



Cisco Discovery Protocol

This document describes how to configure Cisco Discovery Protocol (CDP). It contains these sections:

- [Understanding CDP, page 1](#)
- [Configuring CDP, page 1](#)
- [Monitoring and Maintaining CDP, page 4](#)

Understanding CDP

Cisco Discovery Protocol (CDP) is a device-discovery protocol that runs on all Cisco network equipment. Each device sends identifying messages to a multicast address, and each device monitors the messages sent by other devices. Information in CDP packets is used in network management software such as CiscoWorks2000.

CDP is enabled on the WMIC's Ethernet and radio ports by default.



Note

For best performance on your wireless LAN, disable CDP on all radio interfaces and on subinterfaces if VLANs are enabled.

Configuring CDP

This section contains CDP configuration information and procedures:

- [Default CDP Configuration, page 2](#)
- [Configuring the CDP Characteristics, page 2](#)
- [Disabling and Enabling CDP, page 2](#)
- [Disabling and Enabling CDP on an Interface, page 3](#)



Americas Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

© 2008 Cisco Systems, Inc. All rights reserved.

Default CDP Configuration

Table 1 lists the default CDP settings.

Table 1 Default CDP Configuration

Feature	Default Setting
CDP global state	Enabled
CDP interface state	Enabled
CDP holdtime (packet holdtime in seconds)	180
CDP timer (packets sent every x seconds)	60

Configuring the CDP Characteristics

You can configure the CDP holdtime (the number of seconds before the WMIC discards CDP packets) and the CDP timer (the number of seconds between each CDP packets the WMIC sends).

To configure the CDP holdtime and CDP timer, follow these steps, beginning in privileged EXEC mode:

	Command	Purpose
Step 1	configure terminal	Enters global configuration mode.
Step 2	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 from 10 to 255 seconds; the default is 180 seconds.
Step 3	cdp timer <i>seconds</i>	(Optional) Sets the transmission frequency of CDP updates in seconds. The range is from 5 to 254; the default is 60 seconds.
Step 4	end	Returns to Privileged EXEC mode.

Use the **no** form of the CDP commands to return to the default settings.

This example shows how to configure and verify CDP characteristics:

```
bridge# configure terminal
bridge(config)# cdp holdtime 120
bridge(config)# cdp timer 50
bridge(config)# end

bridge# show cdp

Global CDP information:
    Sending a holdtime value of 120 seconds
    Sending CDP packets every 50 seconds
```

For additional CDP **show** commands, see the “[Monitoring and Maintaining CDP](#)” section on page 4.

Disabling and Enabling CDP

To disable the CDP device discovery capability, follow these steps, beginning in privileged EXEC mode:

	Command	Purpose
Step 1	configure terminal	Enters global configuration mode.
Step 2	no cdp run	Disables CDP.
Step 3	end	Returns to Privileged Exec mode.

To enable CDP, follow these steps, beginning in privileged EXEC mode:

	Command	Purpose
Step 1	configure terminal	Enters global configuration mode.
Step 2	cdp run	Enables CDP after disabling it.
Step 3	end	Returns to privileged EXEC mode.

This example shows how to enable CDP.

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

Disabling and Enabling CDP on an Interface

CDP is enabled by default on all supported interfaces to send and receive CDP information.

To disable CDP on an interface, follow these steps, beginning in privileged EXEC mode:

	Command	Purpose
Step 1	configure terminal	Enters global configuration mode.
Step 2	interface <i>interface-id</i>	Enters interface configuration mode, and enter the interface on which you are disabling CDP.
Step 3	no cdp enable	Disables CDP on an interface.
Step 4	end	Returns to privileged EXEC mode.
Step 5	copy running-config startup-config	(Optional) Saves your entries in the configuration file.

To enable CDP on an interface, follow these steps, beginning in privileged EXEC mode:

	Command	Purpose
Step 1	configure terminal	Enters global configuration mode.
Step 2	interface <i>interface-id</i>	Enters interface configuration mode, and enter the interface on which you are enabling CDP.
Step 3	cdp enable	Enables CDP on an interface after disabling it.
Step 4	end	Returns to privileged EXEC mode.
Step 5	copy running-config startup-config	(Optional) Saves your entries in the configuration file.

This example shows how to enable CDP on an interface:

```
bridge# configure terminal
bridge(config)# interface x
bridge(config-if)# cdp enable
bridge(config-if)# end
```

Monitoring and Maintaining CDP

To monitor and maintain CDP on your device, perform one or more of these tasks, beginning in privileged EXEC mode.

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>type number</i>]	Displays information about interfaces where CDP is enabled. You can limit the display to the type of interface or the number of the interface about which you want information (for example, entering gigabitethernet 0/1 displays information only about Gigabit Ethernet port 1).
show cdp neighbors [<i>type number</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 on a specific type or number of 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.

Below are six examples of output from the CDP **show** privileged EXEC commands:

```
bridge# show cdp
Global CDP information:
  Sending CDP packets every 50 seconds
  Sending a holdtime value of 120 seconds

bridge# show cdp entry *
-----
Device ID: bridge
Entry address(es):
  IP address: 10.1.1.66
Platform: cisco WS-C3550-12T, Capabilities: Switch IGMP
Interface: GigabitEthernet0/2, Port ID (outgoing port): GigabitEthernet0/2
Holdtime : 129 sec
```

```
Version :
Cisco Internetwork Operating System Software
IOS (tm) C3550 Software (C3550-I5Q3L2-M), Experimental Version 12.1(20010612:021
316) [jang-flamingo 120]
Copyright (c) 1986-2001 by cisco Systems, Inc.
Compiled Fri 06-Jul-01 18:18 by jang
```

```
advertisement version: 2
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27, value=0000000
0FFFFFFFF010221FF00000000000000024B293A00FF0000
VTP Management Domain: ''
Duplex: full
```

```
-----
Device ID: idf2-1-lab-13.cisco.com
Entry address(es):
  IP address: 10.1.1.10
Platform: cisco WS-C3524-XL, Capabilities: Trans-Bridge Switch
Interface: GigabitEthernet0/1, Port ID (outgoing port): FastEthernet0/10
Holdtime : 141 sec
```

```
Version :
Cisco Internetwork Operating System Software
IOS (tm) C3500XL Software (C3500XL-C3H2S-M), Version 12.0(5.1)XP, MAINTENANCE IN
TERIM SOFTWARE
Copyright (c) 1986-1999 by cisco Systems, Inc.
Compiled Fri 10-Dec-99 11:16 by cchang
```

```
advertisement version: 2
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=25, value=0000000
0FFFFFFFF010101FF000000000000000142EFA400FF
VTP Management Domain: ''
```

```
bridge# show cdp entry * protocol
Protocol information for talSwitch14 :
  IP address: 172.20.135.194
Protocol information for tstswitch2 :
  IP address: 172.20.135.204
  IP address: 172.20.135.202
Protocol information for tstswitch2 :
  IP address: 172.20.135.204
  IP address: 172.20.135.202
```

```
bridge# show cdp interface
GigabitEthernet0/1 is up, line protocol is up
  Encapsulation ARPA
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
GigabitEthernet0/2 is up, line protocol is down
  Encapsulation ARPA
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
GigabitEthernet0/3 is administratively down, line protocol is down
  Encapsulation ARPA
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
GigabitEthernet0/4 is up, line protocol is down
  Encapsulation ARPA
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
GigabitEthernet0/5 is up, line protocol is up
  Encapsulation ARPA
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
```

```
GigabitEthernet0/6 is up, line protocol is up
  Encapsulation ARPA
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
GigabitEthernet0/7 is up, line protocol is down
  Encapsulation ARPA
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
GigabitEthernet0/8 is up, line protocol is down
  Encapsulation ARPA
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
```

```
bridge# show cdp neighbor
```

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

```
Device IDLocal InterfaceHoldtmeCapabilityPlatformPort ID
Perdido2Gig 0/6125R S IWS-C3550-1Gig0/6
Perdido2Gig 0/5125R S IWS-C3550-1Gig 0/5
```

```
bridge# show cdp traffic
```

```
CDP counters :
```

```
Total packets output: 50882, Input: 52510
Hdr syntax: 0, Chksum error: 0, Encaps failed: 0
No memory: 0, Invalid packet: 0, Fragmented: 0
CDP version 1 advertisements output: 0, Input: 0
CDP version 2 advertisements output: 50882, Input: 52510
```