***Introduction to describe network switch functions and how to locate network devices***

***Connecting devices to a switch***

Switch connections typically connect from the end devices (such as PCs) through the wall, to a patch panel, then to a switch. True or false?

* True

***Switches learning Mac Addresses***

#>Show mac address-table

Even though it is connected to the device it may not show the mac address unless it is talking to the device.

***Viewing and filtering MAC Address Tables***

#>Show mac address-table address ?

#>Show mac address-table interface fastethernet 0/2

#>Show mac address-table include ?

Arp -a

If you are researching the stack to find a person you can go to your cmd with their ip address and type

* Arp -a
* Now from that you can do a search on their mac address from the ip and mac address pairing.
  + Show mac address-table | include df1a
    - This will show you what interface they are connected to and you can use the patch panel directory to look to see who is connected at that location

Which of the following are common MAC address formats? (Choose three)

* 9c-eb-11-a9-ab-b1
* 9cbe.11a9.abb1
* 9c:eb:11:a9:ab:b1

***Locating devices on a network switch***

To discover directly-connected network devices, which protocols can you use? (Choose two)

* CDP
* LLDP

Objectives

1. Find the mac address 9ceb.e8be.fd1a
   1. Show mac address-table dynamic | include fd1a
   2. Show mac address-table interface fa0/13
      1. If you see a bunch of mac address that means its connected to another switch and you need to go to that switch
2. Find the Mac address 74-83-c2-1d-63-15
   1. Show cdp neighbors
      1. (cisco discovery protocol)
   2. Show cdp neighbors detail
   3. Telnet [ip.address]
   4. Show mac address-table dynamic | include 6315
3. Find the Grandstream IP Phone with the IP address 192.168.1.84
   1. Same as arp -a
4. Find the device with the hostname Apple-TV
   1. Convert hostname into ip address
   2. Nsloopkup
      1. Ping it and convert to mac address
      2. Then search through it

***Locating Devices Lab***

1. How many Total Mac address exist on Gi 0/1
   1. #>Show mac address-table interface Gi0/1
      1. 2
2. How many MAC address in the CAM table begin with 0015
   1. #> Show mac address-table | include 0015
      1. 3
3. What port learned the Mac address ca01.1394.0008
   1. #> Show mac address-table | include ca01.1394.0008
      1. Gi0/1
4. On core1 is the mac address ca01.1394.0008 also learned on the core1 switch? What does this mean?
   1. Switch or telnet into core1
   2. #> show mac address-table
      1. Yes since it is also in core 1 that means that this devices is connected to core 1 and the information is going through core1. So if you had to find the device you would search through core1.
5. How many other Cisco Network devices are attached to core1?
   1. #> show cdp neightbors
      1. There are 3