Exam Report: 6.6.10 Practice Questions

Date: 10/15/2019 11:57:17 pm
Time Spent: 9:09

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Overall Performance

Your Score: 53%

Passing Score: 80%

View results by: Objective Analysis Individual Responses

Individual Responses

Question 1: Correct

You manage a single subnet with three switches. The switches are connected to provide redundant paths between the switches.

Which feature prevents switching loops and ensures there is only a single active path between any two switches?

- Trunking
- Bonding
- 802.1x
- Spanning tree
- PoE

Explanation

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.

- Without the spanning tree protocol, switches that are connected with multiple links would form a switching loop, where frames are passed back and forth continuously.
- Spanning tree provides only a single active path between switches. Switch ports that are part of that path are placed in a forwarding state.
- Switch ports that are part of redundant but unused paths are placed in a blocking (non-forwarding) state.
- When an active path goes down, the spanning tree protocol automatically recovers and activates the backup ports necessary to provide continued connection between devices.

Bonding performs spanning tree's opposite function--it allows multiple switch ports to be used at the same time to reach a specific destination. 802.1x is an authentication protocol used with port security (or port authentication). Power over Ethernet (PoE) supplies power to end devices through the RJ45 Ethernet switch port. Trunking identifies ports that are used to carry VLAN traffic between switches. A trunk port is a member of all VLANs defined on all switches.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm NP09_3-3 #3]

Question 2: Correct

Which of the following solutions would you implement to eliminate switching loops?

- Spanning tree
-

CSMA/CD

Inter-VLAN routing

Auto-duplex

Explanation

Run the spanning tree protocol to prevent switching loops. A switching loop occurs when there are multiple active paths between switches. The spanning tree protocol runs on each switch and is used to select a single path between any two switches. Switch ports that are part of that path are placed in a forwarding state. Switch ports that are part of redundant but unused paths are placed in a blocking (non-forwarding) state.

Use inter-VLAN routing to enable devices in different VLANs to communicate. The auto-duplex setting allows a switch port to detect the duplex setting of connected devices (either half- or full-duplex). CSMA/CD is a method for detecting and recovering from collisions.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm NP09_4-7 #MCS16]

Question 3: Correct

Which problem does the spanning tree protocol prevent?

Buffer overflows by defining source-quench messages that a receiving device sends to the transmitting device.

Routing tables from becoming outdated by decreasing the convergence time on a network.

Switching loops from developing when redundant paths are implemented between switches.

Packet blocking on backup bridge ports to allow switches to forward frames to all BPDUs.

Explanation

The spanning tree protocol is a long-standing protocol that runs in the background of bridged and switched networks to keep message loops from occurring.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm *NP15_SPANNING_TREE_PROTOCOL_01]

Question 4: Incorrect

Which statements accurately describe the port states of both bridges and switches? (Select two.)

In the learning state, the MAC address table cannot be populated because the port is blocked.

Ports in a blocked state still receive BPDUs.

Ports in a blocked state cannot receive BPDUs.

~~In the learning state, all ports are in a forwarding state.~~

In the learning state, the MAC address table can be populated, but frames are not forwarded.

Explanation

For both bridges and switches:

- In the learning state, ports do not forward frames, but still populate the MAC address table based on frames received.
- In the blocking state, ports receive BPDUs, but do not forward frames.
- In the listening state, all ports are blocked.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm *NP15_SPANNING_TREE_PROTOCOL_03]

Question 5: Incorrect

A switch running STP is classified as a backup bridge. What state is it in?

- Blocking
- ~~Listening~~
- Disabled
- Learning
- Forwarding

Explanation

A backup bridge is in the blocking state. It receives packets addressed specifically to it and packets addressed to all bridges. It does not forward packets or build its database.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm *NP15_SPANNING_TREE_PROTOCOL_04]

Question 6: Incorrect

Switches running STP are in the process of exchanging BPDUs and redefining their roles. Which port state are the switches currently in?

- ~~Learning~~
- Forwarding
- Disabled
- Blocking
- Listening

Explanation

Switches that are exchanging STP configuration information to define their roles are in the listening state. After listening, designated bridges progress to learning and then forwarding. Backup bridges return to blocking.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm *NP15_SPANNING_TREE_PROTOCOL_05]

Question 7: Correct

A switch is running STP is in the learning state. A message destined for a different network segment arrives at the switch.

Which of the following best describes what the switch will do?

- It does not record address or segment information. However, the message is forwarded.

- It does not record address or segment information. It does not forward the message.
- It uses the source MAC address and network segment information to build its bridge database, but does not forward the message.
- It places the source address and segment in its database and forwards the message.

Explanation

A switch in the learning state will build its database through the information it receives from incoming messages. However, it does not forward messages. Remember, devices forward messages only if they are in the forwarding state.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm *NP15_SPANNING_TREE_PROTOCOL_06]

Question 8: Correct

A switch running STP is in the listening state. A message destined for a different network segment arrives at the switch.

Which of the following best describes what the switch will do?

- It does not record address or segment information. It does not forward the message.
- It does not record address or segment information. However, the message is forwarded.
- It places the source address and segment in its database, but does not forward the message.
- It places the source address and segment in its database and forwards the message.

Explanation

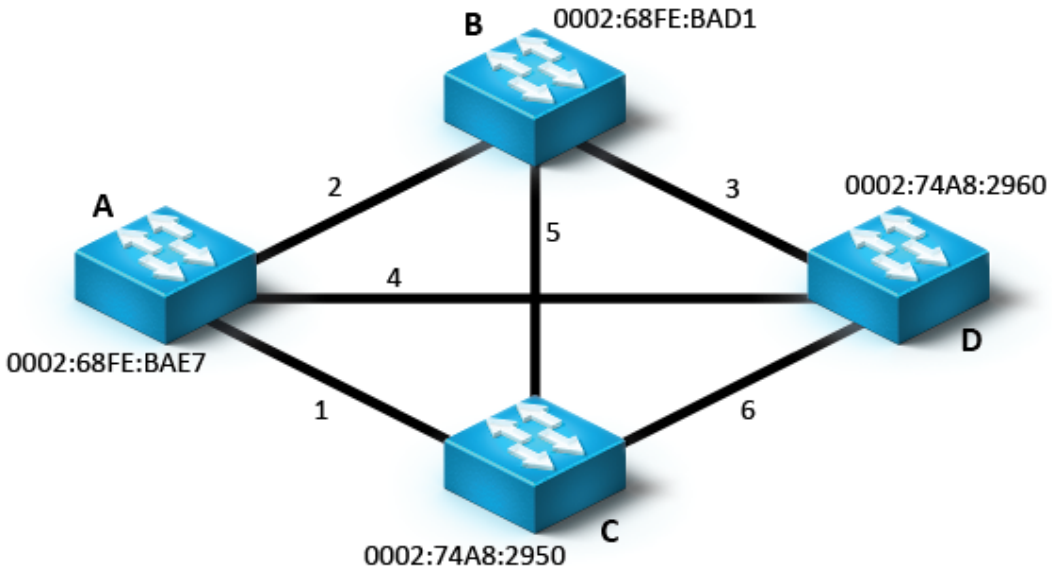
A switch in listening state receives packets, but does not build its database or forward them. Switches in the listening state are in the process of defining their role on the network.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm *NP15_SPANNING_TREE_PROTOCOL_07]

Question 9: Incorrect

This question includes an image to help you answer the question. Close



You have just connected four switches as shown in the Exhibit.

Assuming the default switch configuration, which switch will become the root bridge?

- ~~A~~
- B
- C
- D

Explanation

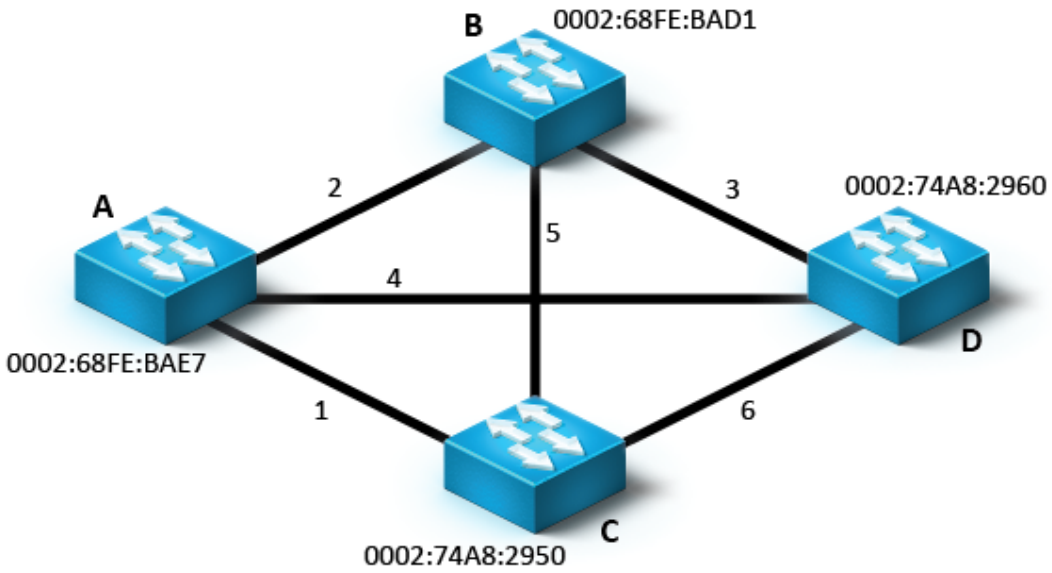
The switch with the lowest bridge ID becomes the root bridge. The bridge ID is composed of two parts, a bridge priority number and the MAC address assigned to the switch. The default priority number for all switches is 32,768. This means that for unconfigured switches, the switch with the lowest MAC address becomes the root bridge. In this example, bridge B has the lowest MAC address.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm *NP15_SPANNING_TREE_PROTOCOL_08]

Question 10: Correct

This question includes an image to help you answer the question. Close



You have just connected four switches as shown in the Exhibit.

Assuming the default switch configuration, how can you force switch C to become the root bridge?

- Remove link cables 1 and 6 from the configuration.
- Configure a priority number of 4096 for switch C.
- Configure a priority number of 61440 for switch C.
- Remove link cable 1 from the configuration.
- Remove link cable 6 from the configuration.

Explanation

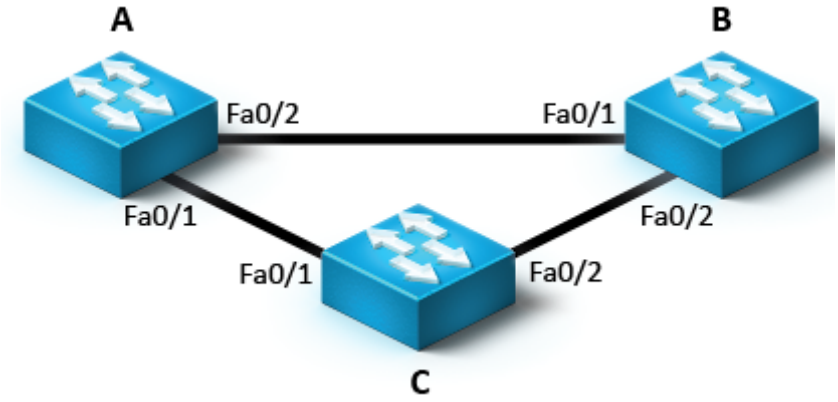
To force a specific switch to become the root bridge, configure a priority number lower than the default (32768). The switch with the lowest bridge ID becomes the root bridge. The bridge ID is composed of two parts: a bridge priority number and the MAC address assigned to the switch. When the default priority is used for all switches, the switch with the lowest MAC address becomes the root bridge.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm *NP15_SPANNING_TREE_PROTOCOL_10]

Question 11: Incorrect

This question includes an image to help you answer the question. Close



You have three switches configured as shown in the Exhibit.

How can you guarantee that switch C becomes the root bridge?

- ○ Configure Fa0/1 and Fa0/2 on switch C with a higher port priority.
- ○ Configure switch C with a higher priority value.
- ○ Configure Fa0/1 and Fa0/2 on switch C with a lower port priority.
- ◉ ~~Configure Fa0/1 and Fa0/2 on switch C with a lower cost value.~~
- ○ Configure Fa0/1 and Fa0/2 on switch C with a higher cost value.
- ➡ ○ Configure switch C with a lower priority value.

Explanation

To guarantee that switch C becomes the root bridge, configure switch C with a lower priority value. The election of the root bridge is determined by the switch with the lowest bridge ID. The bridge ID is made of two parts:

- The priority value assigned to the switch.
- The MAC address.

The switch with the lowest priority value automatically becomes the root bridge. If two or more switches have the same priority value, then the switch with the lowest MAC address becomes the root bridge.

The link cost is used when determining the root port and the designated ports. The port priority is used only when there are two equal-cost paths back to the root bridge on the same switch. The port with the lowest priority is used. If two ports have the same priority, the port with the lowest port number is used.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm *NP15_SPANNING_TREE_PROTOCOL_11]

Question 12: Incorrect

You need to configure spanning tree on a Cisco switch. You'd like to use a protocol that conforms to the 802.1w standards.

Which protocol should you use?

- PortFast
- BPDU guard
- ~~EtherChannel~~
- Rapid PVST+

Explanation

Rapid PVST+ is the IEEE 802.1w standard. RSTP improves convergence by actively confirming that a switch is ready to transition to a forwarding state, eliminating the listening and learning stages. RSTP defines several new types of links and uses fewer spanning tree states.

PortFast allows a port connected to a host to go into a forwarding state almost immediately. PortFast ports must be used only for connections to end user devices, such as workstations or server systems. PortFast should not be used when the port is connected to a bridge, a switch, or another STP speaking device. EtherChannel combines multiple parallel physical links into a single logical channel. The switch treats the logical channel as a single interface that provides redundancy, as well as load sharing among the links in the channel. BPDU guard is frequently used with PortFast to ensure the stability of the STP topology. BPDU guard disables a port configured by PortFast if that port receives BPDUs.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm RT NP15_2.6-1]

Question 13: Incorrect

Match the EtherChannel protocol on the left with its characteristics on the right. Each protocol may be used once, more than once, or not at all.

Desirable mode places the port in a negotiating state.

Based on the 802.3ad standard.

Link Aggregation Control Protocol (LACP)

Port Aggregation Protocol (PAgP)

Passive mode places the port into a passive negotiating state.

Auto mode places the port into a passive negotiating state.

Port Aggregation Protocol (PAgP)

Link Aggregation Control Protocol (LACP)

Active mode places the port in a

negotiating

Link Aggregation Control Protocol (LACP)

Explanation

Cisco switches can use the following protocols for EtherChannel configuration:

Port Aggregation Protocol (PAgP)

Port Aggregation Protocol prevents loops, limits packet loss due to misconfigured channels, and aids in network reliability. PAgP operates in the following modes:

- Auto places the port into a passive negotiating state and forms an EtherChannel if the port receives PAgP packets. While in this mode, the port does not initiate the negotiation.
- Desirable places the port in a negotiating state to form an EtherChannel by sending PAgP packets. A channel is formed with another port group in either the auto or desirable mode.

Link Aggregation Control Protocol (LACP)

Link Aggregation Control Protocol is based on the 802.3ad standard and has similar functions to PAgP. LACP is used when configuring EtherChannel between Cisco switches and non-Cisco switches that support 802.3ad. LACP operates in the following modes:

- Passive places the port into a passive negotiating state and forms an EtherChannel if the port receives LACP packets. While in this mode, the port does not initiate the negotiation.
- Active places the port in a negotiating state to form an EtherChannel by sending LACP packets. A channel is formed with another port group in either the active or passive mode.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm RT NP15_2.6-2]

Question 14: Correct

Which of the following features dynamically places switch ports in blocking or forwarding states?

- Mirroring
- Spanning tree
- Trunking
- PoE

Explanation

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.

- Without the spanning tree protocol, switches that are connected with multiple links would form a switching loop, where frames are passed back and forth continuously.
- Spanning tree provides only a single active path between switches. Switch ports that are part of that path are placed in a forwarding state.
- Switch ports that are part of redundant but unused paths are placed in a blocking (non-forwarding) state.
- When an active path goes down, the spanning tree protocol automatically recovers and activates the backup ports necessary to provide continued connection between devices.

Trunking identifies ports that are used to carry VLAN traffic between switches. A trunk port is a member of all VLANs defined on all switches. Mirroring sends traffic from all switch ports to a switch port you designate as the mirrored port. Power over Ethernet (PoE) supplies power to end devices through the RJ45 Ethernet switch port.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm NP09_3-3 #6]

Question 15: Correct

You manage a network that uses multiple switches. You want to provide multiple paths between switches so that if one link goes down, an alternate path is available.

Which feature should your switch support?

- Mirroring
- Trunking
- PoE
- OSPF
- Spanning tree

Explanation

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.

- Without the spanning tree protocol, switches that are connected with multiple links would form a switching loop, where frames are passed back and forth continuously.
- Spanning tree provides only a single active path between switches. Switch ports that are part of that path are placed in a forwarding state.
- Switch ports that are part of redundant but unused paths are placed in a blocking (non-forwarding) state.
- When an active path goes down, the spanning tree protocol automatically recovers and activates the backup ports necessary to provide continued connection between devices.

Trunking identifies ports that are used to carry VLAN traffic between switches. A trunk port is a member of all VLANs defined on all switches. Mirroring sends traffic from all switch ports to a switch port you designate as the mirrored port. Power over Ethernet (PoE) supplies power to end devices through the RJ45 Ethernet switch port. OSPF is a routing protocol that routers use to learn about and select routes to destination networks.

References

LabSim for Network Pro, Section 6.6.
[netpro18v5_all_questions_en.exm NP09_3-3 #7]