CHAPTER 4

Configuring Virtual Fibre Channel Interfaces

This chapter describes how to configure virtual Fibre Channel (FC) interfaces on a MDS 9000 or a Cisco Nexus 5000 Series or Cisco Nexus 7000 Series switch.

Note Before you configure virtual FC interfaces on a MDS 9000 or a Cisco Nexus 5000 Series or Cisco Nexus 7000 Series switch, you must enable and configure Fibre Channel over Ethernet (FCoE) on the switch. For information on enabling and configuring FCoE, refer to the *Fabric Configuration Guide, Cisco DCNM for SAN*.

This chapter includes the following sections:

About Virtual Fibre Channel Interfaces

MDS 9000 or Cisco Nexus 5000 Series or Cisco Nexus 7000 Series switches support FCoE, which allows Fibre Channel and Ethernet traffic to be carried on the same physical Ethernet connection between the switch and the servers.

The Fibre Channel portion of FCoE is configured as a virtual Fibre Channel interface. Logical Fibre Channel features (such as interface mode) can be configured on virtual FC interfaces. A virtual FC interface must be bound to an interface before it can be used.

Note Virtual FC interfaces are created with the administrative state set to down. You need to explicitly configure the administrative state to bring the virtual FC interface into operation.

Guidelines and Limitations

When configuring virtual FC interfaces, note the following guidelines and limitations:

- Each virtual FC interface can be bound to one of the following interfaces:
  - An Ethernet interface.

  - An Ethernet PortChannel.
  - A media access control (MAC) address of an FCoE Node (ENode) or a remote Fibre Channel Forwarder (FCF) identified by the virtual FC interface.
  - An Ethernet host interface on a Cisco Nexus 2000 Series Fabric Extender.
- FCoE is supported only on 10-Gigabit Ethernet interfaces.
- FCoE is not supported on private VLANs.

Configuring Virtual Fibre Channel Interfaces

This section describes how to configure virtual FC interfaces and includes the following topics:

Overview

You can configure a virtual FC interface on a MDS 9000 or Cisco Nexus 7000 series switch that runs Cisco NX-OS Release 5.2(1) or later releases. Cisco Nexus 5000 series supports FCoE from release 4.0(1a), MAC binding from release 4.1(3), E mode vFC from 5.0(2)N2 and NP mode vFC from release 5.0(3)N2 onwards. You can bind a vFC interface to a physical Ethernet interface, an Ethernet PortChannel, or a remote MAC address.

The Ethernet interface that you bind the virtual FC interface to must be configured as follows:

- The Ethernet interface must be a trunk port (use the **switchport mode trunk** command).
- The FCoE VLAN that corresponds to the virtual Fibre Channel's VSAN must be in the allowed VLAN list.
- The FCoE VLAN must not be configured as the native VLAN of the trunk port.
- The Ethernet interface must be configured as PortFast.

Following the above configuration guidelines will ensure a smooth upgrade to a T11 Fibre Channel Initialization Protocol (FIP)-based FCoE release in the future.

Configuring a Virtual Fibre Channel Interface

This section describes how to configure a virtual FC interface and includes the following topics:

Configuring a Virtual Fibre Channel Interface Using DCNM-SAN

To configure virtual FC interfaces using DCNM-SAN, follow these steps:

Step 1 In the Physical Attributes pane, expand **Switches > FC Interfaces**, and then choose **Logical > vFC**.

You see the VFC information pane.

The General tab in the Information pane displays the description, Mode Admin, Mode Oper, VSAN port, Dynamic VSAN, Bind Type, Bind Interface, Bind MAC address, FCF priority value, and status for each virtual FC interface.

Step 2 In the Information pane, in the FC Virtual table, click a virtual FC interface row to configure, and do the following:

a. (Optional) You can modify the bind type for the selected virtual FC interface. To do so, click the **Bind Type** column. From the drop-down list, choose **interfaceIndex** or **macAddress**.

Note You cannot modify the bind type value of a virtual FC interface on a Cisco Nexus 5000 series switch that runs a Cisco NX-OS release prior to Release 4.1(3). On such a switch, the Bind Type column will display interfaceIndex as the bind type.

Mac binding is supported only on Nexus 5000 series switch from Release 4.1(3).

b. (Optional) Double-click the **Bind Interface** column to choose a physical Ethernet interface or Ethernet PortChannel that will be bound to the virtual FC interface.

Note This column is dimmed if the Bind Type value is macAddress.

In the Bind Interface column, you can bind a virtual FC interface to one of the following:

- A physical Ethernet interface that runs at 10-Gigabit Ethernet speed.
- An Ethernet PortChannel on a MDS 9000 or Cisco Nexus 5000 Series or Cisco Nexus 7000 Series switch. The Ethernet PortChannel must have only one interface that runs at 10-Gigabit Ethernet speed.
- An Ethernet host interface on a Cisco Nexus 2000 series Fabric extender.

Note FCoE is supported only on Nexus 2000 series switch models—N2K-C2232PP-10GE and N2K-B22HP-P.

c. (Optional) Double-click the **Bind MAC Address** column to enter the MAC address of the ENode or the remote FCF.

This column is dimmed and cannot be changed if the Bind Type value is interfaceIndex.

d. (Optional) Double-click the **FCF Priority** column to enter a FCF priority value for the virtual FC interface. The value that you enter in this field will override the default FCF Priority value you configured in the FCoE Information pane. For more information on configuring FCoE, refer to the *Fabric Configuration Guide, Cisco DCNM for SAN*.

Note You cannot modify the FCF Priority value on a Cisco Nexus 5000 series switch that runs a Cisco NX–OS release prior to Release 4.1(3).

e. In the Information pane toolbar, click the **Apply Changes** icon to save the configuration.

Step 3 In the Information pane toolbar, click the **Create Row** icon to create a virtual FC interface. For more information, see the "Creating a Virtual Fibre Channel Interface Using Device Manager" section on page 4-12.

Step 4 In the Information pane toolbar, click the **Delete Row** icon to delete a virtual FC interface. For more information, see the "Deleting a Virtual Fibre Channel Interface" section on page 4-13.

Configuring a Virtual Fibre Channel Interface Using Device Manager

To configure virtual FC interfaces using Device Manager, follow these steps:

Step 1 Launch Device Manager.

Step 2 Choose **Interface > Virtual Interfaces > Fibre Channel**.

You see the Virtual FC Interfaces dialog box.

The General tab displays the description, bind type, bind interface, bind MAC address, FCF priority value, the port VSAN ID, dynamic VSAN ID, speed, rate mode, and status for each virtual FC interface.

Step 3 Click a virtual FC interface row to configure. Modify the values for the virtual FC interface.

Note In the Bind Interface column, you can bind a virtual FC interface to one of the following:

- A physical Ethernet interface that runs at 10-Gigabit Ethernet speed.
- An Ethernet PortChannel on a MDS 9000 or Cisco Nexus 5000 series switch. The Ethernet PortChannel must have only one interface that runs at 10-Gigabit Ethernet speed.
- An Ethernet host interface on a Cisco Nexus 2000 series Fabric extender.

Note FCoE is supported only on Nexus 2000 series switch models—N2K-C2232PP-10GE and N2K-B22HP-P.

For more information, see the "Configuring a Virtual Fibre Channel Interface Using DCNM-SAN" section on page 4-3.

Step 4 Click **Apply** to save the configuration.

Step 5 Click **Create** to create a virtual FC interface. For more information, see the "Creating a Virtual Fibre Channel Interface Using Device Manager" section on page 4-12.

Step 6 Click **Delete** to delete a virtual FC interface. For more information, see the "Deleting a Virtual Fibre Channel Interface" section on page 4-13.

Mapping VLANs to VSANs

A VLAN-VSAN mapping indicates the VLAN that is used to transport Fibre Channel traffic for a specific VSAN. Each virtual FC interface is associated with only one VSAN. Any VSAN with associated virtual FC interfaces must be mapped to a dedicated FCoE-enabled VLAN. FCoE is not supported on private VLANs.

This section provides information about how to map a VLAN to a VSAN and includes the following topics:

Mapping VLANs to VSANs Using DCNM-SAN

To create a mapping between a VSAN and its associated VLAN using DCNM-SAN, follow these steps:

Step 1 In the Physical Attributes pane, choose **Switches > FC Services > FCoE**.

Step 2 In the Information pane, click the **VLAN-VSAN Mapping** tab.

You see the VLAN-VSAN Mapping information pane.

The VLAN-VSAN Mapping tab displays the existing VLAN-VSAN mappings and the operational state of the VLAN-VSAN associations. You cannot modify an existing VLAN-VSAN mapping.

Step 3 In the Information pane toolbar, click the **Create Row** icon to create a new mapping.

Note You must have a MDS 9000 or a Cisco Nexus 5000 Series or Cisco Nexus 7000 Series switch in the fabric to map a VLAN to a VSAN.

You see the Create dialog box.

Step 4 From the Switch drop-down list, choose a MDS 9000 or a Cisco Nexus 5000 Series or Cisco Nexus 7000 Series switch.

Step 5 In the VLAN Id and VSAN Id fields, enter the VLAN ID and the VSAN ID that will be mapped together.

Note The VLAN must already exist on the switch. If you enter a nonexistent VLAN ID to create the mapping, the mapping operation will fail.

Step 6 Click **Create** to create the mapping.

Mapping VLANs to VSANs Using Device Manager

To create a mapping between a VSAN and its associated VLAN using Device Manager, follow these steps:

Step 1 Launch Device Manager from the MDS 9000 or a Cisco Nexus 5000 series switch.

Step 2 Choose **FCoE > Config**.

You see the FCoE Config dialog box.

Step 3 Click the **VLAN-VSAN Mapping** tab.

The VLAN-VSAN Mapping tab lists the existing VLAN-VSAN mappings and the operational state of the VLAN-VSAN associations. You cannot modify an existing VLAN-VSAN mapping.

Step 4 Click **Create** to create a new mapping.

You see the Create VLAN-VSAN Mapping dialog box.

Step 5 In the VLAN Id and VSAN Id fields, enter the VLAN ID and the VSAN ID that must to be mapped together.

Note The VLAN must already exist on the switch. If you enter a nonexistent VLAN ID to create the mapping, the mapping operation will fail.

Step 6 Click **Create** to create the mapping.

Assigning Fibre Channel VSAN Membership

To associate a virtual FC interface with a VSAN port using Device Manager, follow these steps:

Step 1 Launch Device Manager from the MDS 9000 or a Cisco Nexus 5000 series switch.

Step 2 Choose **FC > VSANs**.

You see the VSAN dialog box.

Step 3 Click the **Membership** tab. This tab displays the virtual FC interfaces associated with VSAN ports.

Step 4 For each VSAN port in the table, double-click the following VSAN parameters and choose a value to associate the virtual FC interface with the VSAN:

- **FC**—Fibre Channel ports in VSAN
- **Channels**—Ethernet PortChannels in VSAN
- **FCIP**—Fibre Channel Internet Protocol to associate with the VSAN
- **ISCSI** —ISCSI Internet Protocol to associate with the VSAN

Step 5 Click **Apply** to save the changes.

Creating Virtual Fibre Channel Interface using FCoE Configuration

This section describes how to create a vFC interface using the FCoE configuration wizard. It includes the following topics:

Creating a Virtual Fibre Channel Interface Using DCNM-SAN

You can create a vFC interface, using the FCoE configuration wizard, in three modes:

- VF Mode VFC
- VE Mode VFC
- VF-VNP Mode VFC

Note VF mode option is available only from the Data Center and SAN logical domains. VE mode and VF-VNP mode options are available only from the Data Center and LAN logical domains.

You can also configure FCoE using data center or LAN Map. For more information, see Configuring FCoE Using Data Center or LAN Map, page 4-12.

To create a Virtual Fibre Channel (vFC) interface using the FCoE Configuration Wizard, on the Fabric Manager toolbar, click the **FCoE** button or choose **Tools > FCoE**.

Note The **FCoE** button and the **Tools > FCoE** menu is enabled only if the fabric includes a MDS 9000 or Cisco Nexus 5000 Series or Cisco Nexus 7000 Series switch. A Cisco Nexus 5000 Series or Cisco Nexus 7000 Series switch is discovered as part of the fabric only if the switch has FCoE features enabled.

You see Step 1 screen of the FCoE Configuration Wizard. This allows you to select one of the three modes of FCoE configuration.

Configuring FCoE using the VF mode VFC

Detailed steps

To create a virtual Fibre Channel interface (vFC) using the VF mode in the FCoE Configuration Wizard, follow these steps:

Step 1 From Step 1 of the FCoE Configuration Wizard, select **VF Mode VFC** mode. This creates a VF mode VFC on ethernet port/port-channel and connect to directly connected end device. Click **Next**.

Step 2 You see Step 2 of the FCoE Configuration Wizard. This step lists all FCoE-enabled and FCoE capable switches in the fabric and the Model name.

Note The UCS switches currently block the SNMP write-access and are excluded from the list.

Choose a switch and click **Next**.

Step 3 You see Step 3 of the FCoE Configuration Wizard. The wizard shows a list of existing VLAN-VSAN ID mappings and the mapping operational state of the VLAN-VSAN associations. This step enables FCoE on VLAN and map the VSAN to the VLAN.

Note You cannot modify an existing VLAN-VSAN mapping.

This step is optional if the mapping operational state is “up”.

If the mapping operational state value is blank then these are the new/proposed mappings. Remove these mappings from the view or save to the switch by clicking either the **Delete** button or the **Create Mappings** button. The **Create Mappings** button is visible when you have the new or proposed mappings in the VLAN-VSAN table view.

You can add or delete a VLAN-VSAN mapping as following:

Note If you choose a VLAN-VSAN mapping before clicking Next, ensure the operational state of the mapping is **up**. Otherwise, an error message appears and the control remains in this step of the Wizard.

a. (Optional) To delete the VLAN-VSAN mapping for the interface, select a row from the interface and click **Delete**.

Note Existing mappings on the switch cannot be deleted from the wizard. The delete action only removes the VLAN-VSAN mappings from the table view.

b. (Optional) To create a new VLAN-VSAN mapping for the interface, do the following:

- Click **New**.

  A new row is added to the VLAN-VSAN mapping table.

  Note You must have a MDS 9000 or Cisco Nexus 5000 Series or Cisco Nexus 7000 Series switch in the fabric to create a VLAN-VSAN mapping.

  - Choose a VLAN ID from the drop-down list in the VLAN Id column, or type a VLAN ID in the VLAN Id field.
  - Choose a VSAN ID from the drop-down list in the VSAN Id column, or type a VSAN ID in the VSAN Id field.
  - Check the Default Mapping check box.

    Note The Default Mapping check box is checked by default.

    One default mapping must be specified for the FCoE configuration.

- Click **Create Mappings** to create the required mappings on the switch.

Step 4 You see Step 4 of the FCoE Configuration Wizard. This step creates and binds the vFC interfaces to the Ethernet interface, port channel, or Ethernet host interface of a Cisco MDS 9000 series or Cisco Nexus 5000 Series or Cisco Nexus 7000 Series Fabric Extender. This step configures the appropriate virtual FC interfaces and ethernet interfaces/channels. It also applies the FCoE changes to the switch.

Note You can assign the vFC ID either automatically or manually. By default, the vFC ID column is disabled.

You can do any one of the following:

- To automatically assign the vFC ID to the interface, check the **Auto Assign vFC ID** check box. In this case, the vFC ID column is hidden.

  Note Implicit binding is supported only for Cisco MDS 9000 and Cisco Nexus 7000 series switches. Cisco Nexus 5000 switches do not support implicit binding.

- To manually bind a vFC interface to a specific Ethernet interface and assign the vFC ID to the interface, uncheck the **Auto Assign vFC ID** check box. The vFC ID column appears. Type the vFC ID in the vFC ID field for each interface.

  Note Ethernet host interfaces of a Cisco Nexus N2224TP Series Fabric Extender, Cisco Nexus N2232TP Series Fabric Extender, or Cisco Nexus N2232TT Series Fabric Extender are not listed in this step of the wizard.

  To view these interfaces, you must check the **Show All Interfaces** check box. The Configure Action Status field displays the "Not FCoE Capable" status message for these interfaces. However, you cannot bind a virtual FC interface to any of these Ethernet interfaces.

- To change the VLAN-VSAN mappings to be used for the FCoE link, click on the VLAN(VSAN) Mapping column. Select the mappings that needs to be mapped and click OK.

The following guidelines define valid interfaces to which you can bind the virtual FC interface:

- The Ethernet interface must not have any virtual interface associated with it.
- The Ethernet PortChannel interface must contain only a single 10-Gigabit Ethernet interface.
- The Ethernet interface must not be connected to a Cisco Nexus 2000 Series Fabric Extender uplink port.
- The Ethernet interface must be a 10-Gigabit Ethernet interface.
- The Ethernet interface must not be in switchport monitor mode.

Click **Finish** to commit and distribute the change.

Configuring FCoE using the VE mode VFC

Note VE mode option is only available for Data Center and LAN logical domains.

Switches must be discovered through cdp discovery mode and the discovered LAN must be opened in DCNM-SAN.

Detailed steps

To create a vFC interface using the VE mode in the FCoE Configuration Wizard, follow these steps:

Step 1 From Step 1 of the FCoE Configuration Wizard, select **VE Mode VFC** mode. This creates a VE mode VFC on ethernet ISL end points. This also converts the ethernet ISL between two FCoE capable FCF switches to FCoE link. Click **Next**.

Step 2 You see Step 2 of the FCoE Configuration Wizard. This step lists the Ethernet ISLs that are FCoE capable between a switch pair. The selected Ethernet ISL end point interfaces will be used for vFC configuration in the last step. The FCoE feature will be enabled on selected switches when moving to the next step.

The following are the criteria to filter the VE capable ethernet ISLs:

- The Ethernet ISL should be up.
- The Ethernet ISL should be between two FCoE capable cards on VE FCoE capable switches.
- The Ethernet ISL end point interface should not be already bound to a VFC interface.

Choose an Ethernet ISL and click **Next**.

Step 3 Before the FCoE wizard displays Step 3, if the fabric discovery is not already done, the wizard prompts you with a dialog box informing the same. The wizard asks if you want to proceed and continue creating the FCoE link between the switches. Click **Yes** to continue.

If you are opening the FCoE wizard for the first time, the wizard prompts you to enter the FCoE credentials. Enter the username, password, and select the Auth-Privacy that must be used for the FCoE configuration. Click Use same credentials for both switches check box if the same credentials has to be used for both the switches. Ensure that you have the LAN administrator privileges to complete the ethernet interface configuration. The credentials for these switches will be cached for the duration of the client session. The wizard will not prompt you again for the credentials for the same switches until the session is closed or until the switch credentials are changed. Click **OK** to continue.

You see Step 3 of the FCoE Configuration Wizard. This step enables FCoE on VLAN and maps the VSAN to the VLAN.

The wizard shows a list of existing VLAN-VSAN ID mappings and the mapping operational state of the VLAN-VSAN associations.

You can add or delete a VLAN-VSAN mapping as following:

Note If you choose a VLAN-VSAN mapping before clicking Next, ensure the operational state of the mapping is **up**. Otherwise, an error message appears and the control remains in this step of the Wizard.

a. (Optional) To delete the VLAN-VSAN mapping for the interface, select a row from the interface and click **Delete**.

Note Existing mappings on the switch cannot be deleted from the wizard. The delete action only removes the VLAN-VSAN mappings from the table view.

b. (Optional) To create a new VLAN-VSAN mapping for the interface, do the following:

- Click **New**.

  A new row is added to the VLAN-VSAN mapping table.

- Choose a VLAN ID from the drop-down list in the VLAN Id column, or type a VLAN ID in the VLAN Id field.
- Choose a VSAN ID from the drop-down list in the VSAN Id column, or type a VSAN ID in the VSAN Id field.
- Check the Default Mapping check box.

Note The Default Mapping check box is checked by default.

One default mapping must be specified for the FCoE configuration.

- Click **Create Mappings** to create the required mappings on the switch.

Step 4 You see Step 4 of the FCoE Configuration Wizard. This step creates and binds the vFC interfaces to the Ethernet interfaces and port channels of a Cisco MDS 9000 series or Cisco Nexus 5000 Series or Cisco Nexus 7000 Series Fabric Extender. It also applies the FCoE changes to the switch.

Note You can assign the vFC ID either automatically or manually. By default, the vFC ID column is disabled.

You can do any one of the following:

- To automatically assign the vFC IDs to the interfaces, check the **Auto Assign vFC ID** check box. In this case, the vFC ID columns are hidden.
- To manually bind vFC interfaces to specific Ethernet interfaces and assign the vFC IDs to the interfaces, uncheck the **Auto Assign vFC ID** check box. The vFC ID columns appear. Type the vFC IDs in the vFC ID fields for each interface.
- To change the VLAN-VSAN mappings to be used for the FCoE link, click on the VLAN(VSAN) Mapping column. Select the mappings that needs to be mapped and click OK.

Click **Finish** to commit and distribute the change.

Configuring FCoE using the VF-VNP mode VFC

Note VF-VNP mode option is only available for Data Center and LAN logical domains.

For the VF-VNP mode NPV or FCoE NPV feature must be enabled on the Nexus 5000 switch.

Switches must be discovered through cdp discovery mode and the discovered LAN must be opened in DCNM-SAN.

For VF-VNP mode, the F mode switch can be Cisco MDS 9000 series switch, Nexus 5000 series switch, or Nexus 7000 series switch.

For VF-VNP mode, the NP mode switch can only be Cisco Nexus 5000 series switch.

Detailed steps

To create a vFC interface using the VF-VNP mode, from the FCoE Configuration Wizard follow these steps:

Step 1 From Step 1 of the FCoE Configuration Wizard, select **VF-VNP Mode VFC** mode. This creates a VF-VNP mode VFC on ethernet ISL end points. This also converts the ethernet ISL between an FCoE capable FCF switch and NPV and/or FCoE-NPV switch to FCoE link. Click **Next**.

Step 2 You see Step 2 of the FCoE Configuration Wizard. This step lists the ethernet ISLs that are FCoE capable between a switch pair. The selected ethernet ISL end point interfaces will be used for vFC configuration in the last step. The FCoE feature will be enabled on selected switches when moving to the next step.

The following are the criteria to filter the VE capable ethernet ISLs:

- The Ethernet ISL should be up.
- The Ethernet ISL should be between two FCoE capable cards on VE FCoE capable switches.
- The Ethernet ISL end point interface should not be already bound to a VFC interface.

Choose an Ethernet ISL and click **Next**.

Note The VF-VNP mode is similar to the VE mode. The only change is the filtering criteria. This has the rule that the ISLs between the FCoE capable switches to a NPV or the FCoE NPV Nexus 5000 switches are the only ones that are available for selection.

And when you click **Next** in the 2nd step, the FCoE and NPIV feature will be enabled on F mode switch, if not already enabled.

Rest of the steps are same as VE.

Step 3 Step 3 and Step 4 are same as for VE configuration. For more information, see "Configuring FCoE using the VE mode VFC" section on page 4-9.

Configuring FCoE Using Data Center or LAN Map

The FCoE wizard can also be launched from the Data Center or LAN map. You can select an ethernet ISL between the switches from either Data Center or LAN map. Right click on the link and select **Create FCoE Link...** option. This launches the FCoE wizard and will ask you for administrative credentials that appears when you open the client for the first time. Continue and follow the steps as said above and configure FCoE. For more information, see "Configuring FCoE using the VE mode VFC" section on page 4-9.

Creating a Virtual Fibre Channel Interface Using Device Manager

To create a vFC interface using Device Manager, follow these steps:

Step 1 Launch Device Manager from the Cisco MDS 9000 or Cisco Nexus 5000 series switch.

Step 2 Select **Interface > VFC Quick Configuration Tool**. The VFC Quick Configuration Tool dialog box is displayed. This displays all the Interfaces, the VLAN (VSAN) Mappings, Administration modes, and the Configure Action Status.

Step 3 Select an Interface.

Step 4 You can choose to automatically assign the vFC IDs or manually assign the vFC IDs. To assign it automatically, check the **Auto Assign vFC ID** check box. To assign it manually, uncheck the **Auto Assign vFC ID** check box. The vFC ID column is displayed where you can manually enter the vFC ID.

Step 5 Select the VLAN(VSAN) Mapping. When you click on the VLAN(VSAN) Mapping column, a dialog box is displayed that displays all the FCoE VLAN(VSAN) mappings that are available. Select the required and click **OK**.

Step 6 Select the Admin Mode. You can select **F** or **E** or **NP** as Admin Mode.

Note NP mode is applicable only for Nexus 5000 series switches.

Step 7 Click **Apply**. A dialog box is displayed informing that you are about to create new vFC interface, bind them to corresponding ethernet interfaces or channels and enable them. Click **Yes** to continue.

Step 8 The Configure Action Status column first shows that the configuration is in progress. Once the configuration is done, it will show that the vFC interface was created, bound, and enabled.

Step 9 Click **Refresh** to view the Interface mappings.

Step 10 Click **Close** to close the dialog box.

Deleting a Virtual Fibre Channel Interface

You can delete a vFC interface using Fabric Manager or Device Manager.

To delete a vFC interface, follow these steps:

Step 1 Do one of the following:

- In Fabric Manager, in the Physical Attributes pane, expand **Switches > FC Interfaces > Logical**, and then choose **VFC**.

  You see the Virtual Fibre Channel table in the Information pane.
- Launch Device Manager from the Cisco MDS 9000 series or Cisco Nexus 5000 series switch, and then choose **Interface > Virtual Interfaces > Fibre Channel**.

  You see the Virtual FC Interfaces dialog box.

Step 2 Choose a virtual FC interface that you want to delete.

Step 3 Do one of the following:

- In Fabric Manager, in the Information pane toolbar, click the **Delete Row** icon.
- In Device Manager, in the Virtual FC Interfaces dialog box, click **Delete**.

In the confirmation dialog box that appears, confirm the deletion of the vFC interface.

Default Settings

Table 4-1 lists the default settings for all virtual FC interfaces.

Table 4-1 Default Virtual Fibre Channel Interface Parameters

Parameters	Default
VSAN ID Port	1
Mode Admin	F
Mode Oper	Auto
Status Service	In
Status Admin	Down