



CHAPTER 31

Configuring CDP

This chapter describes how to configure the Cisco Discovery Protocol (CDP) on the Catalyst 6500 series switches.



Note

For complete syntax and usage information for the commands that are used in this chapter, refer to the *Catalyst 6500 Series Switch Command Reference*

This chapter consists of these sections:

- [Understanding How CDP Works, page 31-1](#)
- [Default CDP Configuration, page 31-2](#)
- [Configuring CDP on the Switch, page 31-2](#)

Understanding How CDP Works

CDP was enhanced in software release 8.1(1) to facilitate the backward compatibility with the newer, higher-powered Cisco IP phones. With this enhanced CDP, a Cisco IP phone can negotiate its power requirements to the switch within the CDP packet. The switch uses this information to ensure that it does not oversubscribe the available power.

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

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

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

The Cisco devices never forward the CDP packets. When new CDP information is received, the Cisco devices discard old information.

Default CDP Configuration

Table 31-1 CDP Default Configuration

Feature	Default Value



Note

The CDP message interval can be configured in the range of 5–254 seconds.

Configuring CDP on the Switch

These sections describe how to configure CDP:

- [Setting the CDP Global Enable and Disable States, page 31-2](#)
- [Setting the CDP Enable and Disable States on a Port, page 31-3](#)
- [Setting the CDP Message Interval, page 31-4](#)
- [Setting the CDP Holdtime, page 31-4](#)
- [Displaying CDP Neighbor Information, page 31-5](#)

Setting the CDP Global Enable and Disable States

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

Task	Command
Step 1	<code>set cdp {enable disable}</code>
Step 2	Verify the CDP configuration. <code>show cdp</code>

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)

```

```

Console> (enable) set cdp disable
CDP disabled globally

```

Setting the CDP Enable and Disable States on a Port

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

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

	Task	Command
Step 1		set cdp enable disable [<i>lport</i>]
Step 2	Verify the CDP configuration.	show cdp port [<i>mod</i> [/ <i>port</i>]]

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

```
          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)
```

```
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)

```

Setting the CDP Message Interval

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

To set the default CDP message interval, perform this task in privileged mode:

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

This example shows how to set 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 the CDP messages from the neighboring devices before the device is no longer considered connected and the neighboring entry is aged out.

To set the default CDP holdtime, perform this task in privileged mode:

	Task	Command
Step 1		set cdp holdtime <i>interval</i>
Step 2		show cdp

This example shows how to set 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

show cdp neighbors
duplex
capabilities
detail



Note

show cdp neighbors

“unknown” is displayed in the following fields: VTP Management Domain, Native VLAN, and Duplex.

To display information about the directly connected Cisco devices, perform this task:

Display information about the CDP neighbors.	[mod[/port]] []
--	--------------------

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

```

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)
    
```

neighboring device, as indicated by the asterisk [*]):

```

Console> (enable)
* - 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)
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)
```