



Configuring CDP

Information About CDP

CDP

CDP is a device discovery protocol that runs over Layer 2 (the data link layer) on all Cisco-manufactured devices (routers, bridges, access servers, and switches) and allows network management applications to discover Cisco devices that are neighbors of already known devices. With CDP, network management applications can learn the device type and the Simple Network Management Protocol (SNMP) agent address of neighboring devices running lower-layer, transparent protocols. This feature enables applications to send SNMP queries to neighboring devices.

CDP runs on all media that support Subnetwork Access Protocol (SNAP). Because CDP runs over the data-link layer only, two systems that support different network-layer protocols can learn about each other.

Each CDP-configured device sends periodic messages to a multicast address, advertising at least one address at which it can receive SNMP messages. The advertisements also contain time-to-live, or holdtime information, which is the length of time a receiving device holds CDP information before discarding it. Each device also listens to the messages sent by other devices to learn about neighboring devices.

On the switch, CDP enables Network Assistant to display a graphical view of the network. The switch uses CDP to find cluster candidates and maintain information about cluster members and other devices up to three cluster-enabled devices away from the command switch by default.

For a switch and connected endpoint devices running Cisco Medianet, these events occur:

- CDP identifies connected endpoints that communicate directly with the switch.
- Only one wired switch reports the location information to prevent duplicate reports of neighboring devices.
- The wired switch and the endpoints both send and receive location information.

The switch supports CDP Version 2.

Default CDP Configuration

Feature	Default Setting
CDP global state	Enabled
CDP interface state	Enabled
CDP timer (packet update frequency)	60 seconds
CDP holdtime (before discarding)	180 seconds
CDP Version-2 advertisements	Enabled

How to Configure CDP

Configuring the CDP Parameters

You can configure the frequency of CDP updates, the amount of time to hold the information before discarding it, and whether or not to send Version-2 advertisements.

Note: Steps 2 through 4 are all optional and can be performed in any order.

	Command	Purpose
1.	configure terminal	Enters global configuration mode.
2.	cdp timer <i>seconds</i>	(Optional) Sets the transmission frequency of CDP updates in seconds. The range is 5 to 254; the default is 60 seconds.
3.	cdp holdtime <i>seconds</i>	(Optional) Specifies the amount of time a receiving device should hold the information sent by your device before discarding it. The range is 10 to 255 seconds; the default is 180 seconds.
4.	cdp advertise-v2	(Optional) Configures CDP to send Version-2 advertisements. This is the default state.
5.	end	Returns to privileged EXEC mode.

Disabling CDP

CDP is enabled by default.

Note: Switch clusters and other Cisco devices (such as Cisco IP Phones) regularly exchange CDP messages. Disabling CDP can interrupt cluster discovery and device connectivity.

	Command	Purpose
1.	configure terminal	Enters global configuration mode.
2.	no cdp run	Disables CDP globally.
3.	interface <i>interface-id</i>	Specifies the interface on which you are disabling CDP, and enters interface configuration mode.
4.	no cdp enable	Disables CDP on the interface.
5.	end	Returns to privileged EXEC mode.

Monitoring and Maintaining CDP

Command	Description
clear cdp counters	Resets the traffic counters to zero.
clear cdp table	Deletes the CDP table of information about neighbors.
show cdp	Displays global information, such as frequency of transmissions and the holdtime for packets being sent.
show cdp entry <i>entry-name</i> [protocol version]	Displays information about a specific neighbor. You can enter an asterisk (*) to display all CDP neighbors, or you can enter the name of the neighbor about which you want information. You can also limit the display to information about the protocols enabled on the specified neighbor or information about the version of software running on the device.
show cdp interface [<i>interface-id</i>]	Displays information about interfaces where CDP is enabled. You can limit the display to the interface about which you want information.
show cdp neighbors [<i>interface-id</i>] [detail]	Displays information about neighbors, including device type, interface type and number, holdtime settings, capabilities, platform, and port ID. You can limit the display to neighbors of a specific interface or expand the display to provide more detailed information.
show cdp traffic	Displays CDP counters, including the number of packets sent and received and checksum errors.

Configuration Examples for CDP

Configuring CDP Parameters: Example

This example shows how to configure CDP parameters:

```
Switch# configure terminal
Switch(config)# cdp timer 50
Switch(config)# cdp holdtime 120
Switch(config)# cdp advertise-v2
Switch(config)# end
```

Enabling CDP: Examples

This example shows how to enable CDP on a port when it has been disabled:

```
Switch# configure terminal
Switch(config)# interface GigabitEthernet1/17
Switch(config-if)# cdp enable
Switch(config-if)# end
```

Note: Voice VLAN is not counted against port security when CDP is disabled on the switch interface.

This example shows how to enable CDP if it has been disabled:

```
Switch# configure terminal
Switch(config)# cdp run
Switch(config)# end
```

Additional References

The following sections provide references related to switch administration:

Related Documents

Related Topic	Document Title
Cisco IOS basic commands Cisco IOS system management commands	<i>Cisco IOS Configuration Fundamentals Command Reference</i>
Switch cluster configuration	Configuring Switch Clusters, page 91

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.	—

MIBs

MIBs	MIBs Link
—	To locate and download MIBs using Cisco IOS XR software, use the Cisco MIB Locator found at the following URL and choose a platform under the Cisco Access Products menu: http://cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

RFCs

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