Interface Management

About Firepower Interfaces

The Firepower 9300 chassis supports physical interfaces and EtherChannel (port-channel) interfaces. EtherChannel interfaces can include up to 16 member interfaces of the same type.

Chassis Management Interface

The chassis management interface is used for management of the FXOS Chassis by SSH or Firepower Chassis Manager. This interface appears at the top of the **Interfaces** tab as **MGMT**, and you can only enable or disable this interface on the **Interfaces** tab. This interface is separate from the mgmt-type interface that you assign to the logical devices for application management.

To configure parameters for this interface, you must configure them from the CLI. See also Changing the Management IP Address. To view information about this interface in the FXOS CLI, connect to local management and show the management port:

Firepower # **connect local-mgmt**

Firepower(local-mgmt) # **show mgmt-port**

Note that the chassis management interface remains up even if the physical cable or SFP module are unplugged, or if the **mgmt-port shut** command is performed.

Interface Types

Each interface can be one of the following types:

- Data—Data interfaces cannot be shared between logical devices.
- Mgmt—Use management interfaces to manage application instances. They can be shared by one or more logical devices to access external hosts; logical devices cannot communicate over this interface with other logical devices that share the interface. You can only assign one management interface per logical

device. For information about the separate chassis management interface, see Chassis Management Interface, on page 1.

- Cluster—Special interface type used for a clustered logical device. This type is automatically assigned to the cluster control link for inter-unit cluster communications. By default, the cluster control link is automatically created on Port-channel 48.

Jumbo Frame Support

The Firepower 9300 chassis has support for jumbo frames enabled by default. To enable jumbo frame support on a specific logical device installed on the Firepower 9300 chassis, you will need to configure the appropriate MTU settings for the interfaces on the logical device.

The maximum MTU that is supported for the application on the Firepower 9300 chassis is 9000.

Guidelines and Limitations for Firepower Interfaces

Inline Sets for FTD

- Supported for physical interfaces only (both regular and breakout ports); EtherChannels are not supported.
- Link state propagation is not supported.

Default MAC Addresses

Default MAC address assignments depend on the type of interface.

- Physical interfaces—The physical interface uses the burned-in MAC address.
- EtherChannels—For an EtherChannel, all interfaces that are part of the channel group share the same MAC address. This feature makes the EtherChannel transparent to network applications and users, because they only see the one logical connection; they have no knowledge of the individual links. The port-channel interface uses a unique MAC address from a pool; interface membership does not affect the MAC address.

Configure Interfaces

By default, physical interfaces are disabled. You can enable interfaces, add EtherChannels, edit interface properties, and configure breakout ports.

Enable or Disable an Interface

You can change the **Admin State** of each interface to be enabled or disabled. By default, physical interfaces are disabled.

Procedure

Step 1 Choose **Interfaces** to open the Interfaces page.

The Interfaces page shows a visual representation of the currently installed interfaces at the top of the page and provides a listing of the installed interfaces in the table below.

Step 2 To enable the interface, click the disabled slider () so that it changes to the enabled slider ().

Click **Yes** to confirm the change. The corresponding interface in the visual representation changes from gray to green.

Step 3 To disable the interface, click the enbled slider () so that it changes to the disabled slider ().

Click **Yes** to confirm the change. The corresponding interface in the visual representation changes from green to gray.

Configure a Physical Interface

You can physically enable and disable interfaces, as well as set the interface speed and duplex. To use an interface, it must be physically enabled in FXOS and logically enabled in the application.

Before you begin

- Interfaces that are already a member of an EtherChannel cannot be modified individually. Be sure to configure settings before you add it to the EtherChannel.

Procedure

Step 1 Choose **Interfaces** to open the Interfaces page.

The Interfaces page shows a visual representation of the currently installed interfaces at the top of the page and provides a listing of the installed interfaces in the table below.

Step 2 Click **Edit** in the row for the interface you want to edit to open the **Edit Interface** dialog box.

Step 3 To enable the interface, check the **Enable** check box. To disable the interface, uncheck the **Enable** check box.

Step 4 Choose the interface **Type**: **Data**, **Mgmt**, or **Cluster**.

Do not choose the **Cluster** type; by default, the cluster control link is automatically created on Port-channel 48.

Step 5 (Optional) Choose the speed of the interface from the **Speed** drop-down list.

Step 6 (Optional) If your interface supports **Auto Negotiation**, click the **Yes** or **No** radio button.

Step 7 (Optional) Choose the duplex of the interface from the **Duplex** drop-down list.

Step 8 Click **OK**.

Add an EtherChannel (Port Channel)

An EtherChannel (also known as a port channel) can include up to 16 member interfaces of the same type. The Link Aggregation Control Protocol (LACP) aggregates interfaces by exchanging the Link Aggregation Control Protocol Data Units (LACPDUs) between two network devices.

The Firepower 9300 chassis only supports EtherChannels in Active LACP mode so that each member interface sends and receives LACP updates. An active EtherChannel can establish connectivity with either an active or a passive EtherChannel. You should use the active mode unless you need to minimize the amount of LACP traffic.

LACP coordinates the automatic addition and deletion of links to the EtherChannel without user intervention. It also handles misconfigurations and checks that both ends of member interfaces are connected to the correct channel group.

Procedure

Step 1 Choose **Interfaces** to open the Interfaces page.

The Interfaces page shows a visual representation of the currently installed interfaces at the top of the page and provides a listing of the installed interfaces in the table below.

Step 2 Click **Add Port Channel** above the interfaces table to open the **Add Port Channel** dialog box.

Step 3 Enter an ID for the port channel in the **Port Channel ID** field. Valid values are between 1 and 47.

Port-channel 48 is reserved for the cluster control link when you deploy a clustered logical device. If you do not want to use Port-channel 48 for the cluster control link, you can configure an EtherChannel with a different ID and choose the Cluster type for the interface. Do not assign any interfaces to the Cluster EtherChannel.

Step 4 To enable the port channel, check the **Enable** check box. To disable the port channel, uncheck the **Enable** check box.

Step 5 Choose the interface **Type**: **Data**, **Mgmt**, or **Cluster**.

Do not choose the **Cluster** type unless you want to use this port-channel as the cluster control link instead of the default.

Step 6 Set the **Admin Speed** of the member interfaces from the drop-down list.

Step 7 Set the **Admin Duplex**, **Full Duplex** or **Half Duplex**.

Step 8 To add an interface to the port channel, select the interface in the **Available Interface** list and click **Add Interface** to move the interface to the Member ID list. You can add up to 16 interfaces of the same type and speed.

Tip You can add multiple interfaces at one time. To select multiple individual interfaces, click on the desired interfaces while holding down the **Ctrl** key. To select a range of interfaces, select the first interface in the range, and then, while holding down the **Shift** key, click to select the last interface in the range.

Step 9 To remove an interface from the port channel, click the **Delete** button to the right of the interface in the Member ID list.

Step 10 Click **OK**.

Configure Breakout Cables

The following procedure shows how to configure breakout cables for use with the Firepower 9300 chassis. You can use a breakout cable to provide four 10 Gbps ports in place of a single 40 Gbps port.

Procedure

Step 1 Choose **Interfaces** to open the Interfaces page.

The Interfaces page shows a visual representation of the currently installed interfaces at the top of the page and provides a listing of the installed interfaces in the table below.

The interfaces that are capable of supporting breakout cables but are not currently configured as such are indicated by a Breakout Port icon in the row for that interface. For interfaces that have already been configured as using a breakout cable, the individual breakout interfaces are listed separately (for example, Ethernet 2/1/1, 2/1/2, 2/1/3, and 2/1/4).

Step 2 To convert a 40 Gbps interface into four 10 Gbps interfaces:

a) Click the **Breakout Port** icon for the interface that you want to convert.

The Breakout Port Creation dialog box opens asking you to confirm that you want to proceed and warning you that the chassis will be rebooted.

b) Click **Yes** to confirm.

The Firepower chassis reboots and the specified interface is converted into four 10 Gbps interfaces.

Step 3 To convert the four 10 Gbps breakout interfaces back into a single 40 Gbps interface:

a) Click **Delete** for any of the breakout interfaces.

A confirmation dialog box opens asking you to confirm that you want to proceed and warning you that all four breakout interfaces will be deleted and that the chassis will be rebooted.

b) Click **Yes** to confirm.

The Firepower chassis reboots and the specified interfaces are converted into a single 40 Gbps interface.

Monitoring Interfaces

From the Interfaces page of the Firepower Chassis Manager, you can view the status of the installed interfaces on the chassis, edit interface properties, enable or disable an interface, and create port channels.

The Interfaces page is made up of two sections:

- The upper section shows a visual representation of the interfaces that are installed in the Firepower chassis. You can hover over any of the interfaces to get additional information about the interface.

  The interfaces are color coded to indicate their current status:

  - Green—The interface is installed and enabled.
  - Dark Grey—The interface is installed but disabled.

- Red—There is a problem with the operational state of the interface.
- Light Grey—The interface is not installed.

Note Interfaces that act as ports in port channels do not appear in this list.

- The lower section contains a table of the interfaces installed in the Firepower chassis. For each interface, you can enable or disable the interface. You can also click **Edit** to edit the properties of an interface, such as speed and interface type.

Note The port-channel 48 cluster type interface shows the **Operation State** as **failed** if it does not include any member interfaces. For intra-chassis clustering, this EtherChannel does not require any member interfaces, and you can ignore this Operational State.