



Configuring CDP

This chapter describes how to configure the Cisco Discovery Protocol (CDP) on the Catalyst enterprise LAN switches.



Note

For complete syntax and usage information for the commands used in this chapter, refer to the *Command Reference—Catalyst 4000 Family, Catalyst 2948G, and Catalyst 2980G Switches*.

This chapter consists of these major sections:

- [Understanding How CDP Works, page 20-1](#)
- [Default CDP Configuration, page 20-1](#)
- [Configuring CDP, page 20-2](#)

Understanding How CDP Works

CDP is a media- and protocol-independent protocol that runs on all Cisco-manufactured equipment including routers, bridges, access and communication servers, and switches. Using CDP, you can view information about all the Cisco devices directly attached to the switch. In addition, CDP detects native VLAN and port duplex mismatches.

Network management applications can retrieve the device type and SNMP-agent address of neighboring Cisco devices using CDP. This allows applications to send SNMP queries to neighboring devices. CDP allows network management applications to discover Cisco devices that are neighbors of already known devices, in particular, neighbors running lower-layer, transparent protocols.

CDP runs on all media that support Subnetwork Access Protocol (SNAP). CDP runs over the data link layer only.

Cisco devices do not forward CDP packets. When new CDP information is received, old information is discarded.

Default CDP Configuration

[Table 20-1](#) shows the default CDP configuration.

Table 20-1 CDP Default Configuration

Feature	Default Value
CDP global enable state	Enabled
CDP port enable state	Enabled on all ports
CDP message interval	60 sec
CDP holdtime	180 sec

Configuring CDP

These sections describe how to configure CDP:

- [Setting the CDP Global Enable State, page 20-2](#)
- [Setting the CDP Enable State on a Port, page 20-3](#)
- [Setting the CDP Message Interval, page 20-4](#)
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- [Displaying CDP Neighbor Information, page 20-5](#)

Setting the CDP Global Enable State

To set the CDP global enable state, perform this procedure in privileged mode:

	Task	Command
Step 1	Set the CDP global enable state on the switch.	set cdp {enable disable}
Step 2	Verify the CDP configuration.	show cdp

This example shows how to enable CDP globally and verify the configuration:

```

Console> (enable) set cdp enable
CDP enabled globally
Console> (enable) show cdp
CDP                : enabled
Message Interval   : 60
Hold Time          : 180
Console> (enable)
    
```

This example shows how to disable CDP globally and verify the configuration:

```

Console> (enable) set cdp disable
CDP disabled globally
Console> (enable) show cdp
CDP                : disabled
Message Interval   : 60
Hold Time          : 180
Console> (enable)
    
```

Setting the CDP Enable State on a Port

You can enable or disable CDP on a per-port basis. You must enable CDP globally before the switch can transmit CDP messages on any ports.

To change the CDP enable state on a per-port basis, perform this procedure in privileged mode:

	Task	Command
Step 1	Set the CDP enable state on individual ports.	set cdp {enable disable} [mod_num/port_num]
Step 2	Verify the CDP configuration.	show cdp port [mod_num[/port_num]]

This example shows how to disable CDP on ports 3/1–6 and verify the configuration:

```
Console> (enable) set cdp disable 3/1-6
CDP disabled on ports 3/1-6.
Console> (enable) show cdp port 3
CDP                : enabled
Message Interval   : 60
Hold Time          : 180
```

```
Port      CDP Status
-----  -
3/1      disabled
3/2      disabled
3/3      disabled
3/4      disabled
3/5      disabled
3/6      disabled
3/7      enabled
3/8      enabled
3/9      enabled
3/10     enabled
3/11     enabled
3/12     enabled
Console> (enable)
```

This example shows how to enable CDP on ports 3/1–2 and verify the configuration:

```
Console> (enable) set cdp enable 3/1-2
CDP enabled on ports 3/1-2.
Console> (enable) show cdp port 3
CDP                : enabled
Message Interval   : 60
Hold Time          : 180
```

```
Port      CDP Status
-----  -
3/1      enabled
3/2      enabled
3/3      disabled
3/4      disabled
3/5      disabled
3/6      disabled
3/7      enabled
3/8      enabled
3/9      enabled
3/10     enabled
3/11     enabled
3/12     enabled
Console> (enable)
```

Setting the CDP Message Interval

The CDP message interval specifies how often the switch will transmit CDP messages to directly connected Cisco devices.

To change the default CDP message interval, perform this procedure in privileged mode:

	Task	Command
Step 1	Change the default CDP message interval. The allowed range is 5–900 seconds.	set cdp interval <i>interval</i>
Step 2	Verify the CDP configuration.	show cdp

This example shows how to change the default CDP message interval to 100 seconds and verify the configuration:

```
Console> (enable) set cdp interval 100
CDP message interval set to 100 seconds for all ports.
Console> (enable) show cdp
CDP                : enabled
Message Interval   : 100
Hold Time          : 180
Console> (enable)
```

Setting the CDP Holdtime

The CDP holdtime specifies how much time can pass between CDP messages from neighboring devices before the device is no longer considered connected and the neighbor entry is aged out.

To change the default CDP holdtime, perform this procedure in privileged mode:

	Task	Command
Step 1	Change the default CDP holdtime. The allowed range is 10–255 seconds.	set cdp holdtime <i>interval</i>
Step 2	Verify the CDP configuration.	show cdp

This example shows how to change the default CDP holdtime to 225 seconds and verify the configuration:

```
Console> (enable) set cdp holdtime 225
CDP holdtime set to 225 seconds.
Console> (enable) show cdp
CDP                : enabled
Message Interval   : 100
Hold Time          : 225
Console> (enable)
```

Displaying CDP Neighbor Information

To display information about directly connected Cisco devices, enter the **show cdp neighbors** command.

To display specific information, use the following keywords:

- To display the native VLAN for the connected ports, enter the **vlan** keyword.
- To display the duplex mode for the connected ports, enter the **duplex** keyword.
- To display the device capability codes for the connected device, enter the **capabilities** keyword.
- To display the device capability codes for the connected device, enter the **detail** keyword.

To display information about directly connected Cisco devices, perform this task in privileged mode:

Task	Command
View information about CDP neighbors.	show cdp neighbors [<i>mod_num</i> [/ <i>port_num</i>]] [vlan duplex capabilities detail]

This example shows how to display CDP neighbor information for connected Cisco devices:

```

Console> (enable) show cdp neighbors
* - indicates vlan mismatch.
# - indicates duplex mismatch.
Port      Device-ID                               Port-ID      Platform
-----
2/3      JAB023807H1(2948)                       2/2          WS-C2948
3/1      JAB023806JR(4003)                       2/1          WS-C4003
3/2      JAB023806JR(4003)                       2/2          WS-C4003
3/5      JAB023806JR(4003)                       2/5          WS-C4003
3/6      JAB023806JR(4003)                       2/6          WS-C4003
Console> (enable)

```

This example shows how to display the native VLAN for each port connected on the neighboring device (there is a native VLAN mismatch between port 3/6 on the local switch and port 2/6 on the neighboring device, as indicated by the asterisk [*]):

```

Console> (enable) show cdp neighbors vlan
* - indicates vlan mismatch.
# - indicates duplex mismatch.
Port      Device-ID                               Port-ID      NativeVLAN
-----
2/3      JAB023807H1(2948)                       2/2          522
3/1      JAB023806JR(4003)                       2/1          100
3/2      JAB023806JR(4003)                       2/2          100
3/5      JAB023806JR(4003)                       2/5          1
3/6      JAB023806JR(4003)                       2/6*         1
Console> (enable)

```

This example shows how to display detailed information about the neighboring device:

```

Console> (enable) show cdp neighbors 2/3 detail
Port (Our Port): 2/3
Device-ID: JAB023807H1(2948)
Device Addresses:
  IP Address: 172.20.52.36
Holdtime: 132 sec
Capabilities: TRANSPARENT_BRIDGE SWITCH
Version:
  WS-C2948 Software, Version McpSW: 5.1(57) NmpSW: 5.1(1)
  Copyright (c) 1995-1999 by Cisco Systems, Inc.

```

```
Platform: WS-C2948  
Port-ID (Port on Neighbors's Device): 2/2  
VTP Management Domain: Lab_Network  
Native VLAN: 522  
Duplex: full  
Console> (enable)
```