

Understanding Switches

Questions:

1. Define, compare and contrast hubs and switches.

Switches and hubs both split the signal across and network. They differ in that switches can remember ports distribute packets appropriately, whereas hubs distribute packets to all ports at once.

2. On which OSI model layer, do switches reside?

Layer 2, they can detect MAC addresses.

3. On which OSI model layer do hubs reside?

Layer 1

4. What information does the first half of the MAC address contain?

The manufacturer's ID

5. What information does the last half of the MAC address contain?

A serial number unique to the manufacturer

6. What access methodology does Ethernet utilize?

CSMA/CD, Caries Sense Multiple Access/Collision Detection

7. Briefly explain the difference between managed and unmanaged switches.

Unmanaged switches are fully automatic, managed switches allow user configuration.

8. Compare and contrast full and half duplex.

Half duplex equipment can only talk or listen at any given time. Full duplex equipment can talk and listen at the same time.

9. What is a VLAN? Briefly describe its function.

Virtual LANs and allow you to separate the ports on a switch so that devices can be segregated on the same switch.

10. What is QOS? Briefly describe an environment where it would be useful?

QOS stands for quality of service. QOS would be useful where a lot of people talking or using video at the same time.

11. What is the spanning tree protocol? What problem does it prevent?

Spanning tree protocol allows switches to talk to each to route packets faster. It prevents routing loops.