



CDP Commands

This chapter describes commands used to monitor the router and network using Cisco Discovery Protocol (CDP).

For system management configuration tasks and examples, refer to the “Configuring Cisco Discovery Protocol (CDP)” chapter in the Release 12.1 *Cisco IOS Configuration Fundamentals Configuration Guide*.

cdp advertise-v2

To enable Cisco Discovery Protocol Version 2 (CDPv2) advertising functionality on a device, use the **cdp advertise-v2** global configuration command. To disable advertising CDPv2 functionality, use the **no** form of the command.

cdp advertise-v2

no cdp advertise-v2

Syntax Description This command has no arguments or keywords.

Defaults CDPv2 advertising is enabled by default.

Command Modes Global configuration

Command History	Release	Modification
	12.0(3)T	This command was introduced.

Usage Guidelines Three new TLVs have been added to CDP Version 2. They are VTP Management Domain Name, Native VLAN, and full/half-Duplex TLVs.

Examples In the following example, CDP Version 2 advertisements are disabled on the router:

```
Router#show cdp
Global CDP information:
    Sending CDP packets every 60 seconds
    Sending a holdtime value of 180 seconds
    Sending CDPv2 advertisements is enabled

Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#no cdp advertise-v2
Router(config)#end
Router#show cdp
Global CDP information:
    Sending CDP packets every 60 seconds
    Sending a holdtime value of 180 seconds
    Sending CDPv2 advertisements is not enabled

Router#
```

Related Commands	Command	Description
	cdp enable	Enables CDP on a per-interface basis.

Command	Description
cdp run	Reenables Cisco Discovery Protocol.
show cdp	Displays CDP status on the device.

cdp enable

To enable Cisco Discovery Protocol (CDP) on an interface, use the **cdp enable** interface configuration command. To disable CDP on an interface, use the **no** form of this command.

cdp enable

no cdp enable

Syntax Description This command has no arguments or keywords.

Defaults Enabled at the global level and on all supported interfaces.

Command Modes Interface configuration

Release	Modification
10.3	This command was introduced.

Usage Guidelines CDP is enabled by default at the global level and on each supported interface in order to send or receive CDP information. However, on some interfaces, such as Async interfaces, CDP is disabled by default.

The **cdp enable**, **cdp timer**, and **cdp run** commands affect the operation of the IP on demand routing feature (that is, the **router odr** global configuration command). For more information on the **router odr** command, see the “On-Demand Routing Commands” chapter in the *Cisco IOS IP and IP Routing Command Reference*.

Examples In the following example, CDP is disabled on the Ethernet 0 interface only:

```
Router#show cdp
Global CDP information:
    Sending CDP packets every 60 seconds
    Sending a holdtime value of 180 seconds
    Sending CDPv2 advertisements is enabled
Router#config terminal
Router(config)#interface ethernet 0
Router(config-if)#no cdp enable
```

Command	Description
cdp run	Reenables CDP on a Cisco device.

cdp holdtime

To specify the amount of time the receiving device should hold a Cisco Discovery Protocol (CDP) packet from your router before discarding it, use the **cdp holdtime** global configuration command. Use the **no** form of this command to revert to the default setting.

cdp holdtime *seconds*

no cdp holdtime

Syntax Description	<i>seconds</i>	Specifies the hold time to be sent in the CDP update packets.						
Defaults	180 seconds							
Command Modes	Global configuration							
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>10.3</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	10.3	This command was introduced.			
Release	Modification							
10.3	This command was introduced.							
Usage Guidelines	<p>CDP packets are sent with time-to-live, or hold time, that is nonzero after an interface is enabled and a hold time of 0 immediately before an interface is idled down.</p> <p>The CDP hold time must be set to a higher number of seconds than the time between CDP transmissions, which is set using the cdp timer command.</p>							
Examples	<p>In the following example, the CDP packets being sent from your router should be held by the receiving device for 60 seconds before being discarded. You might want to set the hold time lower than the default setting of 180 seconds if information about your router changes often and you want the receiving devices to purge this information more quickly.</p> <pre>cdp holdtime 60</pre>							
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>cdp timer</td> <td>Specifies how often the Cisco IOS software sends CDP updates.</td> </tr> <tr> <td>show cdp</td> <td>Displays global CDP information, including timer and hold-time information.</td> </tr> </tbody> </table>	Command	Description	cdp timer	Specifies how often the Cisco IOS software sends CDP updates.	show cdp	Displays global CDP information, including timer and hold-time information.	
Command	Description							
cdp timer	Specifies how often the Cisco IOS software sends CDP updates.							
show cdp	Displays global CDP information, including timer and hold-time information.							

cdp run

To enable the Cisco Discovery Protocol (CDP), use the **cdp run** global configuration command. To disable CDP, use the **no** form of this command.

cdp run

no cdp run

Syntax Description This command has no arguments or keywords.

Defaults Enabled

Command Modes Global configuration

Command History	Release	Modification
	10.3	This command was introduced.

Usage Guidelines CDP is enabled on your router by default, which means the Cisco IOS software will receive CDP information. CDP also is enabled on supported interfaces by default (CDP is disabled by default on certain interface types such as Async interfaces). To disable CDP on a specific interface, use the **no cdp enable** interface configuration command.



Note

The **cdp enable**, **cdp timer**, and **cdp run** commands affect the operation of the IP on demand routing feature (that is, the **router odr** global configuration command). For more information on the **router odr** command, see the “On-Demand Routing Commands” chapter in the *Cisco IOS IP and IP Routing Command Reference*.

If CDP is disabled globally, you can not enable it on a per-interface basis using the **cdp enable** interface configuration mode command.

Examples In the following example, CDP is disabled globally, then the user attempts to enable CDP on the Ethernet 0 interface:

```
Router(config)#no cdp run
Router(config)#end
Router#show cdp
% CDP is not enabled
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int eth0
Router(config-if)#cdp enable
% Cannot enable CDP on this interface, since CDP is not running
Router(config-if)#
```

Related Commands	Command	Description
	cdp enable	Enables CDP on a supported interface.

cdp timer

To specify how often the Cisco IOS software sends Cisco Discovery Protocol updates, use the **cdp timer** global configuration command. Use the **no** form of this command to revert to the default setting.

cdp timer *seconds*

no cdp timer

Syntax Description	<i>seconds</i>	Specifies how often the Cisco IOS software sends CDP updates.
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Defaults	60 seconds
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Command Modes	Global configuration
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Command History	Release	Modification
	10.3	This command was introduced.

Usage Guidelines	The trade-off with sending more frequent transmissions is providing up-to-date information versus using bandwidth more often.
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Note

The **cdp enable**, **cdp timer**, and **cdp run** commands affect the operation of the IP on demand routing feature (that is, the **router odr** global configuration command). For more information on the **router odr** command, see the “On-Demand Routing Commands” chapter in the *Cisco IOS IP and IP Routing Command Reference*.

Examples	In the following example, CDP updates are sent every 80 seconds, less frequently than the default setting of 60 seconds. You might want to make this change if you are concerned about preserving bandwidth.
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```
cdp timer 80
```

Related Commands	Command	Description
	cdp holdtime	Specifies the amount of time the receiving device should hold a CDP packet from your router before discarding it.
	show cdp	Displays global CDP information, including timer and hold-time information.

clear cdp counters

To reset Cisco Discovery Protocol traffic counters to zero (0), use the **clear cdp counters** privileged EXEC command.

clear cdp counters

Syntax Description This command has no arguments or keywords.

Command Modes Privileged EXEC

Release	Modification
10.3	This command was introduced.

Examples The following example clears the CDP counters. The **show cdp traffic** output shows that all of the traffic counters have been reset to zero (0).

```
Router# clear cdp counters
Router# show cdp traffic

CDP counters:
  Packets output: 0, Input: 0
  Hdr syntax: 0, Chksum error: 0, Encaps failed: 0
  No memory: 0, Invalid packet: 0, Fragmented: 0
```

Command	Description
clear cdp table	Clears the table that contains CDP information about neighbors.
show cdp traffic	Displays traffic information from the CDP table.

clear cdp table

To clear the table that contains Cisco Discovery Protocol information about neighbors, use the **clear cdp table** privileged EXEC command.

clear cdp table

Syntax Description This command has no arguments or keywords.

Command Modes Privileged EXEC

Command History	Release	Modification
	10.3	This command was introduced.

Examples The following example clears the CDP table. The output of the **show cdp neighbors** command shows that all information has been deleted from the table.

```
Router# clear cdp table
```

```
CDP-AD: Deleted table entry for neon.cisco.com, interface Ethernet0
```

```
CDP-AD: Deleted table entry for neon.cisco.com, interface Serial0
```

```
Router# show cdp neighbors
```

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

```
Device ID      Local Intrfce    Holdtme    Capability  Platform  Port ID
```

Related Commands	Command	Description
	show cdp neighbors	Displays information about neighbors.

show cdp

To display global Cisco Discovery Protocol information, including timer and hold-time information, use the **show cdp** privileged EXEC command.

show cdp

Syntax Description This command has no arguments or keywords.

Command Modes Privileged EXEC

Command History	Release	Modification
	10.3	This command was introduced.
	12.0(3)T	The output of this command was modified to include CDPv2 information.

Examples

The following example shows that the current router is transmitting CDP advertisements every one minute (the default setting for **cdp timer**). Also shown is that the current router directs its neighbors to hold its CDP advertisements for three minutes (the default for **cdp holdtime**), and that the router is enabled to transmit CDP Version 2 advertisements:

```
router# show cdp

Global CDP information:
Sending CDP packets every 60 seconds
Sending a holdtime value of 180 seconds
Sending CDPv2 advertisements is enabled
```

Table 57 describes the fields shown in the example.

Table 57 *show cdp Field Descriptions*

Field	Definition
Sending CDP packets every XX seconds	The interval, in seconds, between transmissions of CDP advertisements. This field is controlled by the cdp timer command.
Sending a holdtime value of XX seconds	The amount of time, in seconds, the device directs the neighbor to hold a CDP advertisement before discarding it. This field is controlled by the cdp holdtime command.
Sending CDPv2 advertisements is XX	The state of whether CDP Version-2 type advertisements are enabled to be transmitted. Possible states are enabled or disabled. This field is controlled by the cdp advertise v2 command.

Related Commands	Command	Description
	cdp advertise-v2	Enables CDP Version 2 advertising functionality on a device.
	cdp holdtime	Specifies the amount of time the receiving device should hold a CDP packet from your router before discarding it.
	cdp timer	Specifies how often the Cisco IOS software sends CDP updates.
	show cdp entry	Displays information about a specific neighbor device listed in the CDP table.
	show cdp interface	Displays information about the interfaces on which CDP is enabled.
	show cdp neighbors	Displays detailed information about neighboring devices discovered using CDP.
	show cdp traffic	Displays information about traffic between devices gathered using CDP.

show cdp entry

To display information about a specific neighboring device discovered using Cisco Discovery Protocol, use the **show cdp entry** privileged EXEC command.

```
show cdp entry { * | entry-name [protocol | version] }
```

Syntax Description		
*	Shows all of the CDP neighbors.	
<i>entry-name</i>	Name of neighbor about which you want information.	
	You can enter an asterisk (*) at the end of an <i>entry-name</i> , such as <code>show cdp entry dev*</code> , which would show information about the neighbor, <code>device.cisco.com</code> .	
protocol	(Optional) Limits the display to information about the protocols enabled on a router.	
version	(Optional) Limits the display to information about the version of software running on the router.	

Command Modes	
	Privileged EXEC

Command History	Release	Modification
	10.3	This command was introduced.

Examples

The following is sample output from the **show cdp entry** command with no limits. Information about the neighbor device.cisco.com is displayed, including device ID, address and protocol, platform, interface, hold time, and version.

```
Router# show cdp entry device.cisco.com
```

```
-----
Device ID: device.cisco.com
Entry address(es):
  IP address: 192.168.68.18
  CLNS address: 490001.1111.1111.1111.00
  DECnet address: 10.1
Platform: cisco 4500, Capabilities: Router
Interface: Ethernet0/1, Port ID (outgoing port): Ethernet0
Holdtime : 125 sec
```

```
Version :
Cisco Internetwork Operating System Software
IOS (tm) 4500 Software (C4500-J-M), Version 11.1(10.4), MAINTENANCE INTERIM SOFTWARE
Copyright (c) 1986-1997 by cisco Systems, Inc.
Compiled Mon 07-Apr-97 19:51 by dschwart
```

The following is sample output from the **show cdp entry protocol** command. Only information about the protocols enabled on device.cisco.com is displayed.

```
Router# show cdp entry device.cisco.com protocol
```

```
Protocol information for device.cisco.com:
  IP address: 192.168.68.18
  CLNS address: 490001.1111.1111.1111.00
  DECnet address: 10.1
```

The following is sample output from the **show cdp entry version** command. Only information about the version of software running on device.cisco.com is displayed.

```
Router# show cdp entry device.cisco.com version
```

```
Version information for device.cisco.com:
  Cisco Internetwork Operating System Software
  IOS (tm) 4500 Software (C4500-J-M), Version 11.1(10.4), MAINTENANCE INTERIM SOFTWARE
  Copyright (c) 1986-1997 by cisco Systems, Inc.
  Compiled Mon 07-Apr-97 19:51 by dschwart
```

Related Commands

Command	Description
show cdp	Displays global CDP information, including timer and hold-time information.
show cdp interface	Displays information about the interfaces on which CDP is enabled.
show cdp neighbors	Displays detailed information about neighboring devices discovered using CDP.
show cdp traffic	Displays traffic information from the CDP table.

show cdp interface

To display information about the interfaces on which Cisco Discovery Protocol is enabled, use the **show cdp interface** privileged EXEC command.

```
show cdp interface [type number]
```

Syntax Description	<i>type</i>	(Optional) Type of interface about which you want information.
	<i>number</i>	(Optional) Number of the interface about which you want information.

Command Modes	Privileged EXEC
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Command History	Release	Modification
	10.3	This command was introduced.

Examples

The following sample output from the **show cdp interface** command. Status information and information about CDP timer and hold time settings is displayed for all interfaces on which CDP is enabled.

```
Router# show cdp interface

Serial0 is up, line protocol is up, encapsulation is SMDS
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
Ethernet0 is up, line protocol is up, encapsulation is ARPA
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
```

The following is sample output from the **show cdp interface** command with an interface specified. Status information and information about CDP timer and holdtime settings is displayed for Ethernet interface 0 only.

```
Router# show cdp interface ethernet 0

Ethernet0 is up, line protocol is up, encapsulation is ARPA
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
```

Related Commands	Command	Description
	show cdp	Displays global CDP information, including timer and hold-time information.
	show cdp entry	Displays information about a specific neighbor device or all neighboring devices discovered using CDP.

Command	Description
show cdp neighbors	Displays detailed information about neighboring devices discovered using CDP.
show cdp traffic	Displays traffic information from the CDP table.

show cdp neighbors

To display detailed information about neighboring devices discovered using Cisco Discovery Protocol (CDP), use the **show cdp neighbors** privileged EXEC command.

show cdp neighbors [*type number*] [**detail**]

Syntax Description		
	<i>type</i>	(Optional) Type of the interface connected to the neighbors about which you want information.
	<i>number</i>	(Optional) Number of the interface connected to the neighbors about which you want information.
	detail	(Optional) Displays detailed information about a neighbor (or neighbors) including network address, enabled protocols, hold time, and software version.

Command Modes Privileged EXEC

Command History	Release	Modification
	10.3	This command was introduced.
	12.0(3)T	The output for the detail form of this command was expanded to include CDPv2 information.

Examples The following is sample output for the **show cdp neighbors** command:

```
Router#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
lab-7206          Eth 0           157        R           7206VXR   Fas 0/0/0
lab-as5300-1      Eth 0           163        R           AS5300    Fas 0
lab-as5300-2      Eth 0           159        R           AS5300    Eth 0
lab-as5300-3      Eth 0           122        R           AS5300    Eth 0
lab-as5300-4      Eth 0           132        R           AS5300    Fas 0/0
lab-3621          Eth 0           140        R S         3631-telcoFas 0/0
008024 2758E0     Eth 0           132        T           CAT3000   1/2
```

Table 58 describes the fields shown in this example.

Table 58 *show cdp neighbors Field Descriptions*

Field	Definition
Device ID	The configured ID (name), MAC address, or serial number of the neighbor device.
Local Intrfce	(Local Interface) The protocol being used by the connectivity media.
Holdtme	(Holdtime) The remaining amount of time, in seconds, the current device will hold the CDP advertisement from a transmitting router before discarding it.
Capability	The capability code discovered on the device. This is the type of the device listed in the CDP Neighbors table. Possible values are: R—Router T—Transparent bridge B—Source-routing bridge S—Switch H—Host I—IGMP device r—Repeater
Platform	The product number of the device.
Port ID	The protocol and port number of the device.

The following is sample output for the **show cdp neighbors detail** command.

```

router#show cdp neighbors detail
-----
Device ID: lab-7206
Entry address(es):
  IP address: 172.19.169.83
Platform: cisco 7206VXR, Capabilities: Router
Interface: Ethernet0, Port ID (outgoing port): FastEthernet0/0/0
Holdtime : 123 sec

Version :
Cisco Internetwork Operating System Software
IOS (tm) 5800 Software (C5800-P4-M), Version 12.1(2)
Copyright (c) 1986-2002 by Cisco Systems, Inc.

advertisement version: 2
Duplex: half

-----
Device ID: lab-as5300-1
Entry address(es):
  IP address: 172.19.169.87
Platform: cisco AS5300, Capabilities: Router
--More--
.
.
.

```

Table 59 describes field descriptions shown in the example.

Table 59 *show cdp neighbors detail Field Descriptions*

Field	Definition
Device ID	The name of the neighbor device and either the MAC address or the serial number of this device.
Entry address(es)	A list of network addresses of neighbor devices.
[network protocol] address	The network address of the neighbor device. The address can be in IP, IPX, AppleTalk, DECnet, or CLNS protocol conventions.
Platform	The product name and number of the neighbor device.
Capabilities	The device type of the neighbor. This device can be a router, a bridge, a transparent bridge, a source-routing bridge, a switch, a host, an IGMP device, or a repeater.
Interface	The protocol and port number of the port on the current device.
Holdtime	The remaining amount of time, in seconds, the current device will hold the CDP advertisement from a transmitting router before discarding it.
Version:	The software version running on the neighbor device.
advertisement version:	The version of CDP being used for CDP advertisements.
Duplex:	The duplex state of connection between the current device and the neighbor device.

Related Commands

Command	Description
show cdp	Displays global CDP information, including timer and hold-time information.
show cdp entry	Displays information about a specific neighbor device listed in the CDP table.
show cdp interface	Displays information about the interfaces on which CDP is enabled.
show cdp traffic	Displays information about traffic between devices gathered using CDP.

show cdp traffic

To display information about traffic between devices gathered using Cisco Discovery Protocol(CDP), use the **show cdp traffic** privileged EXEC command.

show cdp traffic

Syntax Description This command has no arguments or keywords.

Command Modes Privileged EXEC

Command History	Release	Modification
	10.3	This command was introduced.

Examples The following example specifies information associated with the **show cdp traffic** command:

```
router# show cdp traffic

Total packets output: 543, Input: 333
Hdr syntax: 0, Chksum error: 0, Encaps failed: 0
No memory: 0, Invalid: 0, Fragmented: 0
CDP version 1 advertisements output: 191, Input: 187
CDP version 2 advertisements output: 352, Input: 146
```

Table 60 describes the fields shown in the example.

Table 60 *show cdp traffic Field Descriptions*

Field	Definition
Total packets output	(Total number of packets sent) The number of CDP advertisements sent by the local device. Note this value is the sum of the CDP Version 1 advertisements output and CDP Version 2 advertisements output fields.
Input	(Total number of packets received) The number of CDP advertisements received by the local device. Note this value is the sum of the CDP Version-1 advertisements input and CDP Version 2 advertisements input fields.
Hdr syntax	(Header Syntax) The number of CDP advertisements with bad headers, received by the local device.
Chksum error	(Checksum Error)The number of times the checksum (verifying) operation failed on incoming CDP advertisements.

Table 60 *show cdp traffic* Field Descriptions (continued)

Field	Definition
Encaps failed	(Encapsulations Failed) The number of times CDP failed to transmit advertisements on an interface because of a failure caused by the bridge port of the local device.
No memory	The number of times the local device did not have enough memory to store the CDP advertisements in the advertisement cache table when the device was attempting to assemble advertisement packets for transmission and parse them when receiving them.
Invalid	The number of invalid CDP advertisements received and sent by the local device.
Fragmented	The number of times fragments or portions of a single CDP advertisement were received by the local device instead of the complete advertisement.
CDP version 1 advertisements output	The number of CDP Version 1 advertisements sent by the local device.
Input	The number of CDP Version 1 advertisements received by the local device.
CDP version 2 advertisements output	The number of CDP Version 2 advertisements sent by the local device.
Input	The number of CDP Version 2 advertisements received by the local device.

Related Commands

Command	Description
show cdp	Displays global CDP information, including timer and hold-time information.
show cdp entry	Displays information about a specific neighbor device listed in the CDP table.
show cdp interface	Displays information about the interfaces on which CDP is enabled.
show cdp neighbors	Displays detailed information about neighboring devices discovered using CDP.

■ show cdp traffic