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CHAPTER 2

# Configuring Basic Interface Parameters

This chapter describes how to configure the basic interface parameters for interfaces managed by Cisco Data Center Network Manager (DCNM).

**Note** The Cisco NX-OS release that is running on a managed device may not support all the features or settings described in this chapter. For the latest feature information and caveats, see the documentation and release notes for your platform and software release.

This chapter includes the following sections:



**Note** To configure the parameters that are specifically used for Layer 2 interfaces (access or trunking interfaces), see Chapter 3, "Configuring Layer 2 Interfaces." To configure parameters that are specifically used for Layer 3 interfaces (routed interfaces, subinterfaces, VLAN interfaces, loopback interfaces, and IP tunnels), see Chapter 4, "Configuring Layer 3 Interfaces."

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# Information About the Basic Interface Parameters

This section includes the following topics:



## Description

For the Ethernet and management interfaces, you can configure the description parameter to provide a recognizable name for the interface. Using a unique name for each interface allows you to quickly identify the interface when you are looking at a listing of multiple interfaces.

For information on setting the description parameter for port-channel interfaces, see the "Configuring a Port-Channel Description" section on page 5-21. For information on configuring this parameter for other interfaces, see the "Configuring the Description" section on page 2-14.

## Beacon

The beacon mode allows you to identify a physical port by flashing its link state LED with a green light. By default, this mode is disabled. To identify the physical port for an interface, you can activate the beacon parameter for the interface.

For information on configuring the beacon parameter, see the "Configuring the Beacon Mode" section on page 2-15.

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# MDIX

The medium dependent interface crossover (MDIX) parameter enables or disables the detection of a crossover connection between devices. This parameter applies only to copper interfaces. By default, this parameter is enabled.

For information on configuring the MDIX parameter, see the "Configuring the MDIX Parameter" section on page 2-16.

# Debounce Timer

The debounce timer delays notification of a link change, which can decrease traffic loss due to network reconfiguration. You can configure the debounce timer separately for each Ethernet port and specify the delay time in milliseconds. By default, this parameter is set for 100 milliseconds.

**Caution** Enabling the debounce timer causes the link-down detections to be delayed, which results in a loss of traffic during the debounce period. This situation might affect the convergence and reconvergence of some Layer 2 and Layer 3 protocols.

For information on configuring the debounce-timer parameters, see the "Configuring the Debounce Timer" section on page 2-17.

# Error Disabled

A port is in the error-disabled (err-disabled) state when the port is enabled administratively (using the **no shutdown** command) but disabled at runtime by any process. For example, if UDLD detects a unidirectional link, the port is shut down at runtime. However, because the port is administratively enabled, the port status displays as err-disable. Once a port goes into the err-disable state, you must manually reenable it or you can configure a timeout value that provides an automatic recovery. By default, the automatic recovery is not configured, and by default the err-disable detection is enabled for all causes.

You can configure the automatic error-disabled recovery timeout for a particular error-disabled cause and configure the recovery period.

# Rate Mode

On a 32-port 10-Gigabit Ethernet module, each set of four ports can handle 10 gigabits per second (Gb/s) of bandwidth. You can use the rate-mode parameter to dedicate that bandwidth to the first port in the set of four ports or share the bandwidth across all four ports.

Table 2-1 identifies the ports that are grouped together to share each 10 Gb/s of bandwidth and which port in the group can be dedicated to utilize the entire bandwidth.

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*Table 2-1 Dedicated and Shared Ports*

| Ports Groups that Can Share Bandwidth | Ports that Can be Dedicated to Each 10-Gigabit Ethernet of Bandwidth |
|---|---|
| 1, 3, 5, 7 | 1 |
| 2, 4, 6, 8 | 2 |
| 9, 11, 13, 15 | 9 |
| 10, 12, 14, 16 | 10 |
| 17, 19, 21, 23 | 17 |
| 18, 20, 22, 24 | 18 |
| 25, 27, 29, 31 | 25 |
| 26, 28, 30, 32 | 26 |

**Note** All ports in each port group must be part of the same virtual device context (VDC). For more information on VDCs, see the *Virtual Device Context Configuration Guide, Cisco DCNM for LAN, Release 5.x*.

# Speed Mode and Duplex Mode

The speed mode and duplex mode are interrelated for each Ethernet and management interface. By default, each of these interfaces autonegotiates its speed and duplex mode with the other interface, but you can change these settings. If you change the settings, be sure to use the same speed and duplex mode setting on both interfaces, or use autonegotiation for at least one of the interfaces. Table 2-2 shows the settings that work for each type of Ethernet and management interface.

*Table 2-2 Speed- and Duplex-Mode Settings Used for Ethernet and Management Interfaces*

| Module Type | Speed Mode Setting | Duplex Mode Setting | Operational Speed (Mb/s) | Operational Duplex Mode |
|---|---|---|---|---|
| N7K-M132XP-12<br>32-port 10-Gigabit Ethernet | Auto[1] | Auto[1] | 10,000 | Full |
| N7K-M108X2-12L<br>8-port 10-Gigabit Ethernet | Auto[1] | Auto[1] | 10,000 | Full |
| N7K-M148GS-11<br>N7K-M148GS-11L<br>48-port 1-Gigabit Ethernet | Auto[1] | Auto[1] | 1000 | Full |
| N7K-M148GT-11<br>48-port 10/100/1000 Ethernet | Auto[1] | Auto[1] | 1000 | Full |
| | | | 10 or 100 | Half |
| | 1000 | Auto[1] or full | 1000 | Full |
| | 100 | Auto[1] or half | 100 | Half |
| | | Full | 100 | Full |

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*Table 2-2 Speed- and Duplex-Mode Settings Used for Ethernet and Management Interfaces*

| Module Type | Speed Mode Setting | Duplex Mode Setting | Operational Speed (Mb/s) | Operational Duplex Mode |
|---|---|---|---|---|
| | 10 | Auto[1] or half | 10 | Half |
| | | Full | 10 | Full |
| Management | Auto[1] | Auto[1] | 1000 | Full |
| | | | 10 or 100 | Half |
| | 1000 | Auto[1] or full | 1000 | Full |
| | 100 | Auto[1] or half | 100 | Half |
| | | Full | 100 | Full |
| | 10 | Auto[1] or half | 10 | Half |
| | | Full | 10 | Full |

1. Default setting

For information on setting the speed mode and duplex mode for port-channel interfaces, see the "Configuring the Speed and Duplex Settings for a Port-Channel Interface" section on page 5-22. For information on setting the speed and duplex speed for other interfaces, see the "Configuring the Interface Speed and Duplex Mode" section on page 2-18.

# Flow Control

When the receive buffer for an Ethernet port that runs 1 Gb/s or faster fills, flow control enables that port to send an IEEE 802.3x pause frame to the transmitting port to request it to stop transmitting data for a specified amount of time. Transmitting ports, running at any speed, can receive the pause frames to stop their transmission of data.

To allow flow control to work between two ports, you must set the corresponding receive and send flow control parameters for both ports as enabled or desired. When you set the parameter to enabled, the send or receive flow-control function is activated regardless of the setting of the other port. When you set the parameter to desired, the send or receive flow-control function is activated if you set the corresponding flow-control state of the other port to enabled or desired. If you set one of the flow control states to disabled, flow control is disabled for that transmission direction. To see how the different port flow-control states affect the link flow-control state, see Table 2-3.

*Table 2-3 Port Flow-Control Influences on Link Flow Control*

| Port Flow Control States | | |
|---|---|---|
| Port Receiving Data (Sends Pause Frames) | Port Transmitting Data (Receives Pause Frames) | Link Flow Control State |
| Enabled | Enabled | Enabled |
| Enabled | Desired | Enabled |
| Enabled | Disabled | Disabled |
| Desired | Enabled | Enabled |
| Desired | Desired | Enabled |

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*Table 2-3 Port Flow-Control Influences on Link Flow Control (continued)*

| Port Flow Control States | | |
|---|---|---|
| **Port Receiving Data (Sends Pause Frames)** | **Port Transmitting Data (Receives Pause Frames)** | **Link Flow Control State** |
| Desired | Disabled | Disabled |
| Disabled | Enabled | Disabled |
| Disabled | Desired | Disabled |
| Disabled | Disabled | Disabled |

For information on setting the flow-control parameters, see the "Configuring the Flow Control" section on page 2-19.

# Port MTU Size

The maximum transmission unit (MTU) size specifies the maximum frame size that an Ethernet port can process. For transmissions to occur between two ports, you must configure the same MTU size for both ports. A port drops any frames that exceed its MTU size.

By default, each port has an MTU of 1500 bytes, which is the IEEE 802.3 standard for Ethernet frames. Larger MTU sizes are possible for more efficient processing of data with less overhead. The larger frames, called jumbo frames, can be up to 9216 bytes in size, which is also the default system jumbo MTU size.

On a Layer 3 interface, you can configure an MTU size between 576 and 9216 bytes. You can configure up to 64 MTU settings for each I/O module.

**Note** The global LAN port MTU size applies to the traffic through a Layer 3 Ethernet LAN port that is configured with a nondefault MTU size.

For a Layer 2 port, you can configure an MTU size that is either the system default (1500 bytes) or the system jumbo MTU size (initially 9216 bytes).

**Note** If you change the system jumbo MTU size, Layer 2 ports automatically use the system default MTU size (1500 bytes) unless you specify the new system jumbo MTU size for some or all of those ports.

For information on setting the MTU size, see the "Configuring the MTU Size" section on page 2-20.

# Bandwidth

Ethernet ports have a fixed bandwidth of 1,000,000 Kb at the physical level. Layer 3 protocols use a bandwidth value that you can set for calculating their internal metrics. The value that you set is used for informational purposes only by the Layer 3 protocols—it does not change the fixed bandwidth at the physical level. For example, the Interior Gateway Routing Protocol (IGRP) uses the minimum path bandwidth to determine a routing metric, but the bandwidth at the physical level remains at 1,000,000 Kb.

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For information on configuring the bandwidth parameter for other interfaces, see the "Configuring the Bandwidth" section on page 2-21.

# Throughput Delay

Specifying a value for the throughput-delay parameter provides a value used by Layer 3 protocols; it does not change the actual throughput delay of an interface. The Layer 3 protocols can use this value to make operating decisions. For example, EIGRP can use the delay setting to set a preference for one Ethernet link over another, if other parameters such as link speed are equal. The delay value that you set is in the tens of microseconds.

For information on configuring the throughput-delay parameter, see the "Configuring the Throughput Delay" section on page 2-22.

# Administrative Status

The administrative-status parameter determines whether an interface is up or down. When an interface is administratively down, it is disabled and unable to transmit data. When an interface is administratively up, it is enabled and able to transmit data.

For information on configuring the administrative status parameter for port-channel interfaces, see the "Shutting Down and Restarting the Port-Channel Interface" section on page 5-19. For information on configuring the administrative-status parameter for other interfaces, see the "Shutting Down and Activating the Interface" section on page 2-22.

# Unidirectional Link Detection Parameter

This section includes the following topics:



## UDLD Overview

The Cisco-proprietary Unidirectional Link Detection (UDLD) protocol allows devices that are connected through fiber-optic or copper (for example, Category 5 cabling) Ethernet cables to monitor the physical configuration of the cables and detect when a unidirectional link exists. When a device detects a unidirectional link, UDLD shuts down the affected LAN port and alerts the user. Unidirectional links can cause a variety of problems, including spanning tree topology loops.

UDLD is a Layer 2 protocol that works with the Layer 1 protocols to determine the physical status of a link. At Layer 1, autonegotiation takes care of physical signaling and fault detection. UDLD performs tasks that autonegotiation cannot perform, such as detecting the identities of neighbors and shutting down misconnected LAN ports. When you enable both autonegotiation and UDLD, Layer 1 and Layer 2 detections work together to prevent physical and logical unidirectional connections and the malfunctioning of other protocols.

A unidirectional link occurs whenever traffic transmitted by the local device over a link is received by the neighbor but traffic transmitted from the neighbor is not received by the local device. If one of the fiber strands in a pair is disconnected, as long as autonegotiation is active, the link does not stay up. In

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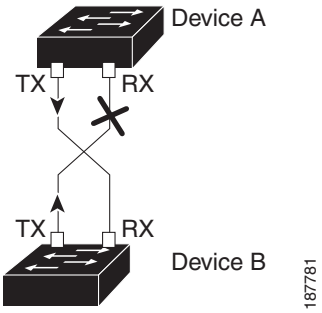
this case, the logical link is undetermined, and UDLD does not take any action. If both fibers are working normally at Layer 1, then UDLD at Layer 2 determines whether those fibers are connected correctly and whether traffic is flowing bidirectionally between the correct neighbors. This check cannot be performed by autonegotiation, because autonegotiation operates at Layer 1.

The Cisco Nexus 7000 Series device periodically transmits UDLD frames to neighbor devices on LAN ports with UDLD enabled. If the frames are echoed back within a specific time frame and they lack a specific acknowledgment (echo), the link is flagged as unidirectional and the LAN port is shut down. Devices on both ends of the link must support UDLD in order for the protocol to successfully identify and disable unidirectional links. You can configure the transmission interval for the UDLD frames, either globally or for the specified interfaces.

**Note** By default, UDLD is locally disabled on copper LAN ports to avoid sending unnecessary control traffic on this type of media.

Figure 2-1 shows an example of a unidirectional link condition. Device B successfully receives traffic from device A on the port. However, device A does not receive traffic from device B on the same port. UDLD detects the problem and disables the port.

***Figure 2-1 Unidirectional Link***




## Default UDLD Configuration

Table 2-4 shows the default UDLD configuration.

***Table 2-4 UDLD Default Configuration***

| Feature | Default Value |
|---|---|
| UDLD global enable state | Globally disabled |
| UDLD per-port enable state for fiber-optic media | Enabled on all Ethernet fiber-optic LAN ports |
| UDLD per-port enable state for twisted-pair (copper) media | Disabled on all Ethernet 10/100 and 1000BASE-TX LAN ports |
| UDLD aggressive mode | Disabled |
| UDLD message interval | 15 seconds |

For information on configuring the UDLD for the device and its port, see the "Enabling or Disabling CDP" section on page 2-23.

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## UDLD Aggressive and Nonaggressive Modes

UDLD aggressive mode is disabled by default. You can configure UDLD aggressive mode only on point-to-point links between network devices that support UDLD aggressive mode. If UDLD aggressive mode is enabled, when a port on a bidirectional link that has a UDLD neighbor relationship established stops receiving UDLD frame, UDLD tries to reestablish the connection with the neighbor. After eight failed retries, the port is disabled.

To prevent spanning tree loops, nonaggressive UDLD with the default interval of 15 seconds is fast enough to shut down a unidirectional link before a blocking port transitions to the forwarding state (with default spanning tree parameters).

When you enable the UDLD aggressive mode, the following occurs:

- One side of a link has a port stuck (both transmission and receive)
- One side of a link remains up while the other side of the link is down

In these cases, the UDLD aggressive mode disables one of the ports on the link, which prevents traffic from being discarded.

**Note** You enable the UDLD aggressive mode globally to enable that mode on all the fiber ports. You must enable the UDLD aggressive mode on copper ports on specified interfaces.

**Tip** When a line card upgrade is being performed during an in-service software upgrade (ISSU) and some of the ports on the line card are members of a Layer 2 port channel and are configured with UDLD aggressive mode. If one of the remote ports is shutdown, UDLD puts the corresponding port on the local device into error disabled state. This is correct behavior.

To restore service after the ISSU has completed, run a **shutdown** followed by a **no shutdown** command on the local port.

# Carrier Delay

**Note** You can configure the carrier delay timer only on VLAN network interfaces; you cannot configure this timer in any other interface modes. See Chapter 4, “Configuring Layer 3 Interfaces,” for information on configuring VLAN network interfaces.

If a link goes down and comes back up before the carrier delay timer expires, the down state is effectively filtered, and the rest of the software on the device is not aware that a link-down event occurred. A large carrier delay timer results in fewer link-up/link-down events being detected. When you set the carrier delay time to 0, the device detects each link-up/link-down event that occurs.

In most environments, a lower carrier delay time is better than a higher one. The exact value that you choose depends on the nature of the link outages and how long you expect these linkages to last in your network. If your data links are subject to short outages (especially if those outages last less time than it takes for your IP routing to converge), you should set a long carrier delay value to prevent these short outages from causing unnecessary problems in your routing tables. However, if your outages tend to be longer, then you may want to set a shorter carrier delay time so that the outages are detected sooner, and the IP route convergence begins and ends sooner.

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The default carrier-delay time is 2 seconds or 50 milliseconds.

## Management Interface IP Address Parameters

The management (mgmt0) interface on Cisco NX-OS devices allows multiple simultaneous Telnet or SNMP sessions and enables you to manage the device by its IPv4 or IPv6 address.

For more information about IPv4 and IPv6 addressing, see the *Unicast Configuration Guide, Cisco DCNM for LAN, Release 5.x*.

## Port-Channel Parameters

A port channel is an aggregation of physical interfaces that comprise a logical interface. You can bundle up to eight individual interfaces into a port channel to provide increased bandwidth and redundancy. Port channeling also load balances traffic across these physical interfaces. The port channel stays operational if at least one physical interface within the port channel is operational.

You can create a Layer 2 port channel by bundling compatible Layer 2 interfaces, or you can create Layer 3 port channels by bundling compatible Layer 3 interfaces. You cannot combine Layer 2 and Layer 3 interfaces in the same port channel.

Any configuration changes that you apply to the port channel are applied to each interface member of that port channel.

For information on port channels and for information on configuring port channels, see Chapter 5, “Configuring Port Channels.”

# Licensing Requirements

The following table shows the licensing requirements for this feature:

| Product | License Requirement |
|---|---|
| Cisco DCNM | The basic interface parameters require a LAN Enterprise license. |
| Cisco NX-OS | The basic interface parameters require no license. Any feature not included in a license package is bundled with the Cisco NX-OS system images and is provided at no extra charge to you. For a complete explanation of the Cisco NX-OS licensing scheme, see the *Cisco NX-OS Licensing Guide*. |

**Note** Using VDCs requires an Advanced Services license.

# Default Settings

Table 2-5 lists the default settings for the basic interface parameters.

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*Table 2-5 Default Basic Interface Parameter Settings*

| Parameters | Default |
|---|---|
| Description | Blank |
| Beacon | Disabled |
| Debounce timer | 100 milliseconds |
| Bandwidth | Data rate of interface |
| Throughput delay | 100 microseconds |
| Administrative status | Shutdown |
| MTU | 1500 bytes |
| UDLD global | Globally disabled |
| UDLD per-port enable state for fiber-optic media | Enabled on all Ethernet fiber-optic LAN ports |
| UDLD per-port enable state for copper media | Disabled on all Ethernet 10/100 and 1000BASE-TX LAN ports |
| UDLD message interval | Disabled |
| UDLD aggressive mode | Disabled |
| Carrier delay | 2 seconds or 50 milliseconds |
| Error disable | Disabled |
| Error disable recovery | Disabled |
| Error disable recovery interval | 300 seconds |
| Link debounce | Enabled |
| Port profile | Disabled |

# Platform Support

The following platforms support this feature but may implement it differently. For platform-specific information, including guidelines and limitations, system defaults, and configuration limits, see the corresponding documentation.

| Platform | Documentation |
|---|---|
| Cisco Nexus 1000V Series Switches | Cisco Nexus 1000V Series Switches Documentation |
| Cisco Nexus 3000 Series Switches | Cisco Nexus 3000 Series Switches Documentation |
| Cisco Nexus 4000 Series Switches | Cisco Nexus 4000 Series Switches Documentation |
| Cisco Nexus 5000 Series Switches | Cisco Nexus 5000 Series Switches Documentation |
| Cisco Nexus 7000 Series Switches | Cisco Nexus 7000 Series Switches Documentation |
| Cisco Catalyst 6500 Series Switches | Cisco Catalyst 6500 Series Switches Documentation |

# Configuring the Basic Interface Parameters

When you configure an interface, you must specify the interface before you can configure its parameters.

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The following sections explain how to specify the interface and configure each of its basic parameters:



# Specifying the Interfaces to Configure

Before you can configure the parameters for one or more interfaces of the same type, you must specify the type and the identities of the interfaces.

Table 2-6 shows the interface types and identities that you should use for specifying the Ethernet and management interfaces.

*Table 2-6 Information Needed to Identify an Interface for Configurations*

| Interface Type | Identity |
|---|---|
| Ethernet | I/O module slot numbers and port numbers on the module |
| Management | 0 (for port 0) |

To display status and diagnostic information for SFP interfaces, see the "Field Descriptions" section on page 2-26.

## DETAILED STEPS

**Step 1** From the Feature Selector pane, specify the type of interfaces that you are configuring by following these steps:

a. Choose **Interfaces**.

b. Choose **Physical** or **Logical**.

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- To work with Ethernet interfaces or the management interface, choose **Physical**.
- To work with port-channel interfaces, loopback interfaces, VLAN network interfaces, or tunnel interfaces, choose **Logical**.

**c.** If you are working with physical interfaces, choose one of the following interface types:

- To configure Ethernet interface parameters, choose **Ethernet**.
- To configure management interface parameters, choose **Mgmt Interface**.

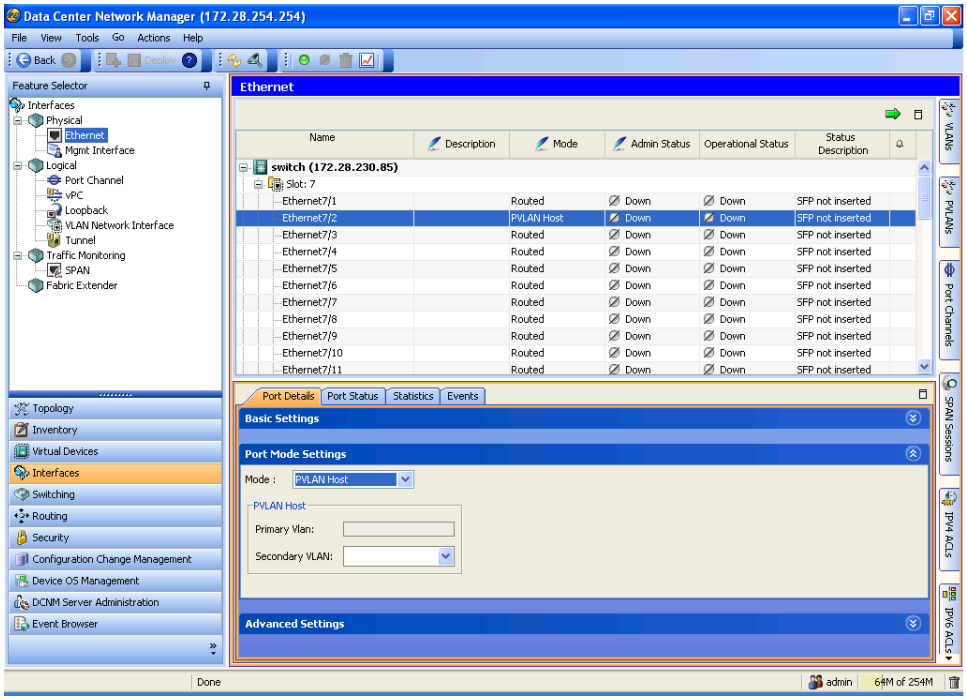
**d.** If you are working with logical interfaces, choose one of the following interface types:

- **Port Channel**
- **Loopback**
- **VLAN Network Interface**
- **Tunnel**

The devices with the interface type that you specified appear in the Summary pane.

Figure 2-1 shows the Feature Selector items to choose to specify an interface type.

***Figure 2-2 Specifying an Interface Type***




**Step 2** From the Summary pane, specify the device and (optionally) the port in one of the following ways:

- If you specified the Ethernet interface type, expand the device, expand the slot for the appropriate I/O module, and click the appropriate port as shown in Figure 2-3.

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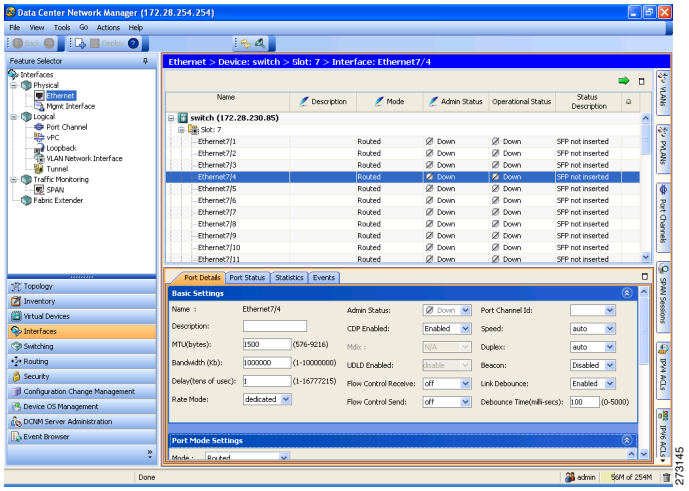
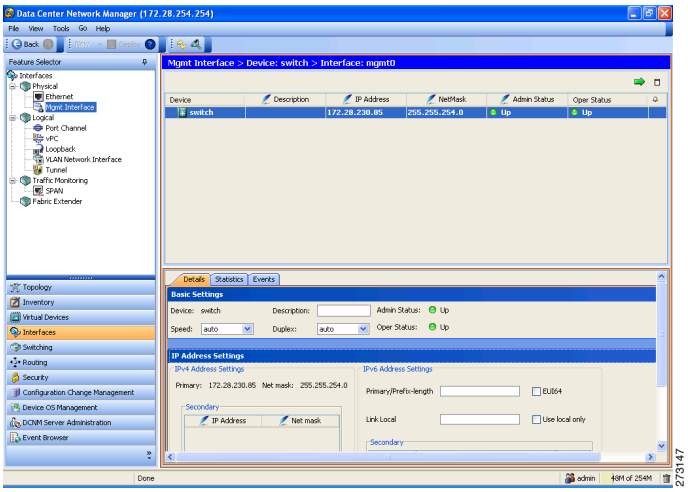
*Figure 2-3 Specifying a Port for an Ethernet Interface*




- If you specified the management interface type, click the device as shown in Figure 2-4.

*Figure 2-4 Specifying a Device for a Management Interface*




Tabs and sections for displaying detailed information for the interface that you specified appear in the Details pane.

# Configuring the Description

You can provide textual interface descriptions for the Ethernet and management interfaces. Descriptions can be a maximum of 80 case-sensitive, alphanumeric characters.

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### DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces > Physical**.

**Step 2** Choose **Ethernet** or **Mgmt Interface**.

The devices with the interface type that you specified appear in the Summary pane.

**Step 3** From the Summary pane, specify the interface by doing one of the following:

- To configure the Ethernet interface, expand the device, expand the slot, and click the port.

  Tabs appear for the port information in the Details pane. The Port Details tab is active but its sections are not expanded.

- To configure the management interface, click the device that you are configuring.

  Tabs appear for the device information in the Details pane. The Details tab is active but its sections are not expanded.

**Step 4** From the Details pane, expand the **Basic Settings** section.

The Basic Settings section shows the basic parameters.

**Step 5** In the Description field, enter the appropriate textual description for the interface.

**Step 6** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

## Configuring the Beacon Mode

You can enable the beacon mode for an Ethernet port to flash its LED to confirm its physical location.

### DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces > Physical > Ethernet**.

The devices with Ethernet interfaces appear in the Summary pane.

**Step 2** From the Summary pane, expand the device, expand the slot, and click the port.

Tabs appear for the port information in the Details pane. The Port Details tab is active but its sections are not expanded.

**Step 3** From the Details pane, expand the **Basic Settings** section.

The Basic Settings section shows the basic parameters.

**Step 4** From the Beacon drop-down list, choose **Enabled** or **Disabled**.

**Step 5** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

## Changing the Bandwidth-Rate Mode

On a 32-port 10-Gigabit Ethernet module, each set of four ports can handle 10 gigabits per second (Gb/s) of bandwidth. You can use the rate-mode parameter to dedicate that bandwidth to the first port in the set of four ports or share the bandwidth across all four ports.

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### DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces > Physical > Ethernet**.

The devices with Ethernet interfaces appear in the Summary pane.

**Step 2** From the Summary pane, expand the device, expand the slot, and click the port.

Tabs appear for the port information in the Details pane. The Port Details tab is active but its sections are not expanded.

**Step 3** From the Details pane, expand the **Basic Settings** section.

The Basic Settings section shows the basic parameters.

**Step 4** If you have selected a port that allows dedicated rate mode, from the Rate Mode drop-down list, choose **dedicated** or **shared**.

**Step 5** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

## Configuring the Error-Disabled State

You can view the reason an interface moves to the error-disabled state and configure automatic recovery.

### DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces > Physical > Ethernet**.

The devices with Ethernet interfaces appear in the Summary pane.

**Step 2** From the Summary pane, click the device.

Tabs appear for the device information in the Details pane.

**Step 3** Click the Error Disable Settings Section.

The section expands and separate fields for Detection and Recovery appear.

**Step 4** In the Detection section, click the causes for which you want to detect all error-disable interfaces.

**Step 5** In the Recovery Interval field of the Recovery section, enter the automatic recovery time interval that you want in seconds.

The range is 30 to 65535 seconds.

**Step 6** In the Recovery section, click the error-disabled causes from which you want the interfaces to automatically recover.

**Step 7** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

## Configuring the MDIX Parameter

If you need to detect the type of connection (crossover or straight) with another copper Ethernet port, enable the medium dependent independent crossover (MDIX) parameter for the local port. By default, this parameter is enabled.

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### BEFORE YOU BEGIN

You must enable MDIX for the remote port.

### DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces > Physical > Ethernet**.

The devices with Ethernet interfaces appear in the Summary pane.

**Step 2** From the Summary pane, expand the device, expand the slot, and click the port.

Tabs appear for the port information in the Details pane. The Port Details tab is active but its sections are not expanded.

**Step 3** From the Details pane, expand the **Basic Settings** section.

The Basic Settings section shows the basic parameters.

**Step 4** From the Mdix drop-down list, choose either **enabled** or **disabled**.

**Step 5** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

## Configuring the Debounce Timer

You can enable or disable the debounce timer by using the Link Debounce and Debounce Time fields. In the Link Debounce field, you enable or disable the timer. In the Debounce Time field, you specify the time in milliseconds (ms).

**Note** If you specify a time of 0 ms, the timer is disabled even if you enable the timer in the Link Debounce field.

### DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces > Physical > Ethernet**.

The devices with Ethernet interfaces appear in the Summary pane.

**Step 2** From the Summary pane, expand the device, expand the slot, and click the port.

Tabs appear for the port information in the Details pane. The Port Details tab is active but its sections are not expanded.

**Step 3** From the Details pane, expand the **Basic Settings** section.

The Basic Settings section shows the basic parameters.

**Step 4** From the Link Debounce drop-down list, choose **Enabled** or **Disabled**.

**Step 5** From the Debounce Time field, type the number of milliseconds (0 to 5000) for the debounce time.

A time of 0 milliseconds effectively disables the debounce timer. A time of 1 to 5000 milliseconds is used only if you enabled the timer.

**Step 6** From the menu bar, choose **File > Deploy** to apply your changes to the device.

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# Configuring the Interface Speed and Duplex Mode

The interface speed and duplex mode are interrelated, so you should configure both of their parameters at the same time.

To see which speeds and duplex modes you can configure together for Ethernet and management interfaces, see Table 2-2 on page 2-4.

**Note** The interface speed that you specify can affect the duplex mode used for an interface, so you should set the speed before setting the duplex mode. If you set the speed for autonegotiation, the duplex mode is automatically set to be autonegotiated. If you specify 10- or 100-Mb/s speed, the port is automatically configured to use half-duplex mode, but you can specify full-duplex mode instead. If you specify a speed of 1000 Mb/s (1 Gb/s) or faster, full duplex is automatically used.

## BEFORE YOU BEGIN

Make sure that the remote port has a speed setting that supports your changes for the local port. If you want to set the local port to use a specific speed, you must set the remote port for the same speed or set the local port to autonegotiate the speed.

## DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces > Physical**.

**Step 2** Choose **Ethernet** or **Mgmt Interface**.

The devices with the interface type that you specified appear in the Summary pane.

**Step 3** From the Summary pane, specify the interface by doing one of the following:

- To configure the Ethernet interface, expand the device, expand the slot, and click the port.

  Tabs appear for the port information in the Details pane. The Port Details tab is active but its sections are not expanded.

- To configure the management interface, click the device that you are configuring.

  Tabs appear for the device information in the Details pane. The Details tab is active but its sections are not expanded.

**Step 4** From the Details pane, expand the **Basic Settings** section.

The Basic Settings section shows the basic parameters.

**Step 5** In the Speed field, choose the appropriate speed for your port.

**Step 6** In the Duplex field, choose **full**, **half**, or **auto**.

If one of these options is not available, change the interface speed (see the previous step).

**Step 7** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

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# Configuring the Flow Control

For Ethernet ports that run at 1 Gb/s or faster, you can enable or disable the port's ability to send and receive flow-control pause frames. For Ethernet ports that run slower than 1 Gb/s, you can enable or disable only the port's ability to receive pause frames.

When enabling flow control for the local port, you either fully enable the local port to send or receive frames regardless of the flow-control setting of the remote port, or you set the local port to use the desired setting used by the remote port. If you enable both the local and remote port for flow control, or set the desired flow control of the other port, or set a combination of those two states, flow control is enabled for those ports.

**Note** For ports that run at 10 Gb/s, you cannot use the desired state for the send or receive parameter.

## BEFORE YOU BEGIN

Make sure that the remote port has the corresponding setting for the flow control that you need. If you want the local port to send flow-control pause frames, make sure that the remote port has a receive parameter set to on or desired. If you want the local port to receive flow-control frames, make sure that the remote port has a send parameter set to on or desired. If you do not want to use flow control, you can set the remote port's send and receive parameters to off.

## DETAILED STEPS

**Step 1** From the Feature Selector, choose **Interfaces > Physical > Ethernet**.

The Summary pane lists the devices with Ethernet interfaces.

**Step 2** From the Summary pane, expand the switch, expand the slot, and select the port.

The Details pane shows tabs and an unexpanded Basic Settings section for the port.

**Step 3** From the Details pane, click **Port Details** and **Basic Settings**.

The Basic Settings section expands to show the basic parameters used for multiple features.

**Step 4** From the Flow Control Receive drop-down list, choose how to receive flow control frames as follows:

- To disable the receiving of pause frames, choose **off**.
- To use the send flow control setting for the receive flow control setting, choose **desired**.
- To enable the receiving of pause frames regardless of the send setting for the other port, choose **on**.

**Step 5** From the Flow Control Send drop-down list, choose **desired**, **on**, or **off**.

- To disable the sending of pause frames, choose **off**.
- To use the receive flow control setting for the send flow control setting, choose **desired**.
- To enable the sending of pause frames regardless of the receive setting for the other port, choose **on**.

**Step 6** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

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# Configuring the MTU Size

You can configure the maximum transmission unit (MTU) size for Layer 2 and Layer 3 Ethernet interfaces. For Layer 3 interfaces, you can configure the MTU to be between 576 and 9216 bytes (even values are required). For Layer 2 interfaces, you can configure the MTU to be either the system default MTU (1500 bytes) or the system jumbo MTU size (which has the default size of 9216 bytes).

**Note** You can change the system jumbo MTU size, but if you change that value, you must also reconfigure the Layer 2 interfaces that use that value so that they use the new system jumbo MTU value. If you do not update the MTU value for Layer 2 interfaces, those interfaces will continue to use the system default MTU (1500 bytes).

By default, Cisco NX-OS configures Layer 3 parameters. If you want to configure Layer 2 parameters, you need to switch the port mode to Layer 2.

You change the port mode by clicking Port Details and Port Mode Settings in the Details pane and then choosing a Layer 2 mode (Access, Trunk, PVLAN Host, or PVLAN Promiscuous).

After changing the port mode to Layer 2, you can return to configuring Layer 3 interfaces by changing the port mode again, by clicking Port Details and Port Mode Settings, and then choosing a Layer 3 mode (Routed).

This section includes the following topics:



## Configuring the Interface MTU Size

For Layer 3 interfaces, you can configure an MTU size that is between 576 and 9216 bytes.

For Layer 2 interfaces, you can configure all Layer 2 interfaces to use either the default MTU size (1500 bytes) or the system jumbo MTU size (default size of 9216 bytes).

If you need to use a different system jumbo MTU size for Layer 2 interfaces, see the "Configuring the System Jumbo MTU Size" section on page 2-21.

### DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces > Physical > Ethernet**.

The devices with Ethernet interfaces appear in the Summary pane.

**Step 2** From the Summary pane, expand the device, expand the slot, and click the port.

Tabs appear for the port information in the Details pane. The Port Details tab is active but its sections are not expanded.

**Step 3** If you are configuring Layer 2 interfaces, from the Summary pane, double-click the Mode settings, and then choose **Access**, **Trunk**, **PVLAN Host**, or **PVLAN Promiscuous** from the Mode drop-down list.

**Note** If you need to switch back to working with Layer 3 interfaces, choose **Routed** from the Mode drop-down list.

**Step 4** From the Details pane, expand the **Basic Settings** section.

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The Basic Settings section shows the basic parameters.

**Step 5** In the MTU field, type the preferred MTU size as follows:

- For Layer 2 interfaces, type either the default MTU size (1500) or the system jumbo MTU size (default size of 9216). If you have changed the system jumbo MTU size, you can use the new size for the interfaces MTU size.
- For Layer 3 interfaces, type an MTU size between 576 and 9216.

**Step 6** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

## Configuring the System Jumbo MTU Size

You can configure the system jumbo MTU size, which can be used to specify the MTU size for Layer 2 interfaces. You can specify an even number between 1500 and 9216. If you do not configure the system jumbo MTU size, it defaults to 9216 bytes.

### DETAILED STEPS

**Step 1** From the Feature Selector, choose **Interfaces > Physical > Ethernet**.

The devices for the type that you specified appear in the Summary pane.

**Step 2** From the Summary pane, click on the device.

Tabs appear for the device information in the Details pane. The Details tab is active but its sections are not expanded.

**Step 3** From the Details pane, expand the **MTU Settings** section.

**Step 4** The MTU Settings section shows the system jumbo MTU information.

**Step 5** In the Jumbo MTU field, enter the size as an even integer between 1500 and 9216.

**Step 6** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

# Configuring the Bandwidth

You can configure the bandwidth for Ethernet interfaces. The physical level uses an unchangeable bandwidth of 1 GB, but you can configure a value of 1 to 10,000,000 Kb for Level 3 protocols.

### DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces > Physical > Ethernet**.

The devices with Ethernet interfaces appear in the Summary pane.

**Step 2** From the Summary pane, expand the device, expand the slot, and click the port.

Tabs appear for the port information in the Details pane. The Port Details tab is active but its sections are not expanded.

**Step 3** From the Details pane, expand the **Basic Settings** section.

The Basic Settings section shows the basic parameters.

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**Step 4** In the Bandwidth field, type the number of kilobits (between 1 and 10,000,000 [omit the commas]) for the bandwidth.

**Step 5** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

# Configuring the Throughput Delay

You can configure the interface throughput delay for Ethernet interfaces. The actual delay time does not change, but you can set an informational value between 1 and 16777215, where the value represents the number of tens of microseconds.

### DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces > Physical > Ethernet**.

The devices with Ethernet interfaces appear in the Summary pane.

**Step 2** From the Summary pane, expand the device, expand the slot, and click the port.

Tabs appear for the port information in the Details pane. The Port Details tab is active but its sections are not expanded.

**Step 3** From the Details pane, expand the **Basic Settings** section.

The Basic Settings section shows the basic parameters.

**Step 4** In the Delay field, type the number of tens of microseconds to use for the delay time.

For example, for a delay of 10,000 microseconds, type 1000.

**Step 5** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

# Shutting Down and Activating the Interface

You can shut down and restart Ethernet or management interfaces. When you shut down interfaces, they become disabled and all monitoring displays show them as being down. This information is communicated to other network servers through all dynamic routing protocols. When the interfaces are shut down, the interface is not included in any routing updates. To activate the interface, you must restart the device.

### DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces > Physical**.

**Step 2** Choose **Ethernet** or **Mgmt Interface**.

The devices with the interface type that you specified appear in the Summary pane.

**Step 3** From the Summary pane, specify the interface by doing one of the following:

- To configure the Ethernet interface, expand the device, expand the slot, and click the port.

  Tabs appear for the port information in the Details pane. The Port Details tab is active but its sections are not expanded.

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- To configure the management interface, click the device that you are configuring.

  Tabs appear for the device information in the Details pane. The Details tab is active but its sections are not expanded.

**Step 4** From the Details pane, expand the **Basic Settings** section.

The Basic Settings section shows the basic parameters.

**Step 5** From the Admin Status drop-down list, choose **Down**.

**Step 6** From the Admin Status drop-down list, choose **Up**.

**Step 7** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

# Enabling or Disabling CDP

**Note** For complete information on configuring the Cisco Discovery Protocol (CDP) using the command-line interface (CLI), see the *Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 5.x*.

You can enable or disable CDP for Ethernet and management interfaces. This protocol works only when you have it enabled on both interfaces on the same link.

### BEFORE YOU BEGIN

Make sure that the remote port also has this protocol enabled.

### DETAILED STEPS

**Step 1** Choose **Interfaces > Physical**.

**Step 2** Choose **Ethernet** or **Mgmt Interface**.

The devices with the interface type that you specified appear in the Summary pane.

**Step 3** From the Summary pane, specify the interface by doing one of the following:

- To configure the Ethernet interface, expand the device, expand the slot, and click the port.

  Tabs appear for the port information in the Details pane. The Port Details tab is active but its sections are not expanded.

- To configure the management interface, expand the device and click the port that you are configuring.

  Tabs appear for the device information in the Details pane. The Details tab is active but its sections are not expanded.

**Step 4** From the Details pane, expand the **Basic Settings** section.

The Basic Settings section shows the basic parameters.

**Step 5** From the CDP Enabled drop-down list, choose **Enabled** or **Disabled**.

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**Note** For CDP to function, you must set both interfaces on the same link to Enabled. CDP cannot function if one or both interfaces have their CDP Enabled parameter set to Disabled.

**Step 6** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

# Configuring the UDLD Mode

You can configure normal or aggressive unidirectional link detection (UDLD) modes for Ethernet interfaces on devices configured to run UDLD. Before you can enable a UDLD mode for an interface, you must make sure that UDLD is already enabled on the device that includes the interface. UDLD must also be enabled on the other linked interface and its device.

To use the normal UDLD mode, you must configure one of the ports for normal mode and configure the other port for the normal or aggressive mode. To use the aggressive UDLD mode, you must configure both ports for the aggressive mode.

By default, UDLD is disabled for the 48-port, 10/100/1000 Ethernet module ports but the normal UDLD mode is enabled for the 32-port, 10-Gigabit Ethernet module ports.

## BEFORE YOU BEGIN

You must enable UDLD for the other linked port and its device.

## DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces > Physical > Ethernet**.

**Step 2** The devices with Ethernet interfaces appear in the Summary pane.

**Step 3** From the Summary pane, click the device with the interface that will be using UDLD.

**Step 4** Choose **Actions > Enable UDLD**.

**Step 5** From the Summary pane, expand the switch, expand the slot, and click the port.

Tabs and unexpanded sections for the port appear in the Details pane.

**Step 6** From the Details pane, expand the **Basic Settings** section.

The Basic Settings section shows the basic parameters.

**Step 7** From the UDLD Enabled drop-down list, choose **Enabled**, **Disabled**, **Aggressive**, or **Global**.

**Note** To configure the UDLD message interval, use the Command Line Interface. See *Cisco Nexus 7000 Series NX-OS Interfaces Configuration Guide, Release 5.x*, for information on configuring this parameter,

**Step 8** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

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# Configuring the Carrier Delay Timer

The carrier delay timer sets a time during which all link-down/link-up events are not detected by any of the other software on the device. When you configure a longer carrier delay time, fewer link-down/link-up events are recorded. When you configure the carrier delay time to 0, the device detects each link-down/link-up event.

**Note** You can configure the carrier delay timer only on VLAN network interfaces; you cannot configure this timer in any other interface modes.

You use the VLAN Network Interface pane to configure the carrier delay timer.

### DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces** > Logical > **VLAN Network Interface**.

**Step 2** From the Contents pane, in the Summary pane, double-click on the device that you want.

**Step 3** Click the VLAN network interface that you want to configure the carrier delay timer on.

The system highlights the selected VLAN network interface, and tabs appear in the Details pane.

**Step 4** In the Details pane, click the **Details** tab.

**Step 5** Click the **Basic Settings** section.

**Step 6** In the Carrier Delay field, enter the value that you want for this timer.

**Step 7** In the Carrier Delay field, click the pull-down menu and choose secs or msecs.

The default value is 2 seconds.

**Step 8** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

# Configuring the Management Interface IP Address

You can configure the management (mgmt0) Ethernet interface to connect over IP using an IPv4 or IPv6 address.

### BEFORE YOU BEGIN

If you are using an IPv4 address for the management interface, you need the following information:

- IPv4 subnet mask for the switch's management interface.
- IPv4 address of the default gateway (optional).

Make sure that the console cable is connected to the console port.

### DETAILED STEPS

**Step 1** From the Feature Selector pane, choose **Interfaces** > Physical > **Mgmt Interface**.

**Step 2** From the Contents pane, in the Summary pane, double-click on the device that you want.

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**Step 3** Click the port that you want to configure.

**Step 4** In the Details pane, click the **Details** tab.

**Step 5** Click the **IP Address Settings** section.

**Step 6** Do one of the following:

**To configure an IPv4 address:**

a. In the IPv4 Address settings field, enter the IP address in the Primary field and enter the network mask in dotted decimal notation in the Net Mask field.

b. (Optional) Right click in the Secondary field, choose **Add secondary IP**, and enter the secondary IP address and network mask.

**To configure an IPv6 address:**

a. In the Primary/Prefix-length field, enter the IPv6 prefix in x:x:x::x/length format.

b. To indicate that the address is in the IPv6 extended universal identifier (EUI)-64 format, select the EUI64 checkbox.

c. In the Link Local field, enter the IPv6 link local address in an x:x:x::x format.

d. To override automatically generated IPv6 addresses with the link local address, select the Use local only checkbox.

e. (Optional) Right click in the Secondary field and choose **Add IPv6 address** to configure a secondary IPv6 address.

**Step 7** (Optional) From the menu bar, choose **File > Deploy** to apply your changes to the device.

# Monitoring Basic Parameters

Beginning with Cisco DCNM for LAN, Release 5.2, you can view the rate at which traffic is transmitted and received on the interfaces. You can view the delta value or the rate value. Monitoring statistics are not supported for pre-provisioned off line interfaces. For more details, see the *Fundamentals Configuration Guide, Cisco DCNM for LAN, Release 5.x* .

# Field Descriptions

This section describes the fields shown on the Ethernet pane and includes the following:

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- Port: Port Status: Port SFP Diagnostics Section, page 2-35

# Device: Device Details: MTU Settings Section

*Table 2-7 Device: Device Details: MTU Settings Section*

| Field | Description |
|---|---|
| Jumbo MTU | System jumbo maximum transmission unit (MTU) size in bytes. The range is 1500 to 9216. The default is 1500. |

# Device: Device Details: Error Disable Settings Section

*Table 2-8 Device: Device Details: Error Disable Settings Section*

| Field | Description |
|---|---|
| **Discovery** | |
| Select cause | Either all causes for the interface to be error-disabled or a specific cause. |
| Acl exception | ACL installation failures causes error-disabled state. |
| Link state flapping | Error-disabled status of a link that is rapidly going up and down. |
| Loopback | Loopback interface will be error-disabled. |
| **Recovery** | |
| Recovery Interval (sec) | Time interval for an interface to recover from an error-disabled state. |
| Select cause | Specified to enable error-disable recovery on an interface for all causes or for one of the following specific causes. |
| Link State Flapping | Interface that is moving rapidly between the UP state and the DOWN state. |
| BPDU Guard | BPDU Guard feature. |
| Psecure Violation | Psecure violation. |
| Storm Control | Storm control violation. |
| Security Violation | Port security violation. |
| UDLD | UDLD failure. |

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# Device: Device Status Tab

*Table 2-9 Device: Device Status Tab*

| Field | Description |
|---|---|
| Port Mode | *Display only.* Operational mode of the interface. It will be one of the following types:<br>• Access<br>• Trunk<br>• PVLAN Host<br>• PVLAN Promiscuous<br>• Routed |
| Total | *Display only.* The total number of each port mode available in the device. |
| Active | *Display only.* The number of active ports for each port mode. |
| Admin Down | *Display only.* The number of ports that are administratively down for each port mode. |
| Operationally Down | *Display only.* The number of ports that are operationally down for each port mode. |

# Device:Device Details:Hardware Profile Settings

*Table 2-10 Device: Device Details: Hardware Profile Settings*

| Field | Description |
|---|---|
| Current Port Mode | Displays the current port mode of the device. |
| Port mode on next reload | Displays the next port mode of the device after a reload. |

# Port: Port Details: Basic Settings Section

*Table 2-11 Port: Port Details: Basic Settings Tab*

| Field | Description |
|---|---|
| Name | *Display only.* Interface name. |
| Description | Textual description (80 character maximum) of the interface. |
| MTU | Maximum transmission unit size in bytes. The range is 576 to 9216. The default is 1500. |
| Bandwidth | Bandwidth informational value used by Layer 3 protocols (this value does not change the actual bandwidth of the interface). The range is 1 to 10,000,000. The default is 10,000,000. |

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*Table 2-11 Port: Port Details: Basic Settings Tab*

| Field | Description |
|---|---|
| Delay | Throughput delay informational value used by Layer 3 protocols (this value does not change the actual throughput delay for the interface). The range is 1 to 16,777,215. The default is 1. |
| Rate Mode | Rate mode for selected port on those modules and ports that allow shared or dedicated rate mode. |
| Admin status | Administrative status for the interface. The choices are Up or Down. The default is Down. |
| CDP Enabled | Cisco Discovery Protocol used to learn about other connected devices. The choices are Enabled or Disabled. The default is Enabled. |
| Mdix | Medium dependent interface crossover (MDIX) detects crossover connections between interfaces. The choices are Enabled or Disabled. The default is Enabled. |
| UDLD Enabled | Unidirectional Link Detection monitors the physical connections between interfaces to detect and disable unidirectional links. The choices are Enabled or Disabled. The default is Enabled. |
| Flow Control Receive | Received pause frames that request a pause in data transmission for a specific amount of time. This feature can be turned off, turned on, or set to a desired state (enabled if the Flow Control Send parameter for the other interface is enabled or set to desired). The choices are off, desired, or on. The default is desired. |
| Flow Control Send | Sent pause frames that request a pause in data transmission for the other interface for a specific amount of time. This feature can be turned off, turned on, or set to a desired state (enabled if the Flow Control Receive parameter for the other interface is enabled or set to desired). The choices are off, desired, or on. The default is desired. |
| Port Channel Id | Port channel that interface belongs to, if any. The default is blank. |
| Speed | Interface speed in megabits per second (Mb/s). The choices are 10, 100, 1000, or auto. The default is auto.<br>The setting for this parameter determines the values that you can use for duplex mode. |
| Duplex mode | Duplex mode for the interface. The choices are full, half, and auto. The default is auto. |
| Beacon | LED to identify the interface on its module in the chassis. The choices are Enabled or Disabled. The default is Disabled. |
| Link Debounce | Notification of a link change that was delayed. The choices are Enabled or Disabled. The default is Enabled. |
| Debounce Time | Debounce delay time in milliseconds. The range is 0 to 5000. The default is 100. |

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# Port: Port Details: Port Mode Settings Section

*Table 2-12 Port: Port Details: Port Mode Settings: Section*

| Field | Description |
|---|---|
| Mode | Valid values are as follows:<br>• Access<br>• Trunk<br>• PVLAN Host<br>• PVLAN Promiscuous<br>• Routed |
| **Access** | |
| Access VLAN | Access VLAN for this access port. The default access VLAN is the default VLAN, or VLAN1. |
| **Trunk** | |
| Encapsulation | Field not available. IEEE 802.1Q is the only supported encapsulation method. |
| Allowed VLANs | VLANs allowed to transmit data on this port. The range is 1 to 4094, and the default is 1.<br>**Note** VLANs 3968 to 4047 and 4094 are allocated for internal device use and do not carry data traffic. |
| Native VLAN | Native VLAN for this trunk port. The default Native VLAN is the default VLAN, or VLAN1. |
| **Fabricpath** | |
| Fabricpath | Choose this when you want to make the port a FabricPath port. Configures this interface as a FabricPath interface. See the *Cisco DCNM FabricPath Configuration Guide* and the *Cisco Nexus 7000 Series NX-OS FabricPath Configuration Guide* for more information on configuring FabricPath. |
| **PVLAN Host** | |
| Primary Vlan | *Display only.* The primary VLAN associated with the secondary VLAN(s) to which this port belongs.<br>**Note** This value displays after you choose the secondary VLAN using the Secondary VLAN field. |
| Secondary VLAN | Secondary VLAN paired with primary VLAN. The type of secondary VLANs is either community or isolated. |
| **PVLAN Promiscuous** | |
| Primary VLAN | *Display only.* The primary VLAN associated with the secondary VLAN(s) to which this port belongs.<br>**Note** This value displays after you choose the secondary VLAN using the Secondary VLAN field. |

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*Table 2-12 Port: Port Details: Port Mode Settings: Section (continued)*

| Field | Description |
|---|---|
| Secondary VLAN | Secondary VLAN paired with primary VLAN. The type of secondary VLANs is either community or isolated.<br>**Note** You can select multiple secondary VLANs, all that have the same primary VLAN, for each private VLAN promiscuous port. |
| **Routed** | |
| IPv4 Address Settings | |
| Primary | IPv4 address, in dotted decimal notation. |
| Net mask | Network mask for the IPv4 address in dotted decimal notation. |
| Secondary: IP Address | Secondary IPv4 address, in dotted decimal notation. You can configure multiple secondary addresses for an interface. |
| Secondary: Net mask | Network mask for the secondary IPv4 address in dotted decimal notation. |
| Helper: IP Address | Helper address used to enable the forwarding of User Datagram Protocol (UDP) broadcasts. |
| IPv6 Address Settings | |
| Primary/Prefix-length | IPv6 prefix in x:x:x::x/length format. |
| EUI64 | IPv6 address that is in the extended universal identifier (EUI)-64 format. |
| Link Local | IPv6 link local address in an x:x:x::x format. |
| Use local only | Link local address that overrides automatically generated IPv6 address. |
| Secondary: IP Address | Secondary IPv6 prefix in an x:x:x::x/length format. You can configure multiple secondary addresses for an interface. |
| Secondary: EUI64 | Secondary IPv6 address that is in the extended universal identifier (EUI)-64 format. |

# Port: Port Details: Advanced Settings Section

*Table 2-13 Port: Port Details: Advance Settings Section*

| Field | Description |
|---|---|
| **IPv4 ACL** | |
| Incoming Ipv4 Traffic | IPv4 ACL that filters ingress traffic on the interface. By default, this list is blank. |
| Outgoing Ipv4 Traffic | IPv4 ACL that filters egress traffic on the interface. By default, this list is blank. |
| **IPv6 ACL** | |
| Incoming Ipv6 Traffic | IPv6 ACL that filters ingress traffic on the interface. By default, this list is blank. |
| Outgoing Ipv6 Traffic | IPv6 ACL that filters egress traffic on the interface. By default, this list is blank. |
| **MAC ACL** | |

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*Table 2-13 Port: Port Details: Advance Settings Section*

| Field | Description |
|---|---|
| Incoming Traffic | MAC ACL that filters ingress traffic on the interface. By default, this list is blank. |
| **Security** | |
| Dot1x | *Display only.* Whether dot1x is enabled or disabled. |
| Traffic Storm Control | *Display only.* Whether traffic storm control is enabled or disabled. |
| IP Source Guard | *Display only.* Whether IP Source Guard is enabled or disabled. |
| Port Security | *Display only.* Whether port security is enabled or disabled. |
| **SPAN** | |
| Use Interface as SPAN | Source or destination for this interface. |
| Session ID | SPAN session ID where the interface is applied. |
| Type | *Display only.* Session type. |
| Direction: Ingress | Monitor ingress packets. |
| Direction: Egress | Monitor egress packets. |

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# Port: Port Status: Port Status Section

*Table 2-14 Port: Port Status: Port Status Section*

| Field | Description |
|---|---|
| Operational Status | *Display only.* Operational status of the interface. The default is down. Valid values are as follows:<br>• Up<br>• Down |
| Status Description | *Display only.* Description of operational status, as follows:<br>• Connected—Cable is connected to the interface and is operationally up.<br>• Admin down—Interface is configured as administratively down.<br>• Channel down—Interface is a member of a port channel that is operationally down.<br>• Disabled—Interface is configured as administratively down.<br>• Error disabled—Interface is in the error disabled state.<br>• Hardware failure—There is a hardware failure at the interface.<br>• Inactive—Interface is inactive.<br>• Initializing—Interface is initializing during the bootup process.<br>• Not connected—Cable has not been connected to the interface.<br>• SFP not inserted—SFP connector has not been connected to the interface.<br>• Link failure—Cable connecting interface to another interface failed.<br>• Interface removed—Physical port is broken or physically disconnected from the interface.<br>• Incompatible admin mode—Admin mode on this interface is incompatible with admin mode configured on connected interface.<br>• Incompatible admin speed—Speed configured on this interface is incompatible with speed configured on connected interface.<br>• Suspended by mode—Problems in mode configuration cause physical to be suspended.<br>• Suspended by speed—Problems in speed configuration cause physical to be suspended.<br>• Upgrade in progress—Software upgrade is in progress on physical port.<br>• Port channel member down—Port is down and is a member of a port channel.<br>• Module removed—Module with the port is not in chassis.<br>• Unsupported transceiver—Transceiver that is not Cisco approved is inserted into the port.<br>• Unknown—Port is operationally down for unknown reasons. |
| Speed | *Display only.* Transmission speed of the interface. The default is auto. |

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*Table 2-14 Port: Port Status: Port Status Section (continued)*

| Field | Description |
|---|---|
| Duplex | *Display only.* Duplex operation on the interface. The default is auto. |
| UDLD | *Display only.* Status of UDLD. The default is disabled. Valid values are as follows:<br>• Enabled<br>• Disabled |
| Flow Control Send | *Display only.* Status of sending pause frames. The default is off. Valid values are as follows:<br>• off<br>• desired<br>• on |
| Flow Control Receive | *Display only.* Status of receiving pause frames. The default is off. Valid values are as follows:<br>• off<br>• desired<br>• on |
| Hardware Type | *Display only.* Hardware type of the port. |

# Port: Port Status: Port Status SFP Section

*Table 2-15 Port: Port Status: Port Status SFP Section*

| Field | Description |
|---|---|
| Name | *Display only.* Name of SFP device. |
| Part Number | *Display only.* Part number of SFP device. |
| Revision | *Display only.* Revision number of SFP device. |
| Serial Number | *Display only.* Serial number of SFP device. |
| Nominal Bitrate | *Display only.* Bit rate for SFP device. |
| Link Length for 9/125um | *Display only.* Length for 9/125um for SFP device. |
| Link Length for 50/125um | *Display only.* Length for 50/125um for SFP device. |
| Link Length for 62.5/125um | *Display only.* Length for 62.5/125um for SFP device. |
| Cisco Id | *Display only.* Cisco ID for SFP device. |
| Extended Cisco Id | *Display only.* Extended Cisco ID for SFP device. |

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# Port: Port Status: Port SFP Diagnostics Section

*Table 2-16 Port: Port Status: Port SFP Diagnostics Section*

| Field | Description |
|---|---|
| Refresh Frequency | Frequency at which information refreshes. The range is from 30 seconds to 5 minutes, in 30-second intervals. |
| Temperature (celsius) | *Display only.* Temperature of the SFP device for the following values:<br>• Current Diagnostic Value<br>• High Alarm<br>• Low Alarm<br>• High Warning<br>• Low Warning<br>• Status |
| Voltage (volts) | *Display only.* Voltage of the SFP device for the following values:<br>• Current Diagnostic Value<br>• High Alarm<br>• Low Alarm<br>• High Warning<br>• Low Warning<br>• Status |
| Current (milli amps) | *Display only. Display only.* Current of the SFP device for the following values:<br>• Current Diagnostic Value<br>• High Alarm<br>• Low Alarm<br>• High Warning<br>• Low Warning<br>• Status |

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*Table 2-16 Port: Port Status: Port SFP Diagnostics Section (continued)*

| Field | Description |
|---|---|
| Tx Power (decibels) | *Display only. Display only.* Transmitted power of the SFP device for the following values:<br>• Current Diagnostic Value<br>• High Alarm<br>• Low Alarm<br>• High Warning<br>• Low Warning<br>• Status |
| Rx Power (decibels) | *Display only.* Received power of the SFP device for the following values:<br>• Current Diagnostic Value<br>• High Alarm<br>• Low Alarm<br>• High Warning<br>• Low Warning<br>• Status |

# Additional References

For additional information related to implementing Feature-1, see the following sections:


- Related Documents, page 2-37
- Standards, page 2-37
- Feature History for Configuring Basic Interface Parameters, page 2-37

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## Related Documents

| Related Topic | Document Title |
|---|---|
| Command reference | *Cisco Nexus 7000 Series NX-OS Interfaces Command Reference* |
| Layer 2 switching | *Layer 2 Switching Configuration Guide, Cisco DCNM for LAN, Release 5.x* |
| CDP | *Cisco Nexus 7000 Series NX-OS System Management Command Reference* |

## Standards

| Standards | Title |
|---|---|
| No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature. | — |

# Feature History for Configuring Basic Interface Parameters

Table 2-17 lists the release history for this feature.

*Table 2-17 Feature History for Configuring Basic Interface Parameters*

| Feature Name | Releases | Feature Information |
|---|---|---|
| Basic interface settings | 4.0(1) | These features were introduced. |
| SFP information | 4.1(2) | Added display information on SFP interfaces. |
| Carrier delay | 4.1(2) | Configures a timer that allows you to not see some quick interface up/down changes. |

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