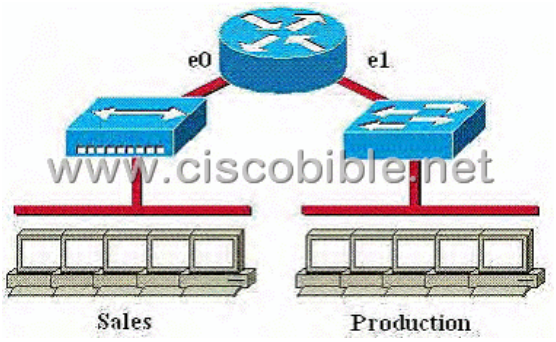
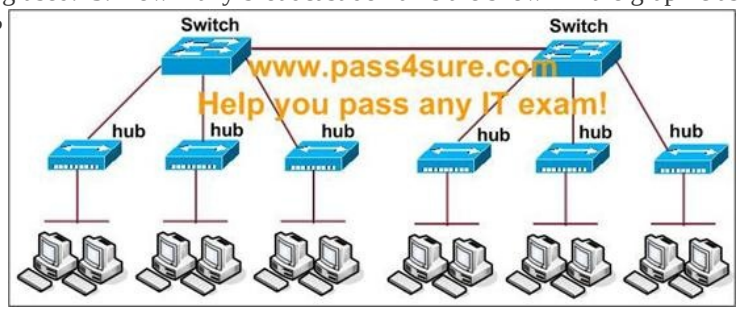
CCNA 640-802 Bible - Explain Network Segmentation and Basic Traffic

1. What are some of the advantages of using a router to segment the network? (Choose two.) A:Filtering can occur based on Layer 3 information. B:Broadcasts are eliminated. C:Routers generally cost less than switches. D:Broadcasts are not forwarded across the router. E:Adding a router to the network decreases latency. **Correct Answers: A, D** Explanation: When the router's interface receives the broadcast, it discard the broadcast without forwarding it on to other networks. Even though routers are known for breaking up broadcast domains by default, it's important to remember that they break up collision domains as well. There are two advantages of using routers in your network: * They don't forward broadcasts by default. * They can filter the network based on layer 3 (Network layer) information (e.g., IP address) by using IOS based firewall ie. ACL Four router functions in your network can be listed as follows: * Packet switching * Packet filtering * Internetwork communication * Path selection 2. Which of the following statements describe the network shown in the graphic? (Choose two.)



A:There are two broadcast domains in the network. B:There are four broadcast domains in the network. C:There are six broadcast domains in the network. D:There are four collision domains in the network. E:There are five collision domains in the network. F:There are seven collision domains in the network. **Correct Answers: A, F** Explanation: In this network we have a hub being used in the Sales department, and a switch being used in the Production department. Based on this, we have two broadcast domains: one for each network being separated by a router. For the collision domains, we have 5 computers and one port for E1 so we have 6 collision domains total because we use a switch in the Production Department so 5 are created there, plus one collision domain for the entire Sales department because a hub is being used. 3. How many broadcast domains are shown in the graphic assuming only the default VLAN is configured on the switches?



A: one B: two C: six D: twelve **Correct Answers: A** Explanation: VLAN (Virtual Local Area Network) technology is to solve the problem that switches can't limit broadcast within the LAN interconnection. This technology can divide a LAN into more logical LAN- VLAN, each VLAN is a broadcast domain, the communication between the hosts within a VLAN is like that of the hosts in a LAN, while the communication can't be achieved between VLANs directly. Thus the broadcast datagram is limited within a LAN. Based on the network structure shown in the above figure, there is only one default VLAN for two switches, so they are in the same broadcast domain and can communicate with each other. 4. Please study the exhibit shown above carefully:

Based on the information shown above, what two results would occur if the Pass4sure-H hub were to be replaced with a switch that is configured with one Ethernet VLAN? (Choose two.) A:The number of broadcast domains would increase. B:The number of collision domains would decrease. C:The number of collision domains would increase. D:The number of broadcast domains would remain the same. **Correct Answers: C, D**