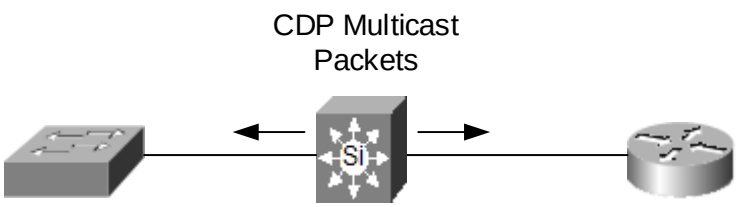
# Cisco Discovery Protocol (CDP)

CDP is a Layer 2 Cisco proprietary neighbor discovery protocol. The purpose of CDP is to discover operational and configuration information of directly connected Cisco devices. Specific information includes device type, IP address, IOS version and interface. CDP protocol sends multicast packets using reserved MAC address 0100:0ccc:cccc to all neighbors at fixed intervals shown with Figure 1. Layer 2 connectivity to neighbor devices is confirmed as well.

CDP detects and relays device information to neighbor devices. Cisco CDP can only detect Cisco devices including IP phones. The Cisco IP phone appears to CDP as a unique neighbor device with an IP address. During bootup, the IP phone receives voice VLAN configuration from the access switch.

There is an SNMP agent with a defined CDP MIB that allows monitoring software to query devices for information. CDP must be running on switches that have a Cisco IP Phone connected for configuration purposes.

**Figure 1** CDP Multicasting Packets




## Configure CDP

CDP is enabled on Cisco devices globally by default including network interfaces. The following command re-enables CDP globally after it has been disabled.

switch(config)# **cdp run**

The following interface level command re-enables CDP on a specific network interface after it has been disabled.

switch(config-if)# **cdp enable**

There is additional neighbor configuration information available with the **detail** keyword used with **show cdp neighbor** IOS command. The detail keyword includes IOS version of connected neighbors.

switch# **show cdp neighbor detail**

CDP is enabled by default both globally and on all network interfaces and the default CDP update timer = 60 seconds.

# Link Layer Discovery Protocol (LLDP)

LLDP is the open standard counterpart to Cisco CDP for network discovery in a multi-vendor environment. Cisco supports LLDP (IEEE 802.1ab) and thereby optimizing auto-discovery and network management. The network devices share identity and feature support functionality via LLDP and with neighbors.

- The default packet update interval for LLDP is 30 seconds. Network devices with LLDP advertise default TLV attributes of chassis ID, port ID and TTL.
- LLDP is an open standard network discovery protocol specified with IEEE 802.1ab standard.
- Cisco IP phones are enabled for LLDP when LLDP packets are first sent from the phone to the switch.

The following global configuration command enables LLDP globally on a switch.

```
switch(config)# lldp run
```

The following IOS interface level command enables a Cisco switch to receive LLDP packets on an interface.

```
switch(config-if)# lldp receive
```