Vendor: Cisco

Exam Code: 300-115

Exam Name: Implementing Cisco IP Switched Networks (SWITCH v2.0)

Version: DEMO

SIM 1 - Lab Simulation - LACP with STP Sim

SIM 2 - Lab Simulation - AAAdot1x

SIM 3 - Lab Simulation - MLS and EIGRP

You have been tasked with configuring multilayer SwitchC, which has a partial configuration and has been attached to RouterC as shown in the topology diagram.
You need to configure SwitchC so that Hosts H1 and H2 can successfully ping the server S1. Also SwitchC needs to be able to ping server S1.
Due to administrative restrictions and requirements you should not add/delete vlans or create trunk links. Company policies forbid the use of static or default routing. All routes must be learned via EIGRP 65010 routing protocol.
You do not have access to RouteC. RouterC is correctly configured. No trunking has been configured on RouterC.
Routed interfaces should use the lowest host on a subnet when possible. The following subnets are available to implement this solution:

```
– 10.10.10.0/24
– 190.200.250.32/27
– 190.200.250.64/27
```

Hosts H1 and H2 are configured with the correct IP address and default gateway.
SwitchC uses Cisco as the enable password.
Routing must only be enabled for the specific subnets shown in the diagram.
Note: Due to administrative restrictions and requirements you should not add or delete VLANs, changes VLAN port assignments or create trunks. Company policies forbid the use of static or default routing. All routes must be learned via the EIGRP routing protocol.
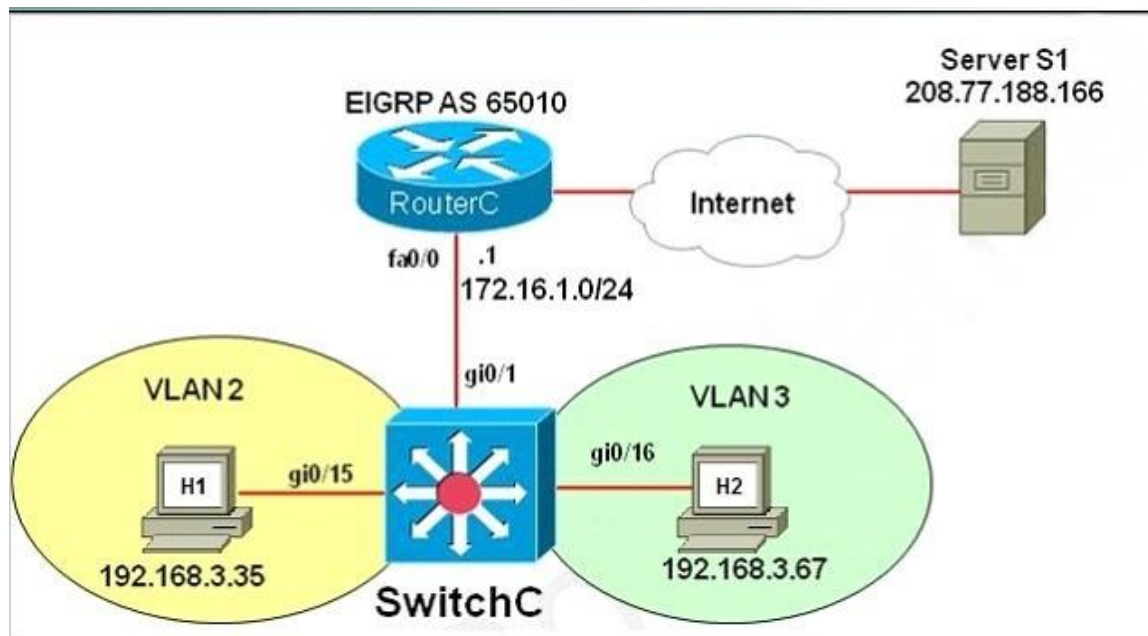
Answer:
In real life, there are two ways to configure interVLAN routing in this case:

+ Use RouterC as a "router on a stick" and SwitchC as a pure Layer2 switch. Trunking must be established between RouterC and SwitchC.

+ Only use SwitchC for interVLAN routing without using RouterC, SwitchC should be configured as a Layer 3 switch (which supports ip routing function as a router). No trunking requires.

The question clearly states "No trunking has been configured on RouterC" so RouterC does not contribute to interVLAN routing of hosts H1 & H2 -> SwitchC must be configured as a Layer 3 switch with SVIs for interVLAN routing.

We should check the default gateways on H1 & H2. Click on H1 and H2 and type the "ipconfig" command to get their default gateways.

```
C:\>ipconfig
```

We will get the default gateways as follows:

Host1:
+ Default gateway: 190.200.250.33

Host2:
+ Default gateway: 190.200.250.65

Now we have enough information to configure SwitchC (notice the EIGRP AS in this case is 650)

Note: VLAN2 and VLAN3 were created and gi0/10, gi0/11 interfaces were configured as access ports so we don't need to configure them in this sim.

```
SwitchC# configure terminal
SwitchC(config)# int gi0/1
SwitchC(config-if)#no switchport -> without using this command, the simulator does
not let you assign IP address on Gi0/1 interface.
SwitchC(config-if)# ip address 10.10.10.2 255.255.255.0 ->RouterC has used
IP 10.10.10.1 so this is the lowest usable IP address.
SwitchC(config-if)# no shutdown
SwitchC(config-if)# exit
SwitchC(config)# int vlan 2
SwitchC(config-if)# ip address 190.200.250.33 255.255.255.224
SwitchC(config-if)# no shutdown
SwitchC(config-if)# int vlan 3
SwitchC(config-if)# ip address 190.200.250.65 255.255.255.224
SwitchC(config-if)# no shutdown
SwitchC(config-if)#exit
SwitchC(config)# ip routing (Notice: MLS will not work without this command)
SwitchC(config)# router eigrp 650
SwitchC(config-router)# network 10.10.10.0 0.0.0.255
SwitchC(config-router)# network 190.200.250.32 0.0.0.31
SwitchC(config-router)# network 190.200.250.64 0.0.0.31
```

NOTE: THE ROUTER IS CORRECTLY CONFIGURED, so you will not miss within it in the exam , also don't modify/delete any port just do the above configuration. Also some reports said the "no auto-summary" command can't be used in the simulator, in fact it is not necessary because the network 190.200.0.0/16 is not used anywhere else in this topology.

In order to complete the lab , you should expect the ping to SERVER to succeed from the MLS , and from the PCs as well.

Also make sure you use the correct EIGRP AS number (in the configuration above it is 650 but it will change when you take the exam) but we are not allowed to access RouterC so the only way

to find out the EIGRP AS is to look at the exhibit above. If you use wrong AS number, no neighbor relationship is formed between RouterC and SwitchC.

In fact, we are pretty sure instead of using two commands "network 190.200.250.32 0.0.0.31" and "network 190.200.250.64 0.0.0.31" we can use one simple command "network 190.200.0.0" because it is the nature of distance vector routing protocol like EIGRP: only major networks need to be advertised; even without "no auto-summary" command the network still works correctly. But in the exam the sim is just a flash based simulator so we should use two above commands, just for sure. But after finishing the configuration, we can use "show run" command to verify, only the summarized network 190.200.0.0 is shown.

QUESTION 1
Which two statements about SPAN source and destination ports during an active session are true? (Choose two.)

A. The destination port can be destination in multiple SPAN sessions
B. The source port can be only an Ethernet physical port
C. The destination port does not participate in STP
D. You can mix individual source ports and source VLANs within a single session
E. The source port can be monitored in multiple SPAN session.

Answer: CE

QUESTION 2
Drag and Drop Question
Drag and drop the characteristic from the left to the matching Layer 2 protocol on the right.

sends topology change notification

Default time between protocol frames is 60 seconds.

uses multicast address 01-80-C2-00-00-0E

Default time between protocol frames is 30 seconds.

uses multicast address 0100.0ccc.cccc

supports IEEE 802.2 and 802.3 encapsulation

CDP

LLDP

Answer:

sends topology change notification	CDP

Left column boxes:
- sends topology change notification
- Default time between protocol frames is 60 seconds.
- uses multicast address 01-80-C2-00-00-0E
- Default time between protocol frames is 30 seconds.
- uses multicast address 0100.0ccc.cccc
- supports IEEE 802.2 and 802.3 encapsulation

CDP:
- uses multicast address 0100.0ccc.cccc
- supports IEEE 802.2 and 802.3 encapsulation
- Default time between protocol frames is 60 seconds.

LLDP:
- sends topology change notification
- uses multicast address 01-80-C2-00-00-0E
- Default time between protocol frames is 30 seconds.
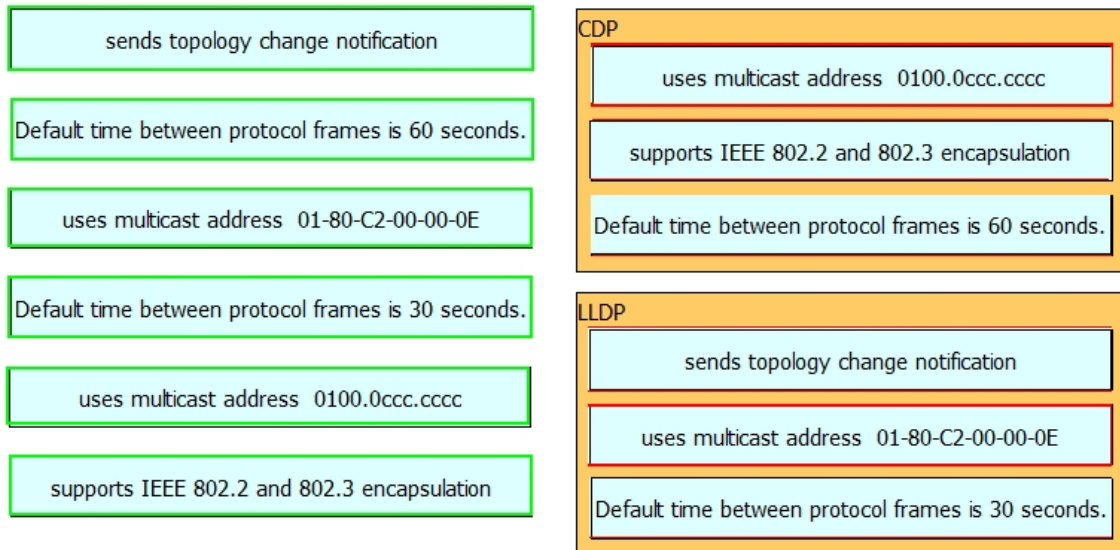
QUESTION 3
Which two options are two results of using the command spanning-tree vlan 50 root primary
within a spanning-tree network under global configuration? (Choose two.)

A. Spanning tree determines the priority of the current root for VLAN 50 and reduces the priority of
the local switch to a lower value.
B. The priority value for VLAN 50 is set to 4094 on the root while the local switch priority is set to
32768.
C. The spanning-tree timers are reduced to improve the convergence time for VLAN 50.
D. All ports that are configured on the current switch with VLAN 50 transition to designated ports.
E. The switchport that is configured for VLAN 50 is the primary connection to the spanning-tree root
switch.

Answer: AD

QUESTION 4
A network engineer wants to make sure that an access switch will never become a Spanning
Tree root for VLAN 5. What action will accomplish this task?

A. adjust STP priority to the maximum value
B. disable STP globally
C. apply root guard to all outgoing neighbor interfaces
D. enable MSTP and use a different revision number than all other switches

Answer: A

QUESTION 5
Several new switches have been added to the existing network as VTP clients. All of the new
switches have been configured with the same VTP domain, password, and version. However,
VLANs are not passing from the VTP server (existing network) to the VTP clients. What must be
done to fix this?

A. Remove the VTP domain name from all switches with "null" and then replace it with the new domain name.
B. Configure a different native VLAN on all new switches that are configured as VTP clients.
C. Provision one of the new switches to be the VTP server and duplicate information from the existing network.
D. Ensure that all switch interconnects are configured as trunks to allow VTP information to be transferred.

Answer: D

QUESTION 6
After implementing VTP, the extended VLANs are not being propagated to other VTP switches. What should be configured for extended VLANs?

A. VTP does not support extended VLANs and should be manually added to all switches.
B. Enable VTP version 3, which supports extended VLAN propagation.
C. VTP authentication is required when using extended VLANs because of their ability to cause network instability.
D. Ensure that all switches run the same Cisco IOS version. Extended VLANs will not propagate to different IOS versions when extended VLANs are in use.

Answer: B

QUESTION 7
Which statement about the MAC address sticky entries in the switch when the copy run start command is entered is true?

A. A sticky MAC address is retained when the switch reboots.
B. A sticky MAC address can be a unicast or multicast address.
C. A sticky MAC address is lost when the switch reboots.
D. A sticky MAC address ages out of the MAC address table after 600 seconds.

Answer: A

QUESTION 8
Refer to the exhibit. Which configuration ensures that the Cisco Discovery Protocol packet update frequency sent from DSW1 to ALS1 is half of the default value?
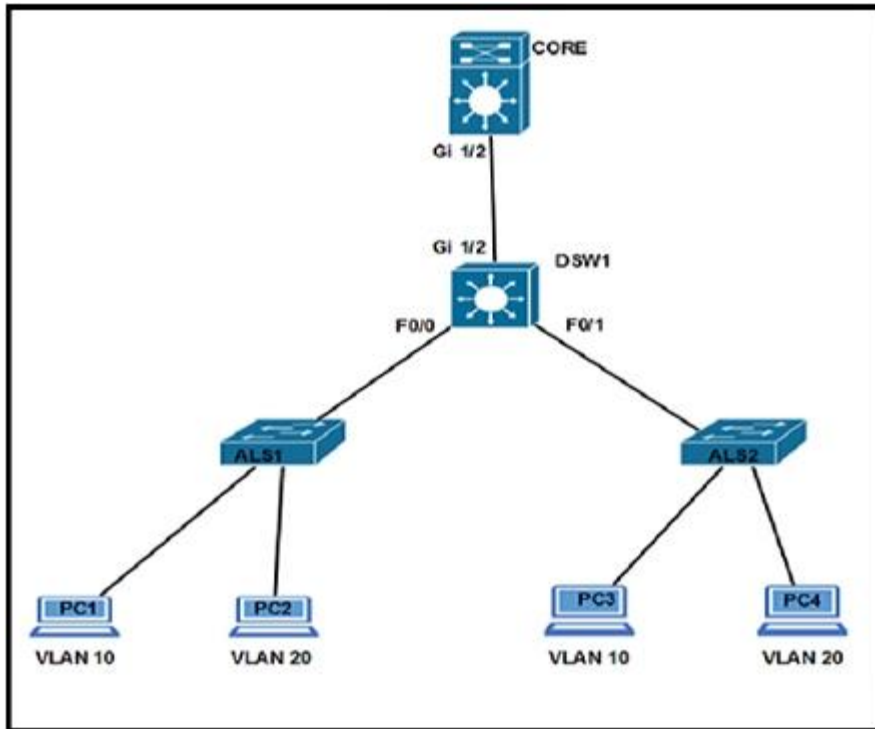
A. DSW1(config)#cdp timer 90
B. DSW1(config-if)#cdp holdtime 60
C. DSW1(config)#cdp timer 30
D. DSW1(config)#cdp holdtime 90
E. DSW1(config-if)#cdp holdtime 30
F. DSW1(config-if)#cdp timer 60

Answer: C

QUESTION 9
After the recent upgrade of the switching infrastructure, the network engineer notices that the port
roles that were once "blocking" are now defined as "alternate" and "backup." What is the reason
for this change?

A. The new switches are using RSTP instead of legacy IEEE 802.1D STP.
B. IEEE 802.1D STP and PortFast have been configured by default on all newly implemented Cisco
Catalyst switches.
C. The administrator has defined the switch as the root in the STP domain.
D. The port roles have been adjusted based on the interface bandwidth and timers of the new Cisco
Catalyst switches.

Answer: A

QUESTION 10
An administrator recently configured all ports for rapid transition using PortFast. After testing, it
has been determined that several ports are not transitioning as they should. What is the reason
for this?

A.   RSTP has been enabled per interface and not globally.
B.   The STP root bridge selection is forcing key ports to remain in non-rapid transitioning mode.
C.   STP is unable to achieve rapid transition for trunk links.
D.   The switch does not have the processing power to ensure rapid transition for all ports.

Answer: C

QUESTION 11
Which technique automatically limits VLAN traffic to only the switches that require it?

A.   access lists
B.   DTP in nonegotiate
C.   VTP pruning
D.   PBR

Answer: C

QUESTION 12
What effect does the mac address-table aging-time 180 command have on the MAC address-table?

A.   This is how long a dynamic MAC address will remain in the CAM table.
B.   The MAC address-table will be flushed every 3 minutes.
C.   The default timeout period will be 360 seconds.
D.   ARP requests will be processed less frequently by the switch.
E.   The MAC address-table will hold addresses 180 seconds longer than the default of 10 minutes.

Answer: A

QUESTION 13
While working in the core network building, a technician accidently bumps the fiber connection between two core switches and damages one of the pairs of fiber. As designed, the link was placed into a non-forwarding state due to a fault with UDLD. After the damaged cable was replaced, the link did not recover. What solution allows the network switch to automatically recover from such an issue?

A.   macros
B.   errdisable autorecovery
C.   IP Event Dampening
D.   command aliases
E.   Bidirectional Forwarding Detection

Answer: B

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