Print this page NO ENTENDÍ NADA...

Lab: CDP

Objective: To understand how the Cisco Discovery Protocol functions and what it takes for Cisco devices to be discovered.
Lab Equipment: We will be using eRouter 1 & eRouter 4. To select eRouter 1 click on the click on the button eRouter1 at the top of your screen.

1. On eRouter 1, enter global configuration mode

eRouter#conf t

2. On eRouter 1, and change the hostname to **R1**

Router(config)#hostname R1

3. Select eRouter 4 by clicking on the button eRouter4 at the top of your screen, and change the hostname to **R4**

Router(config)#hostname R4

Note: By default, all interfaces are shutdown (disabled).

4. Enable the Serial 0 interface on R1.

R1(config)#interface Serial 0

5. Now enable the Serial 0 interface on R4

R4(config-if)#no shutdown

6. Enable the Ethernet 0 interface on R1.

R1(config)#interface Ethernet 0

CDP allows devices to share basic configuration information. CDP will operate without any protocol specific information configured. CDP is enabled by default on all interfaces. CDP is a Datalink Protocol occurring at Layer 2 of the OSI model. This is important to understand because CDP is not routable. It can only traverse to directly connected devices.

7. On R1, type the command to give the status of all interfaces that are running CDP.

R1#show cdp interface

The sample output below shows that both interfaces are up and sending CDP packets.

```
Serial0 is up, line protocol is up
Encapsulation HDLC
Sending CDP packets every 60 seconds
Holdtime is 180 seconds
<output omitted>
```

```
R1#
```

Now that the router has interfaces that are broadcasting and receiving CDP updates we can use CDP to find out about directly connected neighbors.

8. On R1, type the command to provide information about directly connected neighbors.

R1#show cdp neighbors

The below is sample output

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

Device ID     Local Interface      Holdtme      Capability      Platform
Port ID
R4            Serial 0             148          R               1700
 Serial 0
R1#
```

The first device on the list for R1 is R4 via the Serial0 link. R1 is receiving CDP updates from R4, the updates tell R1 to hold on to the information for a specified amount of time. At the time this command was pressed there were 148 seconds left in the holdtime for R1's update. If that time expires before receiving another update R1's information will be removed from the table. R4 is a 1000 series router, this is shown in the platform column. The final column, Port ID, is the port on the other device from which the updates are being sent.

9. On R1, type the command to provide more detailed information about directly connected neighbors.

R1#show cdp neighbors detail

The below is sample output

```
Device ID: R4
Entry address(es):
Platform: cisco 1000, Capabilities: Router
Interface: Serial0, Port ID (outgoing port): Serial0
Holdtime : 162 sec

Version :
Cisco Internetwork Operating System Software
Software, Version 12.0(16), RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2001 by cisco Systems, Inc.
Compiled Fri 02-Mar-01 17:34 by dchih
```

This command shows devices one at a time. It is used to display Network Layer address information. At this point there are no configured IP, IPX or AppleTalk addresses so this field is blank. The command also displays IOS version information. Notice that the devices are listed in order. If one wants to find out information about a device further down the list, one would need to scroll down using the space bar.

10. On R1, type the command to provide information about the specific device "R4"

R1#show cdp entry R4

The below is sample output

```
Device ID: R4
Entry address(es):
Platform: cisco 1000, Capabilities: Router
Interface: Serial0, Port ID (outgoing port): Serial0
Holdtime : 148 sec

Version :
Cisco Internetwork Operating System Software
Software, Version 12.0(16), RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2001 by cisco Systems, Inc.
Compiled Fri 02-Mar-01 17:34 by dchih

R1#
```

This command gives the same information as the show cdp neighbor detail command, but allows a single device to be specified. Also notice that this is one of the only case-sensitive commands that exist.

11. On R1, type the command to see how often CDP updates are being sent and how long a recipient is to hold on to the update.

R1#show cdp

The below is sample output

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

12. On R1, type the command to adjust the amount of seconds between CDP updates to 45.

R1(config)#cdp timer 45

Besides the update interval, the holdtime value may also be adjusted. This value tells the recipient of the update how long to hold on to the CDP information in the update. It is also a global parameter.

13. On R1, type the command to adjust the holddown timer to 60 seconds.

R1(config)#cdp holdtime 60

14. On R1, type the command to verify the changes made.

R1#show cdp

The below is sample output

```
R1#sh cdp
Global CDP information:
Sending CDP packets every 45 seconds
Sending a holdtime value of 60 seconds
Sending CDPv2 advertisements is enabled
R1#
```

If there are no other directly connected Cisco devices on the network, or to simply conserve

bandwidth, CDP can be disabled.

15. On R1, type the command to disable CDP for the ENTIRE router.

R1(config)#no cdp run

16. On R1, type the command to turn CDP back on for the ENTIRE router.

R1(config)#cdp run

At times you may wish to disable CDP for a specific interface, for example a very low-bandwidth interface, or security reasons.

17. On R1, Disable CDP for only the specific interface Ethernet 0.

R1(config-if)#no cdp enable

18. On R1, type the command to verify that Ethernet 0 is no longer sending CDP updates (You can verify that is not sending cdp updates because it is not show in the output).

R1#show cdp interface

Below is sample output from the command.

```
R1#show cdp interface
Serial0 is up, line protocol is up
Encapsulation HDLC
Sending CDP packets every 45 seconds
Holdtime is 60 seconds
```