Exam Report: 6.7.3 Practice Questions

Date: 10/16/2019 12:17:29 am
Time Spent: 5:43

Candidate: Garsteck, Matthew
Login: mGarsteck

Overall Performance

Your Score: 78%

Passing Score: 80%

View results by: Objective Analysis Individual Responses

Individual Responses

Question 1: Correct

You manage a network that uses a single switch. All ports within your building connect through the single switch.

In the lobby of your building are three RJ45 ports connected to the switch. You want to allow visitors to plug into these ports to gain internet access, but they should not have access to any other devices on your private network. Employees connected throughout the rest of your building should have both private and internet access.

Which feature should you implement?

- Spanning tree
- VLANs
- PoE
- Port authentication

Explanation

Use VLANs to segregate hosts based on switch ports. You could define two VLANs, one for employees connected throughout the building, and another for the ports in the lobby. The ports in the lobby would have only internet access, while devices connected to ports in the rest of the building could communicate with other devices within the same VLAN.

Use port authentication to control access to the network based on things such as username and password. Port authentication would allow or deny access, but would not restrict access once authenticated or provide any type of access if not authenticated.

Spanning tree is a protocol on a switch that allows the switch to maintain multiple paths between switches within a subnet. The spanning tree protocol runs on each switch and is used to select a single path between any two switches. Power over Ethernet (PoE) supplies power to end devices through the RJ45 Ethernet switch port.

References

LabSim for Network Pro, Section 6.7.
[netpro18v5_all_questions_en.exm NP09_3-3 #13]

Question 2: Correct

Select the statement that best describes a broadcast storm.

- A broadcast storm occurs when the level of TCP/IP transfers overwhelm a gateway.
- A broadcast storm occurs when a network server loses its connection to the network, and the disconnected cable sends feedback messages that overwhelm the network cable capacity.

- [x] A broadcast storm occurs when there are so many broadcast messages on the network that they approach or exceed the network bandwidth.
- [ ] A broadcast storm occurs when the amount of electrical interference on a cable exceeds acceptable levels, broadcasting a storm of noise and preventing accurate data transfer.

Explanation

A broadcast storm occurs when there are so many broadcast messages on the network that they approach or exceed the network bandwidth.

References

LabSim for Network Pro, Section 6.7.
[netpro18v5_all_questions_en.exm NP05_1-6 #331]

Question 3: Correct

You run a small network for your business that has a single router connected to the internet and a single switch. You keep sensitive documents on a computer that you would like to keep isolated from other computers on the network. Other hosts on the network should not be able to communicate with this computer through the switch, but you still need to access the network through the computer.

What should you use for this situation?

- [x] VLAN
- [ ] VPN
- [ ] Port security
- [ ] Spanning tree

Explanation

Define virtual LANs (VLANs) on the switch. With a VLAN, a port on the switch is associated with a VLAN. Only devices connected to ports that are members of the same VLAN can communicate with each other. Routers are used to allow communication between VLANs if necessary.

Use virtual private network (VPN) to connect two hosts securely through an unsecured network (such as the internet). VPN tunneling protocols protect data as it travels through the unsecured network. Spanning tree is a switch feature that allows redundant paths between switches. Port security is a method of requiring authentication before a network connection is allowed.

References

LabSim for Network Pro, Section 6.7.
[netpro18v5_all_questions_en.exm NP09_2-7 #MCS1]

Question 4: Correct

You manage a network with multiple switches. You find that your switches are experiencing heavy broadcast storms.

Which of the following will help reduce the effects of a broadcast storm?

- [x] Enable spanning tree on the switches
- [ ] Disable auto-duplex detection
- [ ] Manually set the speed for each switch port
- [ ] Configure each switch with a single trunk port

Explanation

A broadcast storm is excessive broadcast traffic that renders normal network communications

impossible. Broadcast storms can be caused by switching loops that cause broadcast traffic to be circulated endlessly between switches or denial of service (DoS) attacks. To reduce broadcast storms:

- Run the spanning tree protocol to prevent switching loops.
- Implement switches with built-in broadcast storm detection, which limits the bandwidth that broadcast traffic can use.
- Use VLANs to create separate broadcast domains on switches.

References

LabSim for Network Pro, Section 6.7.
[netpro18v5_all_questions_en.exm NP09_4-7 #MCS15]

Question 5: Correct

While viewing the status of the interfaces on a Cisco switch, you see an abnormally large number of oversized Ethernet frames being received on one interface. This interface is connected to a workstation located on the second floor.

What could cause this to happen?

- Collisions between two or more network hosts are occurring.
- A strong EMI emitter is near the cable that connects the workstation to the interface.
- Two hosts on the network have the same MAC address.
- The workstation's network board is jabbering.
- An incorrect subnet mask has been configured on the workstation.

Explanation

Frames that are too long are typically caused by a faulty network card that jabbers (constantly sending garbage data).

On a hub-based Ethernet network, these errors could possibly be caused by collisions. However, because a switch is being used in this scenario, collisions can't occur. EMI or cross-talk on the UTP cabling would cause corrupted frames and result in CRC errors. Oversize frame errors are Layer 1 errors. Duplicate MAC addresses would result in a Layer 2 error. Incorrect protocol or IP addressing configurations would result in Layer 3 errors.

References

LabSim for Network Pro, Section 6.7.
[netpro18v5_all_questions_en.exm RT NP15_4.6-2]

Question 6: Incorrect

The network board in a workstation is currently configured as follows:

- Network speed = Auto
- Duplexing = Auto

The workstation is experiencing poor network performance, and you suspect that the network board is not correctly detecting the network speed and duplex settings. Upon investigation, you find that it is running at 10 Mbps half-duplex. You know that your network switch is capable of much faster throughput. To fix this issue, you decide to manually configure these settings on the workstation.

Before you do so, you need to verify the configuration of the switch port that the workstation is connected to. Given that it is a Cisco switch, which commands can be used on the switch to show a list of all switch ports and their current settings? (Select two.)

- **show interface switchport**
- **show interface ethernet counters**

- [ ] **show running-config interface**
- [ ] **show interface**
- [x] ~~**show interface capabilities**~~

Explanation

To view the speed and duplex settings of the interfaces in a Cisco switch, you can use one of the following commands:

- **show running-config interface** (displays concise summary information)
- **show interface** (displays extended information)

The **show interface capabilities** command displays information about the capabilities of the interfaces in the switch, not the current configuration. The **show interface ethernet counters** command displays statistics for interfaces. The **show interface switchport** command displays VLAN information about switch interfaces.

References

LabSim for Network Pro, Section 6.7.
[netpro18v5_all_questions_en.exm MCM6]

Question 7: Correct

You manage a network with a single switch. On each switch port, a hub connects multiple devices to the switch.

Which condition are you most likely to experience on the network?

- ( ) Attenuation
- ( ) Crosstalk
- ( ) Interference
- (•) Collisions
- ( ) Echo

Explanation

A collision occurs when two devices that share the same media segment transmit at the same time. In a switched network, collisions should only occur on ports that have multiple devices attached. To eliminate collisions, connect only a single device to each switch port.

Interference is an electrical signal on a wire that is not part of the original signal sent on the wire. Common sources of interference include nearby generators, motors (such as elevator motors), radio transmitters, welders, transformers, and fluorescent lighting. Crosstalk is interference that is caused by signals within the twisted pairs of wires. Crosstalk is often introduced within connectors where the twists are removed to add the connector. Crosstalk can also occur where wires are crushed or where the plastic coating is worn.

Attenuation is the loss of signal strength from one end of a cable to the other. The longer the cable, the more attenuation. Echo occurs when some of the signal is reflected back to the transmitter, distorting the signal. Echo is caused by connecting cables and devices with different impedance ratings.

References

LabSim for Network Pro, Section 6.7.
[netpro18v5_all_questions_en.exm NP09_4-7 #MCS6]

Question 8: Correct

A user reports that network access from her workstation is very slow. The problem does not seem to be affecting any other users.

Which of the following conditions is the most likely cause?

- Duplex mismatch
- Switching loop
- Broadcast storm
- Incorrect VLAN

Explanation

A duplex mismatch occurs when two devices are using different duplex settings. In this case, one device will try to transmit using full-duplex, while the other will expect half-duplex communications. Symptoms of a duplex mismatch include very slow network communications. Ping tests might appear to complete correctly, but normal communications work well below the expected speeds, even for half-duplex communications.

A switching loop occurs when there are multiple active paths between two switches. Switching loops lead to incorrect entries in a MAC address table, making a device appear to be connected to the wrong port, and causing unicast traffic to be circulated in a loop between switches. A broadcast storm is excessive broadcast traffic that renders normal network communications impossible. Broadcast storms can be caused by switching loops that cause broadcast traffic to be circulated endlessly between switches or Denial of Service (DoS) attacks. For both switching loops and broadcast storms, the problem would not be isolated to a single device, but the problem would exist for most devices.

VLANs create logical groupings of computers based on switch port. Devices can only communicate with other devices that are members of the same VLAN. In this scenario, the problem is that network access is slow, not that devices cannot be accessed.

References

LabSim for Network Pro, Section 6.7.
[netpro18v5_all_questions_en.exm NP09_4-7 #MCS8]

Question 9: Incorrect

You manage a local area network with several switches. A new employee has started today, so you connect her workstation to a switch port.

After connecting the workstation, you find that the workstation cannot get an IP address from the DHCP server. You check the link and status lights and see that the connection is working properly. A ping to the loopback address on the workstation succeeds. No other computers seem to have the problem.

Which of the following is the most likely cause of the problem?

- Switching loop
- ~~Half-duplex setting on the switch and workstation~~
- Incorrect VLAN assignment
- Incorrect default gateway setting

Explanation

The most likely cause is that the switch port is a member of a VLAN that is different from the VLAN for the DHCP server and other devices. It is possible that unused ports on the switch were assigned to a VLAN that is different from the VLAN used by other devices.

The duplex setting would probably not prevent traffic between the workstation and the switch; it would simply mean that both devices would perform collision detection. A problem might occur if one device were manually configured for full-duplex, and the other were configured for half-duplex.

A switching loop occurs when there are multiple active paths between two switches. Switching loops lead to incorrect entries in a MAC address table, making a device appear to be connected

to the wrong port and causing unicast traffic being circulated in a loop between switches. Switching loops would typically affect multiple devices, not just one.
The default gateway setting affects whether the device can communicate with hosts on different subnets, but this value is typically received from the DHCP server.

References

LabSim for Network Pro, Section 6.7.
[netpro18v5_all_questions_en.exm NP09_4-7 #MCS9]