) In the **Fabric Interconnect** area, complete the following fields:

Name	Description
Fabric ID field	The fabric interconnect associated with the component. If you want this vNIC to be able to access the second fabric interconnect if the default one is unavailable, check the **Enable Failover** check box.

Name	Description
	Note Do not select **Enable Failover** if you plan to associate this vNIC configuration with a server that has a Cisco UCS 82598KR-CI 10-Gigabit Ethernet Adapter. If you do so, Cisco UCS Manager generates a configuration fault when you associate the service profile with the server.
VLAN Trunking field	If you want to use VLAN trunking, click **Yes**. Otherwise, select **No**.
Select VLAN drop-down list	The VLAN with which this vNIC is associated.
Create VLAN link	Click this link if you want to create a VLAN.
Native VLAN check box	Check this check box if this vNIC is associated with the native VLAN.
MTU field	The maximum transmission unit, or packet size, that this vNIC accepts. Enter an integer between 1500 and 9216.
Pin Group drop-down list	Choose the LAN pin group you want associated with this vNIC.
Create LAN Pin Group link	Click this link if you want to create a LAN pin group.
Operational Parameters Section	
Stats Threshold Policy drop-down list	The statistics collection policy with which this vNIC is associated.

d) In the **Adapter Performance Profile** area, complete the following fields:

Name	Description
Adapter Policy drop-down list	The Ethernet adapter policy with which this vNIC is associated.
Create Ethernet Adapter Policy link	Click this link if you want to create an Ethernet adapter policy.
QoS drop-down list	The quality of service policy with which this vNIC is associated.
Create QoS Policy link	Click this link if you want to create a quality of service policy.
Network Control Policy drop-down list	The network control policy with which this vNIC is associated.
Create Network Control Policy Policy link	Click this link if you want to create a network control policy.

e) Click **OK**.

Step 4 Click **Next**.

What to Do Next

Complete Page 4: Setting the vNIC/vHBA Placement, page 32.

Page 4: Setting the vNIC/vHBA Placement

This procedure directly follows Page 3: Specifying the Template Networking Options, page 29. It describes how to set the vNIC and vHBA placement options on the **vNIC/vHBA Placement** page of the **Create Service Profile Template** wizard.

Procedure

Step 1 From the **Select Placement** drop-down list, choose one of the following:

Option	Description
Let System Perform Placement	Specifies that Cisco UCS Manager determines the vNIC/vHBA placement for all servers associated with a service profile created from this template. The placement is determined by the order set in the **PCI Order** table. Continue with Step 2.
Specify Manually	Enables you to specify the virtual network connection to which each vNIC and vHBA is assigned for any server associated with a service profile created from this template. Continue with Step 3.
vNIC/vHBA Placement Profiles ***Placement Profile Name***	Assigns an existing vNIC/vHBA placement profile to a service profile created from this template. If you choose this option, Cisco UCS Manager displays the details of the profile. If you do not want use any of the existing profiles, but instead want to create a profile that all service profiles and templates can access, click **Create Placement Profile** and continue with Step 4. Otherwise, continue with Step 5.

Step 2 (Optional) If you chose **Let System Perform Placement**, do the following:

a) Use one or more of the following buttons to adjust the order of the vNICs and vHBAs:

Name	Description
Move Up button	Moves the selected virtual interface to a higher priority in the list.
Move Down button	Moves the selected virtual interface to a lower priority in the list.
Delete button	Deletes the selected virtual interface.
Reorder button	Returns the virtual interfaces to their original order.

Name	Description
Modify button	Enables you to modify the currently-selected virtual interface. **Note** You can change any options for the virtual interface except its name.

b) Continue with Step 5.

Step 3 (Optional) If you chose **Specify Manually**, do the following:

a) On the appropriate tab in the **vNIC/vHBA** table, click a vNIC or vHBA.

b) In the **Virtual Host Interface** table, click a vCON row and if necessary, choose one of the following values from the **Selection Preference** column:

- **all**
- **assigned-only**
- **exclude-dynamic**
- **exclude-unassigned**

c) Click **Assign**.
If you need to undo an assignment, click **Remove**.

d) Repeat Steps a through c until you have assigned all vNICs and vHBAs.

e) When you have specified all vNIC and vHBA placements, continue with Step 5.

Step 4 If you clicked **Create Placement Profile**, do the following in the **Create Placement Profile** dialog box:

a) In the **Name** field, enter a unique name for the profile.
This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.

b) In the **Selection Preference** column for each **Virtual Slot**, choose one of the following from the drop-down list:

- **all**
- **assigned-only**
- **exclude-dynamic**
- **exclude-unassigned**

c) Click **OK**.

d) After the dialog box closes, choose the policy you created from the **Select Placement** drop-down list.

Step 5 Click **Next**.

What to Do Next

Complete Page 5: Specifying the Template Server Boot Order Options, page 34

Page 5: Specifying the Template Server Boot Order Options

This procedure directly follows Page 4: Setting the vNIC/vHBA Placement, page 32. It describes how to set the server boot order options on the **Server Boot Order** page of the **Create Service Profile Template** wizard.

Tip We recommend that the boot order in a boot policy include either a local disk or a SAN LUN, but not both, to avoid the possibility of the server booting from the wrong storage type. If you configure a local disk and a SAN LUN for the boot order storage type and the operating system or logical volume manager (LVM) is configured incorrectly, the server may boot from the local disk rather than the SAN LUN.

For example, on a server with Red Hat Linux installed, where the LVM is configured with default LV names and the boot order is configured with a SAN LUN and a local disk, Linux reports that there are two LVs with the same name and boots from the LV with the lowest SCSI ID, which could be the local disk.

Procedure

Step 1 From the **Boot Policy** drop-down list, choose one of the following:

Option	Description
Select Boot Policy to use	Assigns the default boot policy to every service profile created from this template. Continue with Step 7.
Create a Specific Boot Policy	Enables you to create a local boot policy that can only be accessed by a service profile created from this template. Continue with Step 3.
Boot Policies ***Policy_Name***	Assigns an existing boot policy to every service profile created from this template. If you choose this option, Cisco UCS Manager displays the details of the policy. If you do not want use any of the existing policies, but instead want to create a policy that all service profiles and templates can access, continue with Step 2. Otherwise, continue with Step 7.

Step 2 If you chose to create a boot policy, in the **Create Boot Policy** dialog box, enter a unique name and description for the policy.
This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.

Step 3 (Optional) To reboot all servers that use this boot policy after you make changes to the boot order, check the **Reboot on Boot Order Change** check box.

Step 4 (Optional) To ensure that Cisco UCS Manager uses any vNICs or vHBAs in the order shown in the **Boot Order** table, check the **Enforce vNIC/vHBA Name** check box.
If you do not check this check box, Cisco UCS Manager uses the priority specified in the vNIC or vHBA.

Step 5 To add a local disk, virtual CD-ROM, or virtual floppy to the boot order, do the following:

a) Click the down arrows to expand the **Local Devices** area.
b) Click one of the following links to add the device to the **Boot Order** table:
   - **Add Local Disk**
   - **Add CD-ROM**
   - **Add Floppy**
c) Add another boot device to the **Boot Order** table, or click **OK** to finish.

Step 6 To add a LAN boot to the boot order, do the following:
a) Click the down arrows to expand the **vNICs** area.
b) Click the **Add LAN Boot** link.
c) In the **Add LAN Boot** dialog box, enter the name of the vNIC that you want to use for the LAN boot in the **vNIC** field, then click **OK**.
d) Add another device to the **Boot Order** table, or click **OK** to finish.

Step 7 To add a SAN boot to the boot order, do the following:
a) Click the down arrows to expand the **vHBAs** area.
b) Click the **Add SAN Boot** link.
c) In the **Add SAN Boot** dialog box, complete the following fields, then click **OK**:

Name	Description
vHBA field	Enter the name of the vHBA you want to use for the SAN boot.
Type field	This can be: • **primary**—If the server boots using a SAN WWN address, this is the first address it tries. Each boot policy can have only one primary SAN boot location. • **secondary**—If the server cannot boot from the primary SAN location, it attempts to boot from this location. Each boot policy can have only one secondary SAN boot location.

d) If this vHBA points to a bootable SAN image, click the **Add SAN Boot Target** link and, in the **Add SAN Boot Target** dialog box, complete the following fields, then click **OK**:

Name	Description
Boot Target LUN field	The LUN that corresponds to the location of the boot image.
Boot Target WWPN field	The WWPN that corresponds to the location of the boot image.
Type field	This can be: • **primary**—If the server boots using a SAN WWN address, this is the first address it tries. Each boot policy can have only one primary SAN boot location.

Name	Description
	• **secondary**—If the server cannot boot from the primary SAN location, it attempts to boot from this location. Each boot policy can have only one secondary SAN boot location.

e) Add another boot device to the **Boot Order** table, or click **OK** to finish.

Step 8 Click **Next**.

What to Do Next

Complete Page 6: Specifying the Template Server Assignment Options, page 36.

Page 6: Specifying the Template Server Assignment Options

This procedure directly follows Page 5: Specifying the Template Server Boot Order Options, page 34. It describes how to specify the way a server is assigned to service profile created from this template on the **Server Assignment** page of the **Create Service Profile Template** wizard.

Procedure

Step 1 From the **Server Assignment** drop-down list, choose one of the following:

Option	Description
Assign Later	Allows you to assign a server after you have created and configured the service profile template. Continue with Step 2.
Select from a Pool ***Pool_Name***	Select a server pool from the list at the bottom of the drop-down list. Cisco UCS Manager assigns a server from this pool to a service profile created from this template. Continue with Step 2.

Step 2 In the **Power State** field, click one of the following radio buttons to set the power state that will be applied to the server when it is associated with a service profile created from this template:

- **Down** if you want the server to be powered down before the profile is associated with the server
- **Up** if you want the server to be powered up before the profile is associated with the server

By default, the server is powered up.

Step 3 (Optional) In the **Firmware Management** area, do the following to use policies to update the firmware on the server associated with a service profile created from this template:

a) Click the down arrows on the **Firmware Management** bar.

b) Complete the following fields:

Name	Description
Host Firmware drop-down list	To associate a host firmware package with this service profile, choose its name from the drop-down list.
Create Host Firmware Package link	Click this link if you want to create a host firmware package.
Management Firmware drop-down list	To associate a management firmware package with this service profile, choose its name from the drop-down list.
Create Management Firmware Package link	Click this link if you want to create a management firmware package.

Step 4 Click **Next**.

What to Do Next

Complete Page 7: Specifying Template Policy Options, page 37.

Page 7: Specifying Template Policy Options

This procedure directly follows Page 6: Specifying the Template Server Assignment Options, page 36. It describes how to add operational policies to the service profile template on the **Operational Policies** page of the **Create Service Profile Template** wizard. These policies are optional.

Procedure

Step 1 To provide external access to the BMC on the server, click the down arrows on the **External IPMI Management Configuration** bar and add an IPMI profile and a serial over LAN policy.
If you do not want to provide external access, continue with Step 4.

Step 2 To add an IPMI profile to service profile created from this template, do one of the following:

- To add an existing policy, select the desired IPMI profile from the **IPMI Profile** drop-down list.
- If the **IPMI Profile** drop-down list does not include an IPMI profile with the desired user access, click the **Create IPMI Profile** link to create an IPMI profile that is available to all service profiles templates and then select that profile from the **IPMI Profile** drop-down list.

For more information about how to create an IPMI profile, see Creating an IPMI Profile.

Step 3 To add a Serial over LAN policy to service profile created from this template, do one of the following:

- To add an existing policy, select the desired Serial over LAN policy from the **SoL Configuration Profile** drop-down list.

- To create a Serial over LAN policy that is only available to service profile created from this template, select **Create a Specific SoL Policy** from the **SoL Configuration Profile** drop-down list and complete the **Admin State** field and the **Speed** drop-down list.
- To create a Serial over LAN policy that is available to all service profile templates, click the **Create Serial over LAN Policy** link and complete the fields in the dialog box and then select that policy from the **SoL Configuration Profile** drop-down list..

Step 4 To monitor thresholds and collect statistics for the associated server, do the following:

a) Click the down arrows on the **Monitoring Configuration** bar.

b) Do one of the following:

- To add an existing policy, select the desired threshold policy from the **Threshold Policy** drop-down list.
- To create a threshold policy that is available to all service profile templates, click the **Create Threshold Policy** link and complete the fields in the dialog box and then select that policy from the **Threshold Policy** drop-down list.

Step 5 Click **Finish**.

Creating One or More Service Profiles from a Service Profile Template

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profile Templates**.

Step 3 Expand the node for the organization that contains the service profile template that you want to use as the basis for your service profiles.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Right-click the service profile template from which you want to create the profiles and select **Create Service Profiles From Template**.

Step 5 In the **Create Service Profiles From Template** dialog box, complete the following fields:

Name	Description
Naming Prefix field	The prefix to use for the template name. When the system creates the service profile, it appends a unique numeric identifier to this prefix. For example, if you specify the prefix MyProfile and request two profiles, the first service profile would be called MyProfile1 and the second would be MyProfile2. If you return at a later date and create three more profiles with the same prefix, they would be named MyProfile3, MyProfile4, and MyProfile5.
Number field	The number of service profiles to create.

Step 6 Click **OK**.

Creating a Template Based Service Profile for a Server

Before You Begin

A qualified service profile template with the desired values must exist in Cisco UCS Manager.

Procedure

Step 1 In the **Navigation** pane, click the **Equipment** tab.

Step 2 On the **Equipment** tab, expand **Equipment ➤ Chassis ➤** ***Chassis Number*** **➤ Servers**.

Step 3 Choose the server for which you want to create a hardware based service profile.

Step 4 In the **Work** pane, click the **General** tab.

Step 5 In the **Actions** area, click **Create Service Profile**.

Step 6 In the **Create Service Profile for Server** dialog box, do the following:

a) Click the **Template Based Service Profile** radio button.

b) In the **Name** field, enter a unique name for the service profile.
This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.

c) From the **Service Profile Template** drop-down list, select the template from which you want to create the service profile associated with this server.

d) Click **OK**.

Creating a Service Profile Template from a Service Profile

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.

Step 3 Expand the node for the organization that contains the service profile that you want to use as the basis for your template.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Right-click the service profile from which you want to create the template and select **Create a Service Profile Template**.

Step 5 In the **Create Template From Service Profile** dialog box, complete the following fields:

Name	Description
Service Profile Template Name field	The name of the service profile template. This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.
Org drop-down list	Select the organization that you want this template to be associated with.
Type field	This can be: • **Initial Template**—Any service profiles created from this template are not updated if the template changes • **Updating Template**—Any service profiles created from this template are updated if the template changes

Step 6 Click **OK**.

Changing the UUID in a Service Profile Template

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profile Templates**.

Step 3 Expand the node for the organization that contains the service profile template for which you want to change the UUID.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Choose the service profile template whose UUID assignment you want to change.

Step 5 In the **Work** pane, click the **General** tab.

Step 6 In the **Actions** area, click **Change UUID**.

Step 7 From the **UUID Assignment** drop-down list, choose one of the following:

Option	Description
Select (pool default used by default)	Assigns a UUID from the default UUID Suffix pool.
Hardware Default	Uses the UUID assigned to the server by the manufacturer. If you choose this option, the UUID remains unassigned until the service profile is associated with a server. At that point, the UUID is set to the UUID value assigned to the server by the manufacturer. If the service profile is later moved to a different server, the UUID is changed to match the new server.

Option	Description
Pools *Pool_Name*	Assigns a UUID from the UUID Suffix pool that you select from the list at the bottom of the drop-down list. Each pool name is followed by two numbers in parentheses that show the number of UUIDs still available in the pool and the total number of UUIDs in the pool.

Step 8 Click **OK**.

Associating a Service Profile Template with a Server Pool

Follow this procedure if you did not associate the service profile template with a server pool when you created it, or to change the server pool with which a service profile created from this template is associated.

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profile Templates**.

Step 3 Expand the node for the organization that contains the service profile that you want to associate with a server pool.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Right-click the service profile template you want to associate with a server pool and select **Associate with Server Pool**.
The **Associate with Server Pool** dialog box opens.

Step 5 From the **Server Pool** section of the **Pool Assignment** drop-down list, select a server pool.
If you select **Assign Later**, the service profile template is not associated with a server pool.

Step 6 Select one of the following radio buttons to determine the power state applied to a server which is associated with a service profile profile created from this template:

- **Down**
- **Up**

Step 7 From the **Select Qualification** drop-down list, select the server pool policy qualifications you want to apply to a server that is associated with a service profile created from this template.

Step 8 Click **OK**.

Disassociating a Service Profile Template from its Server Pool

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profile Templates**.

Step 3 Expand the node for the organization that contains the service profile that you want to disassociate from its server pool.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Right-click the service profile template you want to disassociate from its server pool and select **Disassociate Template**.

Step 5 If Cisco UCS Manager GUI displays a confirmation dialog box, click **Yes**.

Managing Service Profiles

Cloning a Service Profile

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.

Step 3 Expand the node for the organization where you want to create the service profile.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Right-click the service profile you want to clone and select **Create a Clone**.

Step 5 In the **Create Clone From Service Profile** dialog box:

a) Enter the name you want to use for the new profile in the **Clone Name** field.

b) Click **OK**.

Step 6 Navigate to the service profile you just created and make sure that all options are correct.

Associating a Service Profile with a Server or Server Pool

Follow this procedure if you did not associate the service profile with a server or server pool when you created it, or to change the server or server pool with which a service profile is associated.

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.

Step 3 Expand the node for the organization that contains the service profile that you want to associate with a new server or server pool.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Right-click the service profile you want to associate with a server and select **Change Service Profile Association**.

Step 5 In the **Associate Service Profile** dialog box, select one of the following options:

Option	Description
Server Pool	Select a server pool from the drop-down list. Cisco UCS Manager assigns a server from this pool to the service profile. Continue with Step 7.
Server	Navigate to the desired available server in the navigation tree and select the server which will be assigned to the service profile. Continue with Step 7.
Custom Server	Specifies the chassis and slot that contains the server that will be assigned to the service profile. If the server is not in the slot or is otherwise unavailable, the service profile will be associated with the server when it becomes available. Continue with Step 6.

Step 6 If you chose **Custom Server**, do the following:

a) In the **Chassis Id** field, enter the number of the chassis where the selected server is located.

b) In the **Server Id** field, enter the number of the slot where the selected server is located.

Step 7 Click **OK**.

Disassociating a Service Profile from a Server or Server Pool

When you disassociate a service profile, Cisco UCS Manager attempts to shutdown the operating system on the server. If the operating system does not shutdown within a reasonable length of time, Cisco UCS Manager forces the server to shutdown.

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.

Step 3 Expand the node for the organization that contains the service profile that you want to disassociate from a server or server pool.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Right-click the service profile you want to disassociate from a server and select **Disassociate Service Profile**.

Step 5 In the **Disassociate Service Profile** dialog box, click **Yes** to confirm that you want to disassociate the service profile.

Step 6 (Optional) Monitor the status and FSM for the server to confirm that the disassociation completed.

Changing the UUID in a Service Profile

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.

Step 3 Expand the node for the organization that contains the service profile for which you want to change the UUID.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Choose the service profile that requires the UUID for the associated server to be changed.

Step 5 In the **Work** pane, click the **General** tab.

Step 6 In the **Actions** area, click **Change UUID**.

Step 7 From the **UUID Assignment** drop-down list, do one of the following:

Option	Description
Select (pool default used by default)	Assigns a UUID from the default UUID Suffix pool. Continue with Step 9.
Hardware Default	Uses the UUID assigned to the server by the manufacturer. If you choose this option, the UUID remains unassigned until the service profile is associated with a server. At that point, the UUID is set to the UUID value assigned to the server by the manufacturer. If the service profile is later moved to a different server, the UUID is changed to match the new server. Continue with Step 9.

Option	Description
XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX	Uses the UUID that you manually assign. Continue with Step 8.
Pools ***Pool_Name***	Assigns a UUID from the UUID Suffix pool that you select from the list at the bottom of the drop-down list. Each pool name is followed by two numbers in parentheses that show the number of UUIDs still available in the pool and the total number of UUIDs in the pool. Continue with Step 9.

Step 8 (Optional) If you selected the **XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX** option, do the following:

a) In the **UUID** field, enter the valid UUID that you want to assign to the server which uses this service profile.

b) To verify that the selected UUID is available, click the **here** link.

Step 9 Click **OK**.

Modifying the Boot Order in a Service Profile

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.

Step 3 Expand the node for the organization that includes the service profile for which you want to change the boot order.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Click the service profile for which you want to change the boot order.

Step 5 In the **Work** pane, click the **Boot Order** tab.

Step 6 Click **Modify Boot Policy** to change the existing boot policy.

Step 7 In the **Modify Boot Policy** dialog box, choose one of the following from the **Boot Policy** drop-down list:

Option	Description
Select Boot Policy to use	Assigns the default boot policy to this service profile. Continue with Step 14.

Option	Description
Create a Specific Boot Policy	Enables you to create a local boot policy that can only be accessed by this service profile. Continue with Step 8.
Boot Policies *Policy_Name*	Assigns an existing boot policy to the service profile. If you choose this option, Cisco UCS Manager displays the details of the policy. If you do not want use any of the existing policies, but instead want to create a policy that all service profiles can access, click **Create Boot Policy** and continue with Step 2. Otherwise, continue with Step 14.

Step 8 If you chose to create a boot policy, in the **Create Boot Policy** dialog box, enter a unique name and description for the policy.
This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.

Step 9 (Optional) To reboot all servers that use this boot policy after you make changes to the boot order, check the **Reboot on Boot Order Change** check box.

Step 10 (Optional) To ensure that Cisco UCS Manager uses any vNICs or vHBAs in the order shown in the **Boot Order** table, check the **Enforce vNIC/vHBA Name** check box.
If you do not check this check box, Cisco UCS Manager uses the priority specified in the vNIC or vHBA.

Step 11 To add a local disk, virtual CD-ROM, or virtual floppy to the boot order, do the following:

a) Click the down arrows to expand the **Local Devices** area.
b) Click one of the following links to add the device to the **Boot Order** table:

- **Add Local Disk**
- **Add CD-ROM**
- **Add Floppy**

c) Add another boot device to the **Boot Order** table, or click **OK** to finish.

Step 12 To add a LAN boot to the boot order, do the following:

a) Click the down arrows to expand the **vNICs** area.
b) Click the **Add LAN Boot** link.
c) In the **Add LAN Boot** dialog box, enter the name of the vNIC that you want to use for the LAN boot in the **vNIC** field, then click **OK**.
d) Add another device to the **Boot Order** table, or click **OK** to finish.

Step 13 To add a SAN boot to the boot order, do the following:

a) Click the down arrows to expand the **vHBAs** area.
b) Click the **Add SAN Boot** link.
c) In the **Add SAN Boot** dialog box, complete the following fields, then click **OK**:

Name	Description
vHBA field	Enter the name of the vHBA you want to use for the SAN boot.

Name	Description
Type field	This can be: • **primary**—If the server boots using a SAN WWN address, this is the first address it tries. Each boot policy can have only one primary SAN boot location. • **secondary**—If the server cannot boot from the primary SAN location, it attempts to boot from this location. Each boot policy can have only one secondary SAN boot location.

d) If this vHBA points to a bootable SAN image, click the **Add SAN Boot Target** link and, in the **Add SAN Boot Target** dialog box, complete the following fields, then click **OK**:

Name	Description
Boot Target LUN field	The LUN that corresponds to the location of the boot image.
Boot Target WWPN field	The WWPN that corresponds to the location of the boot image.
Type field	This can be: • **primary**—If the server boots using a SAN WWN address, this is the first address it tries. Each boot policy can have only one primary SAN boot location. • **secondary**—If the server cannot boot from the primary SAN location, it attempts to boot from this location. Each boot policy can have only one secondary SAN boot location.

e) Add another boot device to the **Boot Order** table, or click **OK** to finish.

Step 14 Click **OK**.

Creating a vNIC for a Service Profile

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.

Step 3 Expand the node for the organization that contains the service profile for which you want to create a vNIC.

Step 4 Expand the service profile for which you want to create a vNIC.

Step 5 Right-click the **vNICs** node and choose **Create vNICs**.

Step 6 In the **Create vNICs** dialog box, do the following:

a) Complete the following fields to specify the identity information for the vNIC:

Name	Description
Name field	Enter a name for this vNIC.
Use LAN Connectivity Template check box	Check this check box if you want to use a template to create the vNIC. Cisco UCS Manager GUI displays the **vNIC Template** drop-down list from which you can select the appropriate template, and the **Adapter Performance Profile** area from which you can select an adapter profile. **Note** You can only select this option if one or more LAN connectivity templates exist in the system.
Create vNIC Template link	Click this link if you want to create a vNIC template.
MAC Address Assignment drop-down list	If you want to: • Use the default MAC address pool, leave this field set to **Select (pool default used by default)**. • Use the MAC address assigned to the server by the manufacturer, select **Hardware Default**. • A specific MAC address, select **02:25:B5:XX:XX:XX** and enter the address in the **MAC Address** field. To verify that this address is available, click the corresponding link. • A MAC address from a pool, select the pool name from the list. Each pool name is followed by a pair of numbers in parentheses. The first number is the number of available MAC addresses in the pool and the second is the total number of MAC addresses in the pool.

b) In the **Fabric Interconnect** area, complete the following fields:

Name	Description
Fabric ID field	The fabric interconnect associated with the component.

Name	Description
	If you want this vNIC to be able to access the second fabric interconnect if the default one is unavailable, check the **Enable Failover** check box. **Note** Do not select **Enable Failover** if you plan to associate this vNIC configuration with a server that has a Cisco UCS 82598KR-CI 10-Gigabit Ethernet Adapter. If you do so, Cisco UCS Manager generates a configuration fault when you associate the service profile with the server.
VLAN Trunking field	If you want to use VLAN trunking, click **Yes**. Otherwise, select **No**.
Select VLAN drop-down list	The VLAN with which this vNIC is associated.
Create VLAN link	Click this link if you want to create a VLAN.
Native VLAN check box	Check this check box if this vNIC is associated with the native VLAN.
MTU field	The maximum transmission unit, or packet size, that this vNIC accepts. Enter an integer between 1500 and 9216.
Pin Group drop-down list	Choose the LAN pin group you want associated with this vNIC.
Create LAN Pin Group link	Click this link if you want to create a LAN pin group.
Operational Parameters Section	
Stats Threshold Policy drop-down list	The statistics collection policy with which this vNIC is associated.

c) In the **Adapter Performance Profile** area, complete the following fields:

Name	Description
Adapter Policy drop-down list	The Ethernet adapter policy with which this vNIC is associated.
Create Ethernet Adapter Policy link	Click this link if you want to create an Ethernet adapter policy.
QoS drop-down list	The quality of service policy with which this vNIC is associated.
Create QoS Policy link	Click this link if you want to create a quality of service policy.
Network Control Policy drop-down list	The network control policy with which this vNIC is associated.
Create Network Control Policy Policy link	Click this link if you want to create a network control policy.

d) Click **OK**.

Deleting a vNIC from a Service Profile

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.
Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.
Step 3 Expand the node for the organization that contains the service profile from which you want to delete a vNIC.
Step 4 Expand the service profile from which you want to delete a vNIC.
Step 5 Expand the **vNICs** node.
Step 6 Right-click the vNIC you want to delete and choose **Delete**.
Step 7 If Cisco UCS Manager GUI displays a confirmation dialog box, click **Yes**.

Creating a vHBA for a Service Profile

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.
Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.
Step 3 Expand the node for the organization that contains the service profile for which you want to create a vHBA.
Step 4 Expand the service profile for which you want to create a vHBA.
Step 5 Right-click the **vHBAs** node and choose **Create vHBAs**.
Step 6 In the **Create vHBAs** dialog box, do the following:
a) Complete the following fields to specify the identity information for the vHBA:

Name	Description
Name field	The name of this vHBA. This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved.
Use SAN Connectivity Template check box	Check this check box if you want to use a template to create the vHBA. Cisco UCS Manager GUI displays the **vHBA Template** drop-down list from which you can select the appropriate template, and the **Adapter Performance Profile** area from which you can select an adapter profile.

Name	Description
	Note You can only select this option if one or more SAN connectivity templates exist in the system.
Create vHBA Template link	Click this link if you want to create a vHBA template.
WWPN Assignment drop-down list	If you want to: • Use the default WWPN pool, leave this field set to **Select (pool default used by default)**. • Use the WWPN assigned to the server by the manufacturer, select **Hardware Default**. • A specific WWPN, select **20:00:00:25:B5:00:00:00**, **20:XX:XX:XX:XX:XX:XX:XX**, or **5X:XX:XX:XX:XX:XX:XX:XX** and enter the WWPN in the **WWPN** field. To verify that this WWPN is available, click the corresponding link. • A WWPN from a pool, select the pool name from the list. Each pool name is followed by a pair of numbers in parentheses. The first number is the number of available WWN addresses in the pool and the second is the total number of WWPN addresses in the pool. To create a new WWPN pool, click **WWPN Pool**.

b) In the **VSAN** area, complete the following fields:

Name	Description
Fabric ID field	The fabric interconnect associated with the component.
Select VSAN drop-down list box	The VSAN with which this vHBA is associated.
Create VSAN link	Click this link if you want to create a VSAN.
Pin Group drop-down list box	The pin group with which this vHBA is associated.
Create SAN Pin Group link	Click this link if you want to create a pin group.
Persistent Binding field	This can be: • **disabled** • **enabled**
Max Data Field Size field	The maximum size of the Fibre Channel frame payload bytes that the vHBA supports. Enter an integer between 256 and 2112. The default is 2048.

Name	Description
Operational Parameters Section	
Stats Threshold Policy drop-down list box	The threshold policy with which this vHBA is associated.

c) In the **Adapter Performance Profile** area, complete the following fields:

Name	Description
Adapter Policy drop-down list box	The Fibre Channel adapter policy with which this vHBA is associated.
Create Fibre Channel Adapter Policy link	Click this link if you want to create a Fibre Channel adapter policy.
QoS drop-down list box	The quality of service policy with which this vHBA is associated.
Create QoS Policy link	Click this link if you want to create a QoS policy.

d) Click **OK**.

Changing the WWPN for a vHBA

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.

Step 3 Expand the node for the organization that contains the service profile for which you want to change the WWPN.

Step 4 Expand ***Service_Profile_Name*** **➤ vHBAs**.

Step 5 Click the vHBA for which you want to change the WWPN.

Step 6 In the **Work** pane, click the **General** tab.

Step 7 In the **Actions** area, click **Change World Wide Name**.

Step 8 In the **Change World Wide Port Name** dialog box, do the following:

a) From the **WWPN Assignment** drop-down list , do one of the following:

- Use the default WWPN pool, choose **Select (pool default used by default)**.
- Use a WWPN derived from the manufacturers specifications, choose **Hardware Default**.
- A specific WWPN, choose **20:00:00:25:B5:00:00:00** and enter the WWNN in the **WWPN** field.
- A WWPN from a pool, select the pool name from the list. Each pool name is followed by number of available/total WWPNs in the pool.

b) Click **OK**.

Clearing Persistent Binding for a vHBA

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.
Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.
Step 3 Expand the node for the organization that contains the service profile for which you want to modify the vHBA.
Step 4 Expand ***Service_Profile_Name*** **➤ vHBAs**.
Step 5 Click the vHBA for which you want to clear the persistent binding.
Step 6 In the **Work** pane, click the **General** tab.
Step 7 In the **Actions** area, click **Clear Persistent Binding**.
Step 8 If Cisco UCS Manager GUI displays a confirmation dialog box, click **Yes**.

Deleting a vHBA from a Service Profile

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.
Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.
Step 3 Expand the node for the organization that contains the service profile from which you want to delete a vHBA.
Step 4 Expand the service profile from which you want to delete a vHBA.
Step 5 Expand the **vHBAs** node.
Step 6 Right-click the vHBA you want to delete and choose **Delete**.
Step 7 If Cisco UCS Manager GUI displays a confirmation dialog box, click **Yes**.

Binding a Service Profile to a Service Profile Template

You can bind a service profile to a service profile template. When you bind the service profile to a template, Cisco UCS Manager configures the service profile with the values defined in the service profile template. If the existing service profile configuration does not match the template, Cisco UCS Manager reconfigures the service profile. You can only change the configuration of a bound service profile through the associated template.

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.

Step 3 Expand the node for the organization that includes the service profile you want to bind.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Click the service profile you want to bind.

Step 5 In the **Work** pane, click the **General** tab.

Step 6 In the **Actions** area, click **Bind to a Template**.

Step 7 In the **Bind to a Service Profile Template** dialog box, do the following:

a) From the **Service Profile Template** drop-down list, choose the template to which you want to bind the service profile.

b) Click **OK**.

Unbinding a Service Profile from a Service Profile Template

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 On the **Servers** tab, expand **Servers ➤ Service Profiles**.

Step 3 Expand the node for the organization that includes the service profile you want to unbind.
If the system does not include multi-tenancy, expand the **root** node.

Step 4 Click the service profile you want to unbind.

Step 5 In the **Work** pane, click the **General** tab.

Step 6 In the **Actions** area, click **Unbind from the Template**.

Step 7 If Cisco UCS Manager GUI displays a confirmation dialog box, click **Yes**.

Deleting a Service Profile

Procedure

Step 1 In the **Navigation** pane, click the **Servers** tab.

Step 2 In the **Servers** tab, expand **Servers ➤ Service Profiles ➤** *Organization_Name* .

Step 3 Right-click the service profile you want to delete and select **Delete**.

Step 4 If Cisco UCS Manager GUI displays a confirmation dialog box, click **Yes**.

Step 5 Click **OK**.