



Configuring the Cisco Discovery Protocol

The Cisco Discovery Protocol (CDP) is a medium-independent protocol that runs over Layer 2 (the data link layer) on the CSS and other Cisco manufactured equipment, such as routers, switches, bridges, and access servers. Use the **cdp** global configuration command to allow the CSS to advertise itself to all other neighboring Cisco CDP-compatible devices on a network. The CSS only transmits CDP advertisements to other CDP-compatible devices on the network; the CSS does not listen for CDP messages from the other CDP-compatible devices, and does not maintain a CDP table.

Any Cisco device with CDP support can learn about the CSS by listening to the periodic messages transmitted by the CSS and determining when the CSS is active. Network operators and analysts can use this information for configuration monitoring, topology discovery, and fault diagnosis.

CDP messages contain specific information about the CSS, such as:

- Device ID (CSS base MAC address)
- IP address (CSS management port IP address)
- Ethernet port ID name
- CSS functional capability flag (Router, Transparent Bridge, or Switch)
- CSS software version
- CSS platform

CDP advertisements also include hold time information, which defines the length of time the receiving device is to hold CDP information before discarding it.

This chapter contains the following major sections:

- [CDP Configuration Quick Start](#)
- [Enabling CDP](#)
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- [Setting the CDP Transmission Rate](#)
- [Showing CDP Information](#)

CDP Configuration Quick Start

[Table 7-1](#) provides a quick overview of the steps required to configure CDP for the CSS. Each step includes the CLI command required to complete the task. For a complete description of each feature and all the options associated with the CLI command, see the sections following [Table 7-1](#).

Table 7-1 CDP Configuration Quick Start

Task and Command Example

1. Enable CDP transmissions from the CSS to other neighboring Cisco CDP-compatible devices on the network.

```
(config)# cdp run
```

2. Specify the amount of time a receiving device retains the CDP information sent by the CSS (time-to-live information) before discarding this information.

```
(config)# cdp holdTime 255
```

3. Specify the frequency at which the CSS transmits CDP packets to all receiving CDP-compatible devices.

```
(config)# cdp timer 120
```

4. (Recommended) Display and verify CDP information for the CSS.

```
(config)# show cdp
```

The following running-configuration example shows the results of entering the commands in [Table 7-1](#).

```
!***** GLOBAL *****
 cdp run
 cdp holdTime 255
 cdp timer 120
```

Enabling CDP

By default, CDP is disabled for the CSS. Use the **cdp run** global configuration command to enable CDP transmissions from the CSS to other neighboring Cisco CDP-compatible devices on the network.

For example:

```
(config)# cdp run
```

To disable CDP transmissions on the CSS, enter:

```
(config)# no cdp run
```

Setting the CDP Hold Time

The CDP hold time is the amount of time a receiving device retains the CDP information sent by the CSS (time-to-live information) before discarding this information. If a neighboring device does not receive a CDP message before the hold time expires, the neighboring device drops the CSS as a neighbor. By default, the hold time is 180 seconds. To specify the hold time, use the **cdp holdTime** global configuration command. Valid entries are 10 to 255 seconds.

To specify a CDP hold time of 255 seconds for the receiving device, enter:

```
(config)# cdp holdTime 255
```

To reset the CDP hold time back to the default value of 180 seconds, enter:

```
(config)# no cdp holdTime
```

Setting the CDP Transmission Rate

By default, the frequency at which the CSS transmits CDP packets to all receiving CDP-compatible devices is 60 seconds. To specify the frequency at which the CSS transmits CDP packets to all receiving CDP-compatible devices, use the **cdp timer** global configuration command. Valid entries are 5 to 254 seconds.

To change the CDP transmission rate for the CSS to 120 seconds, enter:

```
(config)# cdp timer 120
```

To reset the CDP timer to the default rate of 60 seconds, enter:

```
(config)# no cdp timer
```

Showing CDP Information

Use the **show cdp** command to display and verify CDP information for the CSS, such as frequency of transmissions and the hold time for transmitted CSS CDP information.

For example:

```
(config)# show cdp
```

```
Global CDP information:
Sending CDP packets every 60 seconds
Sending a holdtime value of 16 seconds
TimeLastCdpSent: 0 days 00:00:30
```

The following example illustrates the CDP output on a Cisco Catalyst 8540 router using the Cisco IOS **show cdp neighbors** command.

```
24-8540-1>show cdp neighbors
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge S -
Switch, H - Host, I - IGMP, r - Repeater
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
00-10-58-01-4d-e3	Eth 0	178	R T S	CSS 11050	Eth-Mgmt
SCA043801A5	Eth 0	144	T S	WS-C6009	3/1
25-8540-1	Fas 0/0/7	142	R T	C8540CSR	Fas 0/0/4
25-8540-1	Eth 0	142	R T	C8540CSR	Eth 0
SCA043801HU(bxb11	Eth 0	151	T S	WS-C6009	2/48
00-07-85-43-14-1d	Eth 0	170	R T S	CSS11503	Eth-Mgmt