More Cisco Switch Commands

Using the command-line interface

The command-line interface provides help and command auto-completion. You get help by typing ?. The response to the command ? is to print all commands that are enabled in the current mode, plus a brief description of each command. This list is usually too long to be useful. If you think a command begins with s, you can type s? to get a list of all commands beginning with s, or sp? to get a list of all commands beginning with sp.

You can also get help with command parameters. For example, to find out what information you can get using the show command, type show ? to get a list of all possible first parameters to the show command, or show v? to get a list of all possible first parameters starting with a v. This applies to all parameters, so you can work your way through a command using ?.

Auto-completion completes a word for you if there is only one way to complete it. For example, if you type sho<tab>, the command line interface adds the w to give show. If there is more than one way to complete the command, the command line interface will list all the ways. If there is no way to complete the command, the command line interface will not respond.

General purpose commands

terminal monitor

Displays the output from debug commands on a terminal (you're using a terminal when you telnet in to the switch over an IP connection).

terminal no monitor

If there is more debugging information than you can stand to see, use this command.

send *

Send a message to all attached terminals. After giving the command, you will be prompted to type the message, which is terminated by ^Z (to send it) or ^C (to abort it). You should use this before commands that affect what displays on all the terminals: for example, the terminal monitor command or any of the debug commands.

show line 0 16 summary

Quick summary of terminal users (i.e., users telnetted in to the switch). This tells you the number of lines in use; if it's only 1, you don't have to worry about interfering with anyone else's work.

undebug all

To recover when you are displaying too much debugging information. This may not work after debug all, which you shouldn't use anyway, because the switch is too busy printing debugging information to process commands. Do not use this command except as a last resort; try to get rid of specific debugging information first or use terminal no monitor.

Looking at the spanning tree

show spanning-tree active

Shows the MAC address of the switch that is the root and the status of all the ports. It will show this on all vlans (virtual LANs); it should be enough for you to look at vlan 1.

show spanning-tree ?

There are other versions of the show spanning-tree command that you can explore using show spanning-tree ?

The output from the following debug commands will not be visible on a terminal unless you use the terminal monitor command.

debug spanning-tree root

Displays changes to the root bridge as they happen. They should not be happening unless someone is in the lab playing with the cables, so this command is unlikely to have any effect.

no debug spanning-tree root

Turn off the display of changes to the root. In general, putting "no" in front of a command turns it off.

debug spanning-tree event

Displays all spanning tree events, such as changes to the root or to the status of any of the ports. Also shows progress through listening and learning states to forwarding state. Again, unless someone is playing with the cables, you should not see anything.

no debug spanning-tree event

Turn off debug spanning-tree event.

There are other versions of the debug spanning-tree command that you can explore using debug spanning-tree ?. The next one should be used with care.

debug spanning-tree bpdu

Displays received bpdus. If you use this command, please use “send *” first to warn everyone else that is using the switch. Every received bpdu will be displayed. A bpdu should be received for ead port and each vlan every 2 seconds – that’s a lot of bpdus. Also, they’re quite hard to read. See below for a key.
The following is sample output from the **debug spanning-tree bpdu** command. The text surrounding the packet varies from switch to swtich, but the packet is the same.

```
0000000000800100 0E83F09600000000138001000E8494C980801801001400020 00F00
A   B C D E   F           G       H   I           J K L   M   N   O
```

The switches also break up the packet for you:

```
0000 00 00 00 8001000E83F09600 00000013 8001000E8494C980 8018 0100
A    B  C  D  E   F            G        H   I            J K  L
1400 0200 0F00
M    N    O
```

The following table describes the significant fields shown in the display.

Field	Description
ST:	Indication that this is a spanning tree packet.
Ether4	Interface receiving the packet.
(A) 0000	Indication that this is an IEEE BPDU packet.
(B) 00	Version.
(C) 00	Command mode: •00 indicates config BPDU. •80 indicates the Topology Change Notification (TCN) BPDU.
(D) 00	Topology change acknowledgment: •00 indicates no change. •80 indicates a change notification.
(E) 8001	Root priority.
(F) 000E83F09600	Root ID.
(G) 00000013	Root path cost (0 means the sender of this BPDU packet is the root bridge).
(H) 8001	Bridge priority.
(I) 000E8494C980	Bridge ID.
(J) 80	Port priority.
(K) 18	Port Number 1.
(L) 0100	Message age in 256ths of a second (0 seconds, in this case).
(M) 1400	Maximum age in 256ths of a second (20 seconds, in this case).
(N) 0200	Hello time in 256ths of a second (2 seconds, in this case).
(O) 0F00	Forward delay in 256ths of a second (15 seconds, in this case).