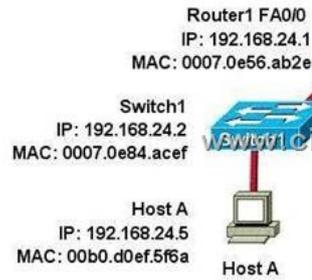
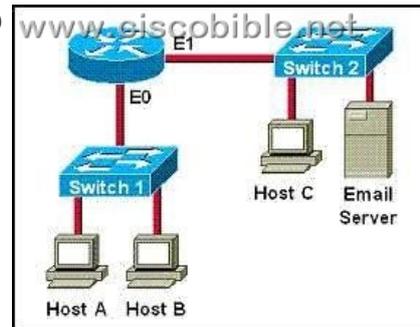


CCNA 640-802 Bible - Determine Path Between Two Hosts Across Network

1. Refer to the exhibit. What is the correct addressing for a frame and packet received by Host B from Host A?

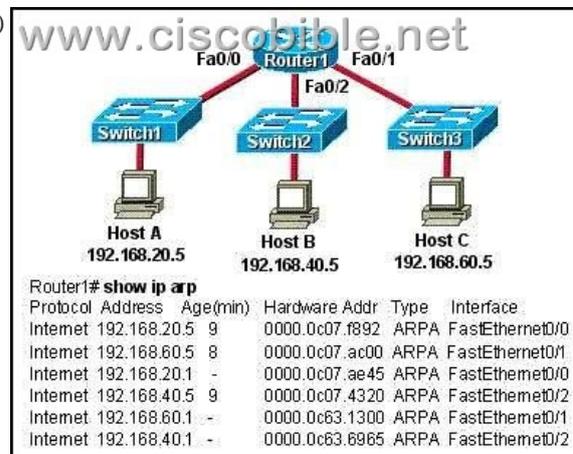


A: Destination MAC: 0011.43da.2c98; Source MAC: 0070.0e8f.088a; Destination IP: 192.168.60.5; Source IP: 192.168.24.5
 B: Destination MAC: 0011.43da.2c98; Source MAC: 00b0.d0ef.5f6a; Destination IP: 192.168.60.5; Source IP: 192.168.24.5
 C: Destination MAC: 0011.43da.2c98; Source MAC: 0070.0e8f.088a; Destination IP: 192.168.60.5; Source IP: 192.168.60.1
 D: Destination MAC: 0011.43da.2c98; Source MAC: 0070.0e97.af4e; Destination IP: 192.168.60.5; Source IP: 192.168.60.2
Correct Answers: A Explanation: When packets leave from the host, the packets contains the source MAC and IP of the host address. The source and destination IP address will not change. Because the host knows that the destination is on another subnet, it will forward the packet to the default gateway device, so the destination MAC address will be of the default gateway, which is the FA0/0 interface of Router1.



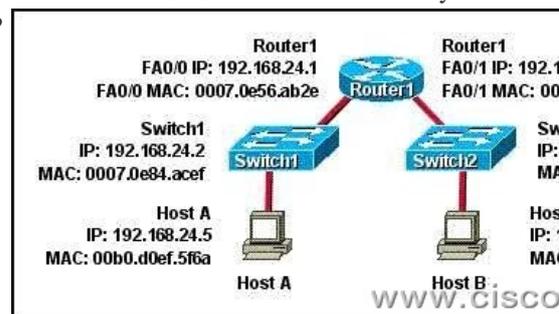
A: the IP address of Switch 1 B: the MAC address of Switch 1 C: the IP address of Host C D: the MAC address of Host C E: the IP address of the router's E0 interface F: the MAC address of the router's E0 interface
Correct Answers: C, F Explanation: When sending data from one host to another, destination information will be added to every packet's header. The destination information will be the IP and MAC Address of destination host. If the destination is found outside the subnet the MAC address of the router is used. Note: The destination IP address will never change, unless NAT is involved.

3. Refer to the exhibit. Host A is to send data to Host B. How will Router1 handle the data frame received from Host A? (Choose three.)

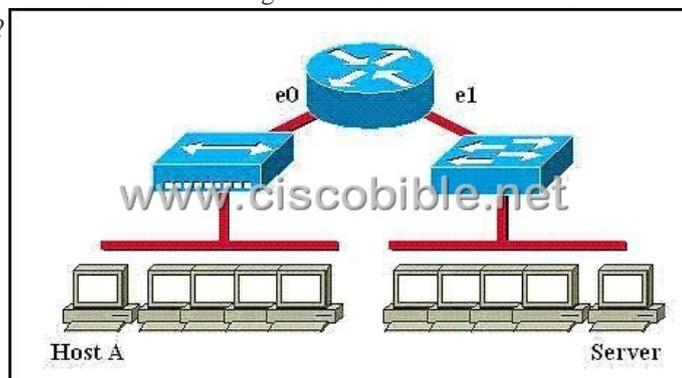


A: Router1 will strip off the source MAC address and replace it with the MAC address on the forwarding FastEthernet interface.
 B: Router1 will strip off the source IP address and replace it with the IP address on the forwarding FastEthernet interface.
 C: Router1 will strip off the destination MAC address and replace it with the MAC address of Host B.
 D: Router1 will strip off the destination

IP address and replace it with the IP address of Host B. E:Router1 will forward the data frame out interface FastEthernet0/1. F:Router1 will forward the data frame out interface FastEthernet0/2. **Correct Answers: A, C, F** Explanation: Whereas switches can only examine and forward packets based on the contents of the MAC header, routers can look further into the packet to discover the network for which a packet is destined. Routers make forwarding decisions based on the packet's network-layer header (such as an IPX header or IP header). These network-layer headers contain source and destination network addresses. Local devices address packets to the router's MAC address in the MAC header. After receiving the packets, the router must perform the following steps: **1. Check the incoming packet for corruption, and remove the MAC header** . The router checks the packet for MAC-layer errors. The router then strips off the MAC header and examines the network-layer header to determine what to do with the packet. **2. Examine the age of the packet.** The router must ensure that the packet has not come too far to be forwarded. For example, IPX headers contain a hop count. By default, 15 hops is the maximum number of hops (or routers) that a packet can cross. If a packet has a hop count of 15, the router discards the packet. IP headers contain a Time to Live (TTL) value. Unlike the IPX hop count, which increments as the packet is forwarded through each router, the IP TTL value decrements as the IP packet is forwarded through each router. If an IP packet has a TTL value of 1, the router discards the packet. A router cannot decrement the TTL value to 1 and then forward the packet. **3. Determine the route to the destination.** Routers maintain a routing table that lists available networks, the direction to the desired network (the outgoing interface number), and the distance to those networks. After determining which direction to forward the packet, the router must build a new header. (If you want to read the IP routing tables on a Windows 95/98 workstation, type ROUTE PRINT in the DOS box.) **4. Build the new MAC header and forward the packet.** Finally, the router builds a new MAC header for the packet. The MAC header includes the router's MAC address and the final destination's MAC address or the MAC address of the next router in the path. 4. Refer to the exhibit. Host A needs to send data to Host B. Which Layer 2 and Layer 3 destination addresses will be used to send the data from Host A to Host B?



A: 192.168.60.5 and 0011.43da.2c98 B: 192.168.60.5 and 0007.0e56.ab2e C: 192.168.24.1 and 0007.0e56.ab2e D: 192.168.24.2 and 0007.0e84.acef **Correct Answers: B** Explanation: When packets leave from the host, the packets contains the source MAC and IP of the host address. The source and destination IP address will not change. Because the host knows that the destination is on another subnet, it will forward the packet to the default gateway device, so the destination MAC address will be of the default gateway, which is the FA0/0 interface of Router1. 5. Refer to the graphic. Host A is communicating with the server. What will be the source MAC address of the frames received by Host A from the server?



A: the MAC address of router interface e0 B: the MAC address of router interface e1 C: the MAC address of the server network interface D: the MAC address of host A **Correct Answers: A**