Configuring CDP

This chapter describes how to configure Cisco Discovery Protocol (CDP) on your access point.

Note
For complete syntax and usage information for the commands used in this chapter, refer to the Cisco Aironet IOS Command Reference for Access Points and Bridges for this release and the Cisco IOS Configuration Fundamentals Command Reference for Release 12.2.

This chapter contains the following sections:

- Understanding CDP, page 17-2
- Configuring CDP, page 17-2
- Monitoring and Maintaining CDP, page 17-4
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 access point Ethernet port by default. However, CDP is enabled on the access point radio port only when the radio is associated to another wireless infrastructure device, such as an access point or a bridge. CDP is sent on the lowest VLAN number configured on the access point. When more than one VLAN is used in a wireless network, we recommend that the lowest VLAN number configured be used as the native VLAN.

For best performance on your wireless LAN, disable CDP on all radio interfaces and on sub-interfaces if VLANs are enabled on the access point.

Configuring CDP

This section contains CDP configuration information and procedures:

- Default CDP Configuration, page 17-2
- Configuring the CDP Characteristics, page 17-2
- Disabling and Enabling CDP, page 17-3
- Disabling and Enabling CDP on an Interface, page 17-4

Default CDP Configuration

Table 17-1 lists the default CDP settings.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Default Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDP global state</td>
<td>Enabled</td>
</tr>
<tr>
<td>CDP interface state</td>
<td>Enabled</td>
</tr>
<tr>
<td>CDP holdtime (packet holdtime in seconds)</td>
<td>180</td>
</tr>
<tr>
<td>CDP timer (packets sent every x seconds)</td>
<td>60</td>
</tr>
</tbody>
</table>

Configuring the CDP Characteristics

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

Beginning in Privileged Exec mode, follow these steps to configure the CDP holdtime and CDP timer.
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Configuring CDP

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

This example shows how to configure and verify CDP characteristics:

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

AP# 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 17-4.

Disabling and Enabling CDP

CDP is enabled by default. Beginning in Privileged Exec mode, follow these steps to disable the CDP device discovery capability:

```
Step 1       Command                  Purpose
configure terminal  Enter global configuration mode.
Step 2       no cdp run               Disable CDP.
Step 3       end                      Return to Privileged Exec mode.
```

Beginning in privileged EXEC mode, follow these steps to enable CDP:

```
Step 1       Command                  Purpose
configure terminal  Enter global configuration mode.
Step 2       cdp run                   Enable CDP after disabling it.
Step 3       end                      Return to privileged EXEC mode.
```
This example shows how to enable CDP.

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

Disabling and Enabling CDP on an Interface

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

Beginning in privileged EXEC mode, follow these steps to disable CDP on an interface:

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Command</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>configure terminal</td>
<td>Enter global configuration mode.</td>
</tr>
<tr>
<td></td>
<td>interface interface-id</td>
<td>Enter interface configuration mode, and enter the</td>
</tr>
<tr>
<td></td>
<td>no cdp enable</td>
<td>Disable CDP on an interface.</td>
</tr>
<tr>
<td></td>
<td>end</td>
<td>Return to privileged EXEC mode.</td>
</tr>
<tr>
<td></td>
<td>copy running-config startup-config</td>
<td>(Optional) Save your entries in the configuration file.</td>
</tr>
</tbody>
</table>

Beginning in privileged EXEC mode, follow these steps to enable CDP on an interface:

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Command</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>configure terminal</td>
<td>Enter global configuration mode.</td>
</tr>
<tr>
<td></td>
<td>interface interface-id</td>
<td>Enter interface configuration mode, and enter the</td>
</tr>
<tr>
<td></td>
<td>cdp enable</td>
<td>Enable CDP on an interface after disabling it.</td>
</tr>
<tr>
<td></td>
<td>end</td>
<td>Return to privileged EXEC mode.</td>
</tr>
<tr>
<td></td>
<td>copy running-config startup-config</td>
<td>(Optional) Save your entries in the configuration file.</td>
</tr>
</tbody>
</table>

This example shows how to enable CDP on an interface.

```
AP# configure terminal
AP(config)# interface x
AP(config-if)# cdp enable
AP(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.

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>clear cdp counters</td>
<td>Reset the traffic counters to zero.</td>
</tr>
<tr>
<td>clear cdp table</td>
<td>Delete the CDP table of information about neighbors.</td>
</tr>
</tbody>
</table>
Below are six examples of output from the CDP `show` privileged EXEC commands:

**AP# show cdp**

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

**AP# show cdp entry ***

Device ID: AP
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(20010612:021316) [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=0000000000000000000024B293A00FF0000
VTP Management Domain: '
Duplex: full

---

### Command Description

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>show cdp</strong></td>
<td>Display global information, such as frequency of transmissions and the holdtime for packets being sent.</td>
</tr>
<tr>
<td><strong>show cdp entry entry-name</strong> [protocol</td>
<td>version]</td>
</tr>
<tr>
<td><strong>show cdp interface [type number]</strong></td>
<td>Display 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 <code>gigabitethernet 0/1</code> displays information only about Gigabit Ethernet port 1).</td>
</tr>
<tr>
<td><strong>show cdp neighbors [type number] [detail]</strong></td>
<td>Display 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.</td>
</tr>
<tr>
<td><strong>show cdp traffic</strong></td>
<td>Display CDP counters, including the number of packets sent and received and checksum errors.</td>
</tr>
</tbody>
</table>
Device ID: idf2-1-lab-l3.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=00000000
0FFFFFFFF010101FF000000000000000142EFA400FF
VTP Management Domain: ''

AP# show cdp entry * protocol
Protocol information for talSwitch14:
   IP address: 172.20.135.194

Protocol information for tstswitch2:
   IP address: 172.20.135.202

Protocol information for tstswitch2:
   IP address: 172.20.135.202

AP# 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
AP# show cdp neighbor
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                    S - Switch, H - Host, I - IGMP, r - Repeater

Device ID Local Interface     Holdtime Capability Platform Port ID
Perdido2Gig 0/6125R  S INS-C3550-1Gig0/6
Perdido2Gig 0/5125R  S INS-C3550-1Gig0/5

AP# 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