

300-135 Dumps

Troubleshooting and Maintaining Cisco IP Networks (TSHOOT)

<https://www.certleader.com/300-135-dumps.html>



NEW QUESTION 1

Which two features are supported with GRE-based tunnels? (Choose two)

- A. on-demand tunnels
- B. any-to-any connectivity
- C. data encapsulation
- D. encryption
- E. multicast traffic forwarding

Answer: CE

NEW QUESTION 2

Which command displays the RSA public keys of a Cisco router?

- A. show crypto key rsa
- B. show crypto session local
- C. show crypto key mypubkey rsa
- D. show crypto map

Answer: A

NEW QUESTION 3

You are troubleshooting an issue with a GRE tunnel between R1 and R2 and find that routing is OK on all intermediary routers. The tunnel is up on R1, but down on R2. Which two possible issues can prevent the tunnel from coming up? (Choose Two)

- A. The tunnel does not come up unless traffic is sent through it.
- B. The tunnel source interface is down on R2.
- C. No specific route interface is down on R2.
- D. R2 does not know how to reach the tunnel destination.
- E. The tunnel keep alive timer doesn't match on R1 and R2.

Answer: BD

Explanation: Four Different Tunnel States

There are four possible states in which a GRE tunnel interface can be:

1. Up/up - This implies that the tunnel is fully functional and passes traffic. It is both administratively up and its protocol is up as well.
2. Administratively down/down - This implies that the interface has been administratively shut down.
3. Up/down - This implies that, even though the tunnel is administratively up, something causes the line protocol on the interface to be down.

NEW QUESTION 4

Which IPsec mode encrypts a GRE tunnel and adds the least amount of overhead?

- A. tunnel
- B. transport
- C. dynamic
- D. transparent

Answer: B

NEW QUESTION 5

Which two statements about GRE tunnels are true? (Choose two)

- A. GRE encapsulates the original packet
- B. GRE tunnels operate in GRE/IP mode by default
- C. The IP header encapsulates the GRE header
- D. The carrier protocol adds the delivery header
- E. GRE tunnels operate in GRE/IPsec mode by default

Answer: AE

NEW QUESTION 6

What are two primary components of a GRE tunnel? (Choose two.)

- A. IP header
- B. payload packet
- C. GRE header
- D. LLC header
- E. Ethernet header

Answer: BC

NEW QUESTION 7

Which two conditions can you use to filter the output of the debug condition command? (Choose two.)

- A. interface ID
- B. port number
- C. packet size
- D. protocol
- E. username

Answer: AE

Explanation: R1#debug condition ? application Application called called number calling calling
card card
glbp interface group interface interface ip IP address
mac-address MAC address match-list apply the match-list standby interface group username username
vcid VC ID vlan vlan
voice-port voice-port number
xconnect Xconnect conditional debugging on segment pair

NEW QUESTION 8

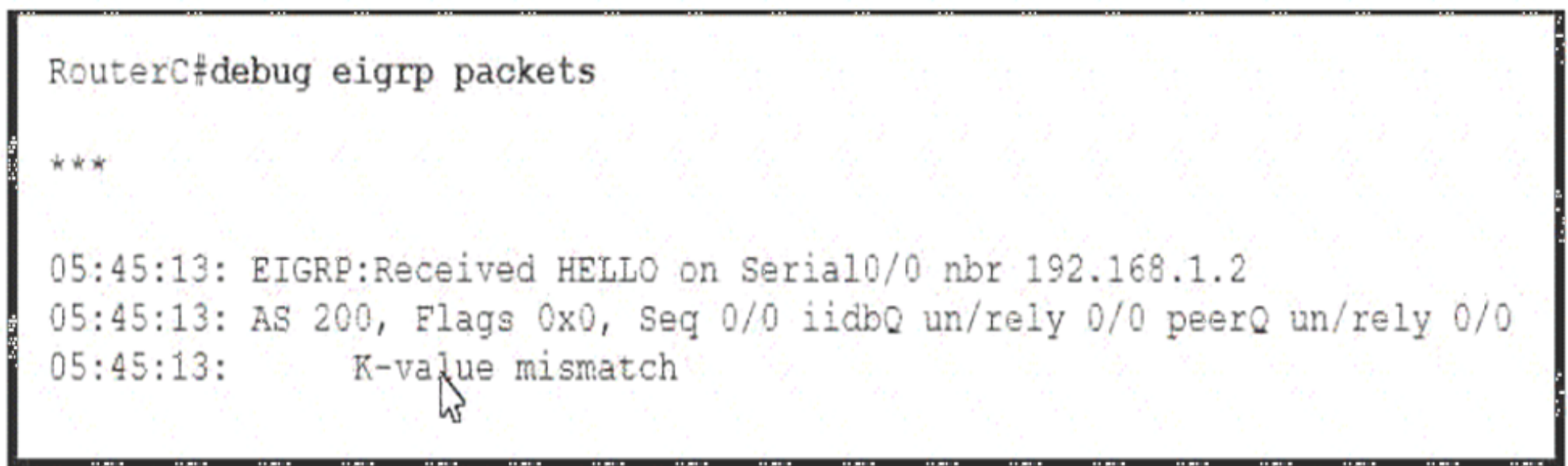
Which two statements about GRE are true?

- A. It supports the OSPF and EIGRP routing protocols only.
- B. It provides a tunnelless VPN technology.
- C. It supports multicast and broadcast transmissions.
- D. It supports encryption and authentication
- E. It can carry broadcast traffic in the tunnel.

Answer: CE

NEW QUESTION 9

Refer to the exhibit.



```
RouterC#debug eigrp packets

***

05:45:13: EIGRP:Received HELLO on Serial0/0 nbr 192.168.1.2
05:45:13: AS 200, Flags 0x0, Seq 0/0 iidbQ un/rely 0/0 peerQ un/rely 0/0
05:45:13:      K-value mismatch
```

A NOC technician is troubleshooting an EIGRP connection between RouterC IP address 192.168.1.1 and RouterD. IP address 192.168.1.2 Given the debug output on RouterC which outcome is valid?

- A. RouterC received a hello packet with mismatched authentication parameters.
- B. RouterC received a hello packet with mismatched hello timers
- C. RouterC will form an adjacency with RouterD
- D. RouterC will not form an adjacency with RouterD

Answer: D

NEW QUESTION 10

```
R1# debug migrp packet
      (UPDATE, REQUEST, QUERY, REPLY, HELLO, UNKNOWN, PROBE, ACK, STUB, SIAQUERY, SIAREPLY)

R1#
EIGRP: Lost Peer: Total 1 (0/0/0/0/0)
EIGRP: Received HELLO on Gi1.146 - paklen 20 nbr 10.1.146.6
      AS 100, Flags 0x0: (NULL), Seq 0/0 interfaceQ 0/0
EIGRP: Add Peer: Total 1 (1/0/0/0/0)
      K-value mismatch
EIGRP: Sending TIDLIST on GigabitEthernet1.146 - 1 items
EIGRP: Sending HELLO on Gi1.146 - paklen 30
      AS 100, Flags 0x0 : (NULL), Seq 0/0 interfaceQ 0/0 iidbQ un/rely /0
%DUAL-5-NBRCHANGE: EIGRP_IPv4 100: Neighbor 10.1.146.6 (GigabitEthernet1.146) is down: K-value mismatch
R1#
EIGRP: Lost Peer: Total 1 (0/0/0/0/0)
EIGRP: Sending HELLO on Gi1.13 - paklen 20
      AS 100, Flags 0x0: (NULL), Seq 0/0 interfaceQ 0/0 iidbQ un/rely 0/0
R1#
EIGRP: Gi1.13: ignored packet from 10.1.13.3, opcode = 5 (authentication off or key-chain missing)
R1#
EIGRP: Received HELLO on Gi1.146 - paklen 20 nbr 10.1.146.4
      AS 100, Flags 0x0: (NULL), Seq 0/0 interfaceQ 0/0
```

Refer to the exhibit. When troubleshooting an adjacency issue on router R1, you generated the given debug output. Which two values are mismatched between R1 and its neighbor? (Choose two.)

- A. hello timer settings
- B. metric calculation mechanisms
- C. authentication parameters
- D. autonomous system numbers
- E. hold timer settings

Answer: BD

NEW QUESTION 10

For which two reasons might a GRE Tunnel interface enter an up/down state? (Choose two)

- A. The tunnel source is using a loopback interface.
- B. The tunnel mode is defined as transport.
- C. Keepalives are disabled on the interfaces
- D. The route to the destination is through the tunnel itself.
- E. The tunnel source interface is down.

Answer: DE

NEW QUESTION 12

You are performing a peer review on this implementation script, which is intended to enable AAA on a device.

```
username nmops privilege 15 secret Cisco 123
username nmeng privilege 15 secret 123Cisco
enable secret Str0ng34156732
aaa authentication login default group tacacs+ local
aaa authentication enable default group tacacs+
aaa authorization config-commands
aaa authourization exec default group tacacs+ if-authenticated
aaa accounting exec default start-stop group tacacs+
aaa accounting commands 5 default stop-only group tacacs+
aaa accounting commands 15 default start-stop group tacacs+
aaa accounting system default start-stop group tacacs+
```

If the script is deployed which two effects does it have on the device? (Choose two.)

- A. Part of the script is rejected.
- B. The device authenticates users against the local database first.

- C. The device fails to perform AAA because session-id common command is missing.
- D. The device authenticates all users except nmops and nmeng against the TACACS+ database.
- E. The device fails to perform AAA because the aaa new-model command is missing.

Answer: AE

Explanation: R1#sh run | sec aaa

R1(config)#aaa authentication ?

R1(config)#aaa authentication login default local

^

% Invalid input detected at '^' marker. Also when enabling AAA:

R1#sh run | sec aaa aaa new-model

aaa authentication login default local aaa session-id common

NEW QUESTION 13

Which protocol is used by traceroute and ping operations?

- A. IGMP
- B. CIP
- C. CPIM
- D. ICMP

Answer: D

NEW QUESTION 18

On which two topologies can you deploy a point-to-point GRE over IPsec design? (Choose two.)

- A. bus
- B. partial-mesh
- C. hub-and-spoke
- D. ring
- E. tree

Answer: BC

NEW QUESTION 23

Refer to the exhibit.

R1#show ip route

Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
o - ODR, P - periodic downloaded static route

Gateway of last resort is 212.50.185.126 to network 0.0.0.0

```
D    212.50.167.0/24 [90/160000] via 212.50.185.82, 00:05:55, Ethernet1/0
    212.50.166.0/24 is variably subnetted, 4 subnets, 2 masks
D    212.50.166.0/24 is a summary, 00:05:55, Null0
C    212.50.166.1/32 is directly connected, Loopback1
C    212.50.166.2/32 is directly connected, Loopback2
C    212.50.166.20/32 is directly connected, Loopback20
    212.50.185.0/27 is subnetted, 3 subnets
C    212.50.185.64 is directly connected, Ethernet1/0
C    212.50.185.96 is directly connected, Ethernet0/0
C    212.50.185.32 is directly connected, Ethernet2/0
D*EX 0.0.0.0/0 [170/2174976] via 212.50.185.126, 00:05:55, Ethernet0/0
    [170/2174976] via 212.50.185.125, 00:05:55, Ethernet0/0
I
```

How would you confirm on R1 that load balancing is actually occurring on the default-network (0.0.0.0)?

- A. Use ping and the show ip route command to confirm the timers for each default network resets to 0.
- B. Load balancing does not occur over default networks; the second route will only be used for failover.
- C. Use an extended ping along with repeated show ip route commands to confirm the gateway of last resort address toggles back and forth.
- D. Use the traceroute command to an address that is not explicitly in the routing table.

Answer: D

NEW QUESTION 26

Exhibit:

```
RouterA# debug eigrp packets
...
01:39:13: EIGRP: Received HELLO on Serial0/0 nbr 10.1.2.2
01:39:13: AS 100, Flags 0x0, Seq 0/0 idbQ 0/0 iidbQ un/rely 0/0 peerQ un/rely 0/0
01:39:13:      K-value mismatch
```

A network administrator is troubleshooting an EIGRP connection between RouterA, IP address 10.1.2.1, and RouterB, IP address 10.1.2.2. Given the debug output on RouterA, which two statements are true? (Choose two.)

- A. RouterA received a hello packet with mismatched autonomous system numbers.
- B. RouterA received a hello packet with mismatched hello timers.
- C. RouterA received a hello packet with mismatched authentication parameters.
- D. RouterA received a hello packet with mismatched metric-calculation mechanisms.
- E. RouterA will form an adjacency with RouterB.
- F. RouterA will not form an adjacency with RouterB.

Answer: DF

NEW QUESTION 27

You want to troubleshoot an OSPF adjacency issue. Which two tasks must you perform? (Choose two.)

- A. Issue the debug ip ospf nsf command to identify the cause.
- B. Issue the debug ip ospf adj command to identify the cause.
- C. Verify that the router IDs on the two routers match.
- D. Verify that the subnet masks on the two routers match.
- E. Verify that the process IDs on the two routers match.

Answer: BD

NEW QUESTION 28

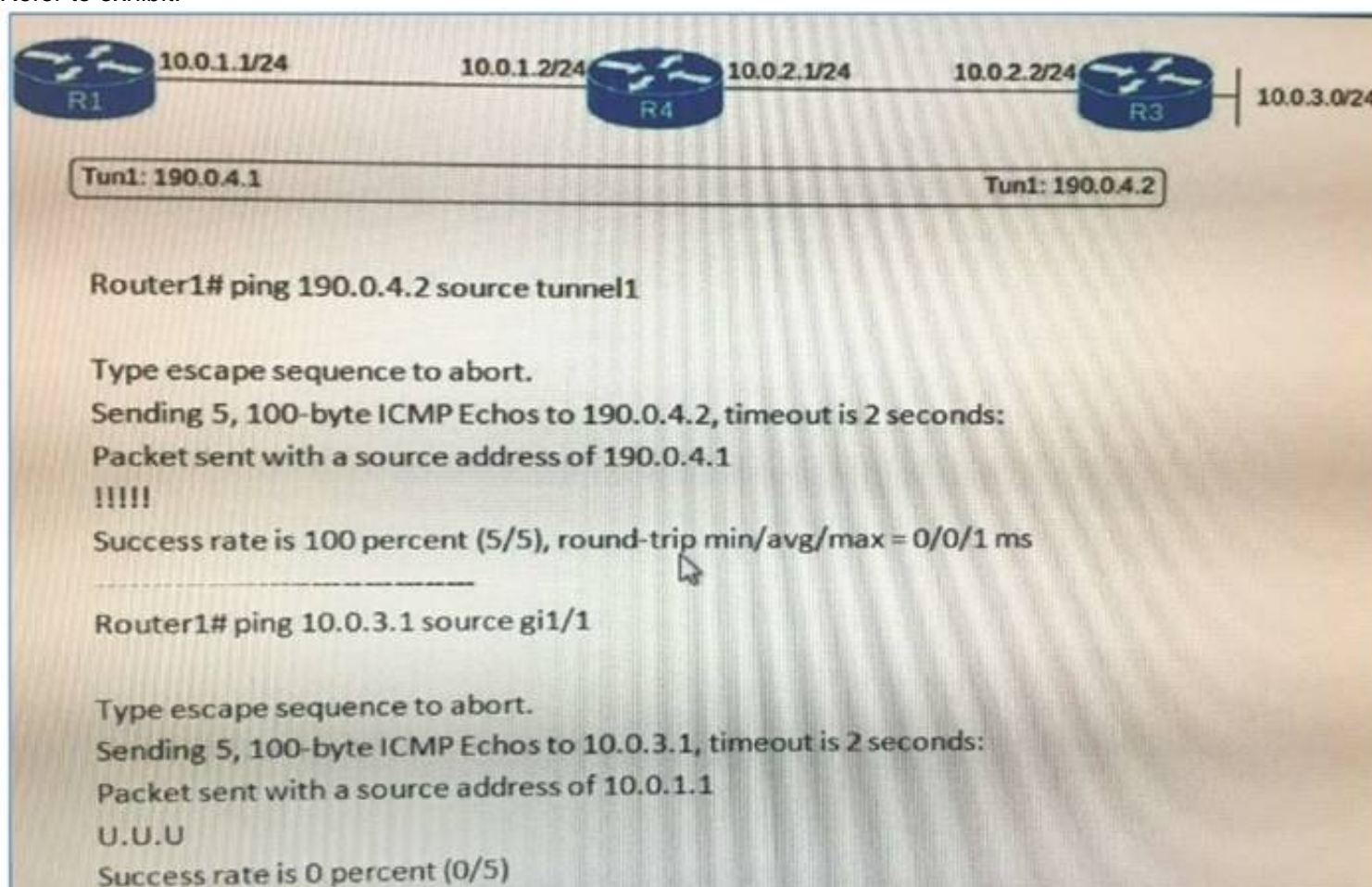
Which three keywords are supported in the ip header option?

- A. Timeout
- B. Type of service
- C. Validate
- D. Timestamp
- E. Record
- F. Strict

Answer: DEF

NEW QUESTION 31

Refer to exhibit:



After a junior technician configures a new branch office GRE tunnel, which step is missing from the configuration to pass traffic through tunnel on Router 1?

- A. static route to 10.0.3.0/24 via 10.0.1.1
- B. static route to 10.0.3.0/24 via 10.0.2.1
- C. static route to 10.0.3.0/24 via 190.0.4.1
- D. static route to 10.0.3.0/24 via 190.0.4.2

Answer: D

NEW QUESTION 36

In which standard troubleshooting methodology do you start in the middle of the OSI model stack, then move up or down the stack based on your findings?

- A. follow the path
- B. bottom up
- C. divide and conquer
- D. move the problem

Answer: C

NEW QUESTION 41

R1 and R2 are directly connected using interface Ethernet0/0 on both sides. R1 and R2 were not becoming adjacent, so you have just configured R2 interface Ethernet0/0 as network type broadcast. Which two statements are true?

- A. Three OSPF routers are in the network segment connected to 192.168.1.0/24
- B. R1 installs a route to 2.2.2.2/32 as O.
- C. R2 is not an OSPF ABR.
- D. R1 interface Ethernet0/0 is configured as OSPF type point to point.
- E. R1 installs a route to 2.2.2.2/32 as O IA.
- F. both routers R1 and R2 are neighbors and R2 IS BDR.

Answer: EF

Explanation: -For the Answer 5 "R1 installs a route to 2.2.2.2/32 as O IA":

That because the route 2.2.2.2/32 belong to another area (area1).

-for the Answer 6 "both routers R1 and R2 are neighbors, and R2 IS BDR":

Here clearly the question, say that R1 and R2 are not adjacent, but that not mean they are not neighbors, from the output of "show ip ospf neighbor" command we can see clearly that routers R1 and R2 are neighbors, and actually the R2 is BDR.

There different between adjacent and neighbor, neighbors" and "adjacent". Two terminologies that doesn't mean the same thing, but can often be misused in a discussion. Neighbors in this case means "show up as neighbors while using the show ip ospf neighbors command". While "adjacent" means they are fully exchanging topology information.

For further information check the links below: <https://learningnetwork.cisco.com/message/564573#564573> <http://blog.ine.com/2008/01/08/understanding-ospf-network-types/>

NEW QUESTION 43

Which protocol does mGRE use to determine where packets are sent?

- A. CEF
- B. EIGRP
- C. NHRP
- D. DMVPN

Answer: A

Explanation: Reference:

<https://www.cisco.com/c/en/us/support/docs/security-vpn/ipsec-negotiation-ike-protocols/41940-dmvpn.html>

NEW QUESTION 45

Which two conditions can be used to filter the output of the debug crypto condition command? (Choose two)

- A. encryption algorithm
- B. destination IP address
- C. front-door VRF name
- D. ISAKMP profile name
- E. routing event Filter

Answer: CD

NEW QUESTION 49

Which statement is true about an IPsec/GRE tunnel?

- A. The GRE tunnel source and destination addresses are specified within the IPsec transform set.
- B. An IPsec/GRE tunnel must use IPsec tunnel mode.
- C. GRE encapsulation occurs before the IPsec encryption process.
- D. Crypto map ACL is not needed to match which traffic will be protected.

Answer: C

NEW QUESTION 53

Which three features are benefits of using GRE tunnels in conjunction with IPsec for building site-to-site VPNs? (Choose three.)

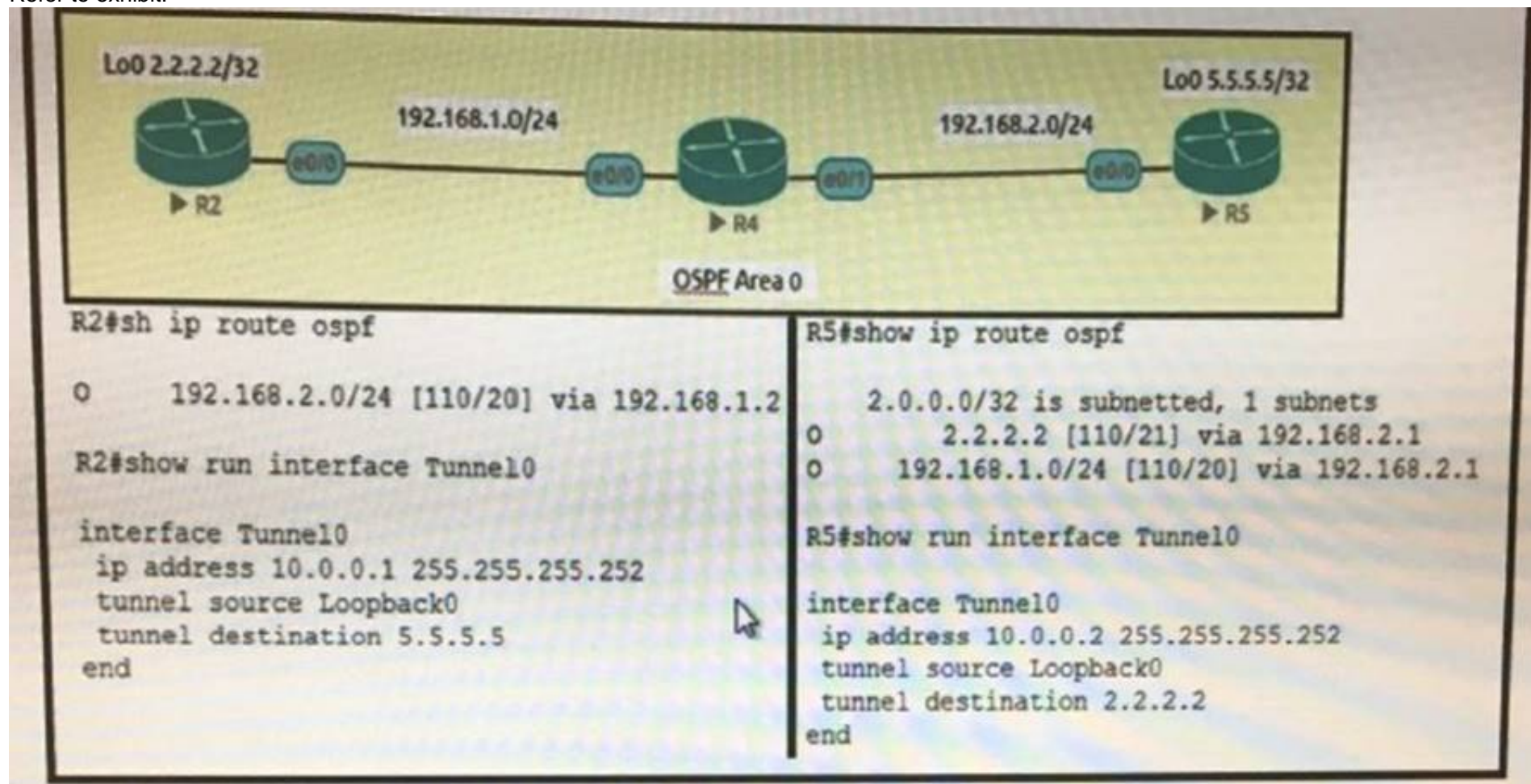
- A. allows dynamic routing over the tunnel

- B. supports multi-protocol (non-IP) traffic over the tunnel
- C. reduces IPsec headers overhead since tunnel mode is used
- D. simplifies the ACL used in the crypto map
- E. uses Virtual Tunnel Interface (VTI) to simplify the IPsec VPN configuration

Answer: ABD

NEW QUESTION 54

Refer to exhibit.



The tunnel between R2 and R5 is not coming up. R2, R4 and R5 do not have any routing information sources other than OSPF and no route filtering is implemented anywhere in the network. Which two actions fix the issue? (Choose Two)

- A. Redistribute connected routes to OSPF on R5.
- B. Change the tunnel destination on R2 to 192.168.2.1
- C. Advertise interface Lo0 to OSPF on R5.
- D. Configure a static route on R5 to 2.2.2.2 via 192.168.2.1
- E. Fix the OSPF adjacency issue between R2 and R5.

Answer: AC

Explanation: In order for the tunnel to be established between R2-R5, the R2 should have a path for the 5.5.5.5/32 route in its own routing table, and because the ospf is the only routing protocol here, so R5 has to advertise the route 5.5.5.5/32, and that is possible through these options:

1- redistribute connected route to ospf on R5 2- Advertise interface lo0 to OSPF on R5

For knowing more about the rules for the gre channel to be established, check the link below:

<http://www.cisco.com/c/en/us/support/docs/ip/generic-routing-encapsulation-gre/118361-technote-gre-00.html>

NEW QUESTION 57

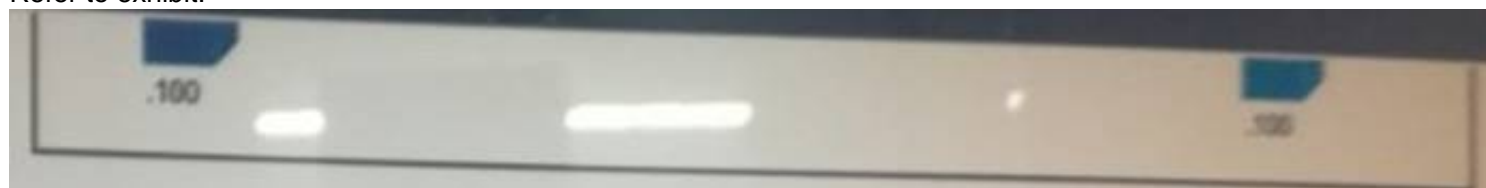
If you are troubleshooting a spanning-tree loop on a VLAN, which standard troubleshooting approach is most appropriate for identifying the cause of the loop?

- A. divide and conquer
- B. top-down
- C. bottom-up
- D. follow-the-path

Answer: D

NEW QUESTION 58

Refer to exhibit.



If all routers are sharing routes via OSPF area 0, which two configuration can you apply to R2 and R3 so that they can enable a GRE tunnel between them? (Choose two)

- A. R2#interface tunnel 0 Description To HQ-A316:56369 Ip address 10.10.23.2.255.255.255.0 Tunnel source GigabitEthernet0/0 Tunnel destination 192.168.13.3
- B. R3#interface tunnel 0 Description To HQ-B652:4289 Ip address 10.10.23.2.255.255.255.0 Tunnel source GigabitEthernet0/0 Tunnel destination 192.168.21.2
- C. R2#interface tunnel 0 Description To HQ-A316:56369 Ip address 10.10.23.2.255.255.255.0 Tunnel source GigabitEthernet0/1 Tunnel destination 192.168.131
- D. R2#interface tunnel 0 Description To HQ-A316:56369 Ip address 10.10.23.2.255.255.255.0 Tunnel source 192.168.21.2 Tunnel destination 192.168.13.3

E. R3#interface tunnel 0 Description To HQ-B652:4289Ip address 10.10.23.3.255.255.255.0Tunnel source GigabitEthernet0/0 Tunnel destination 192.168.13.3

Answer: BD

NEW QUESTION 62

You want to troubleshoot a GRE tunnel that is configured with an ACL. Which two tasks must you perform? (Choose two)

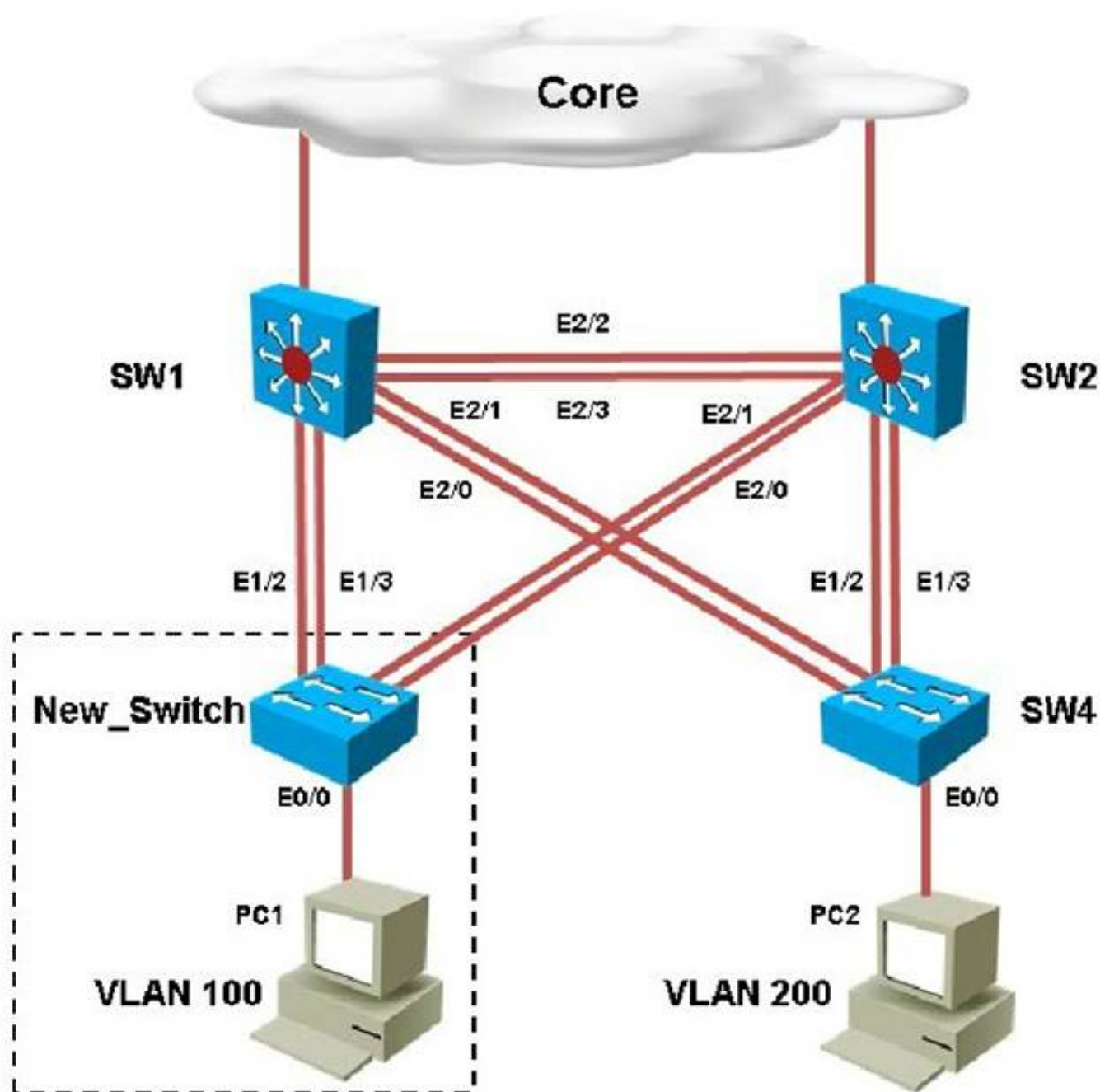
- A. Verify that the ACL permits TCP port 8080
- B. A Verify that the ACL permits IP protocol 47.
- C. Verity that the remote device is reachable across the network
- D. Verify that the IP addresses of the physical interfaces are on the same subnet
- E. Verify that the ACL permits TCP port 1723.

Answer: BC

Explanation: Topic 2, Troubleshooting VTP

NEW QUESTION 67

A customer network engineer has made configuration changes that have resulted in some loss of connectivity. You have been called in to evaluate a switch network and suggest resolutions to the problems.



SW1

SW1#

SW2

SW2#



PC2 in VLAN 200 is unable to ping the gateway address 172.16.200.1; identify the issue.

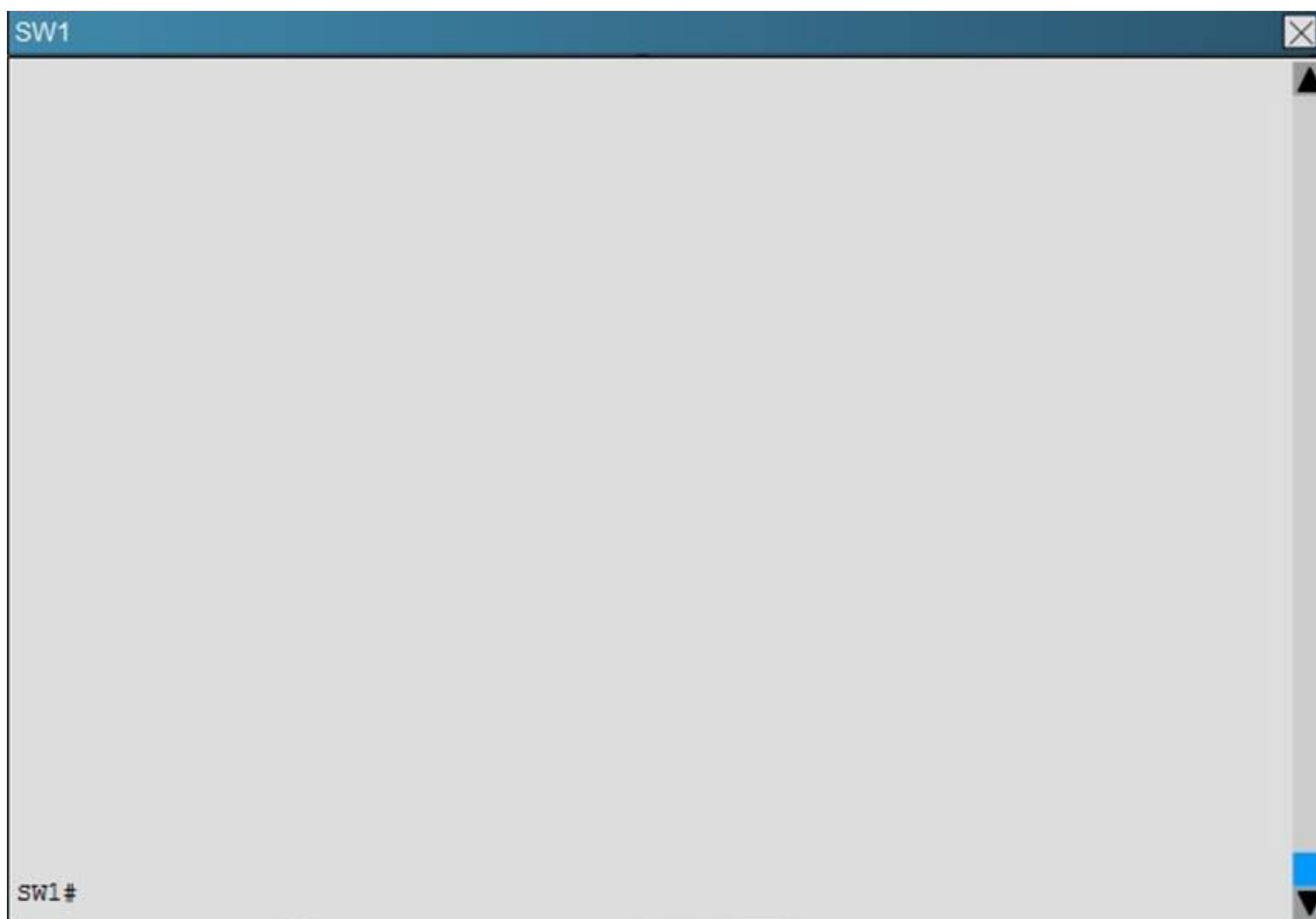
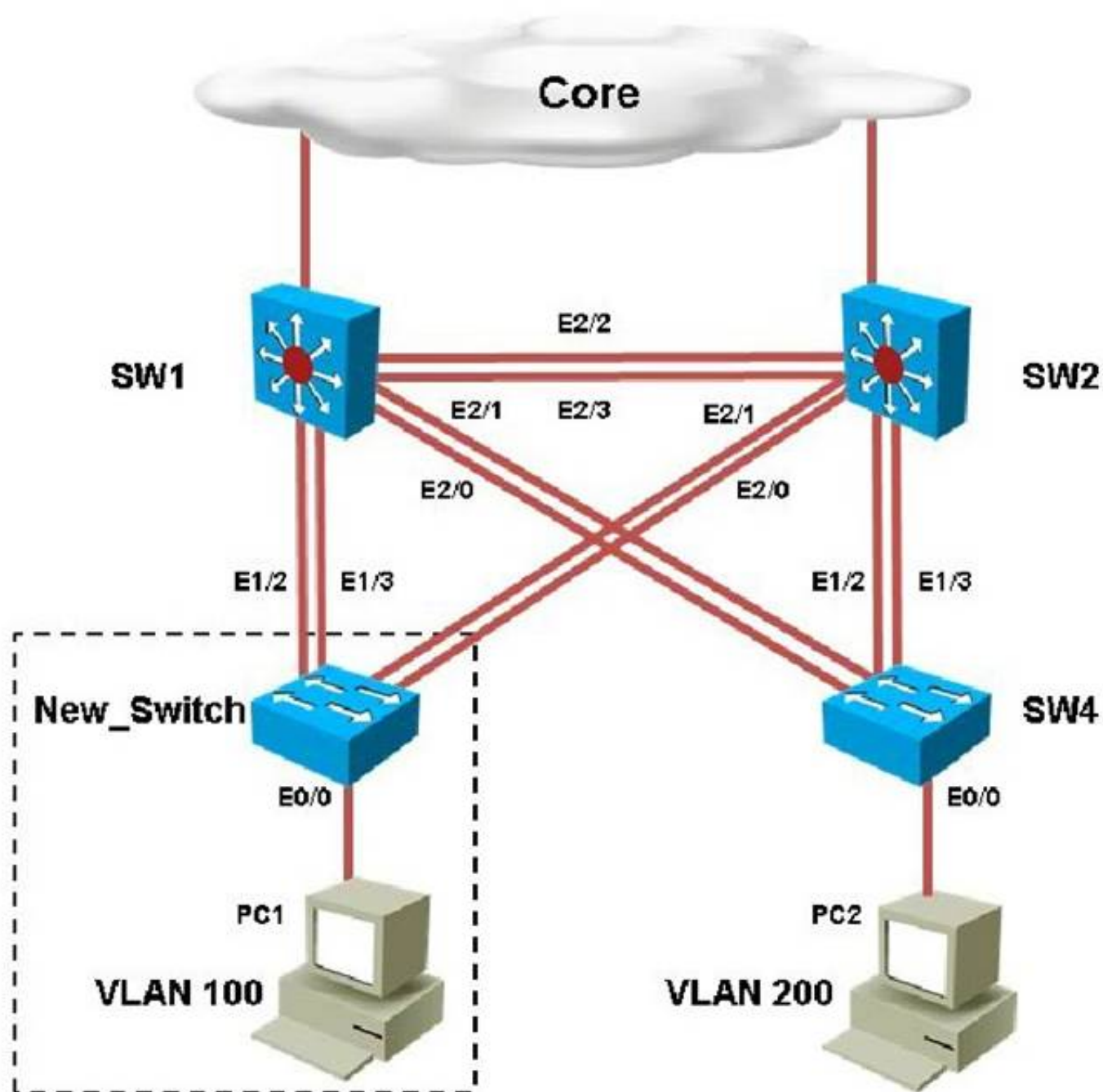
- A. VTP domain name mismatch on SW4
- B. VLAN 200 not configured on SW1
- C. VLAN 200 not configured on SW2
- D. VLAN 200 not configured on SW4

Answer: D

Explanation: By looking at the configuration for SW2, we see that it is missing VLAN 200, and the “switchport access vlan 200” command is missing under interface eth 0/0:


```
vlan internal allocation policy ascending
!
vlan 100
!
vlan 300
    name Management_VLAN
!
vlan 400
    name VLAN400
!
!
!
!
!
!
!
!
!
!
interface Ethernet0/0
    description Connected to PC2
    switchport mode access
    duplex auto
!
```

A customer network engineer has made configuration changes that have resulted in some loss of connectivity. You have been called in to evaluate a switch network and suggest resolutions to the problems.

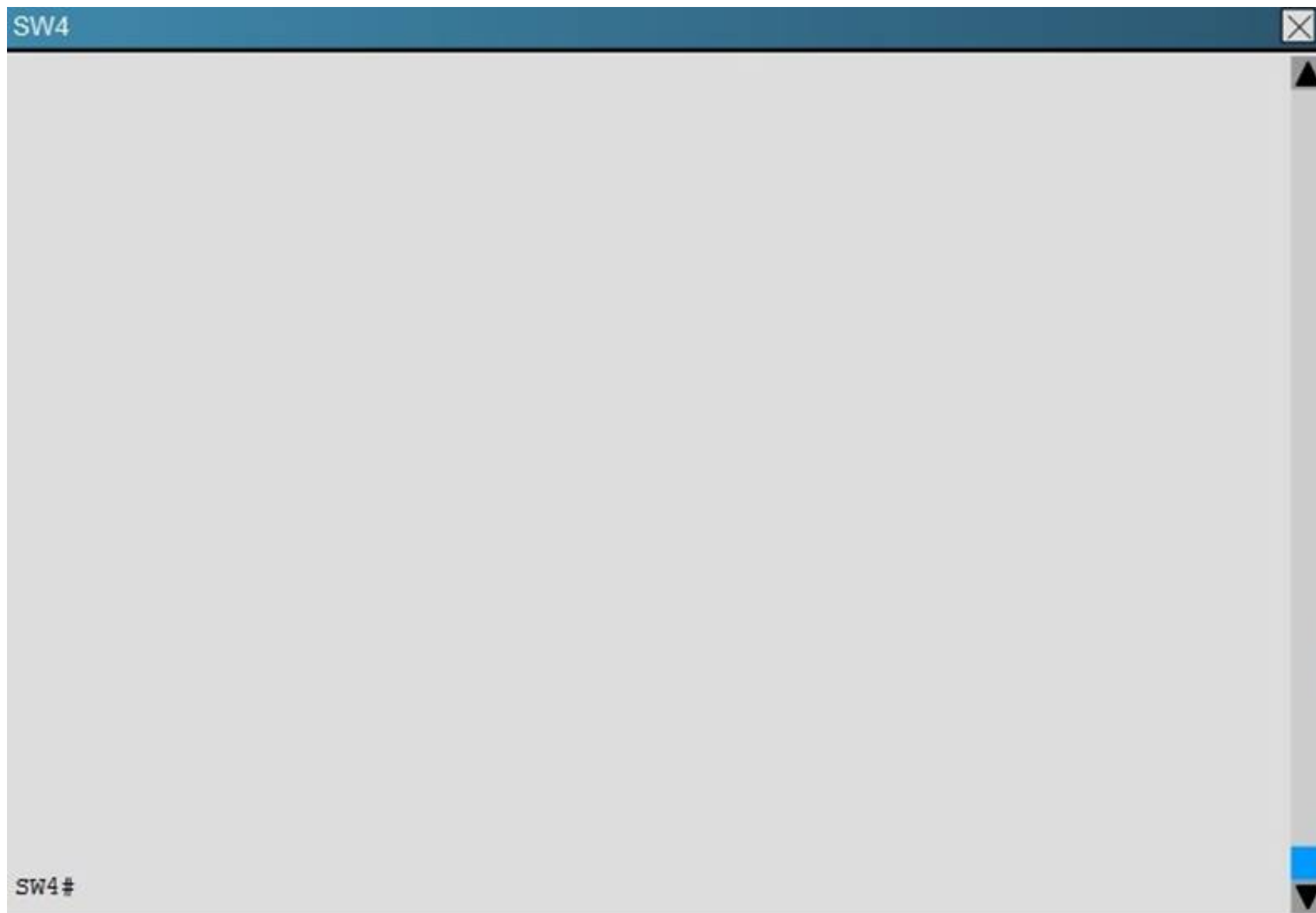


SW2

SW2#

New_Switch

New_Switch#



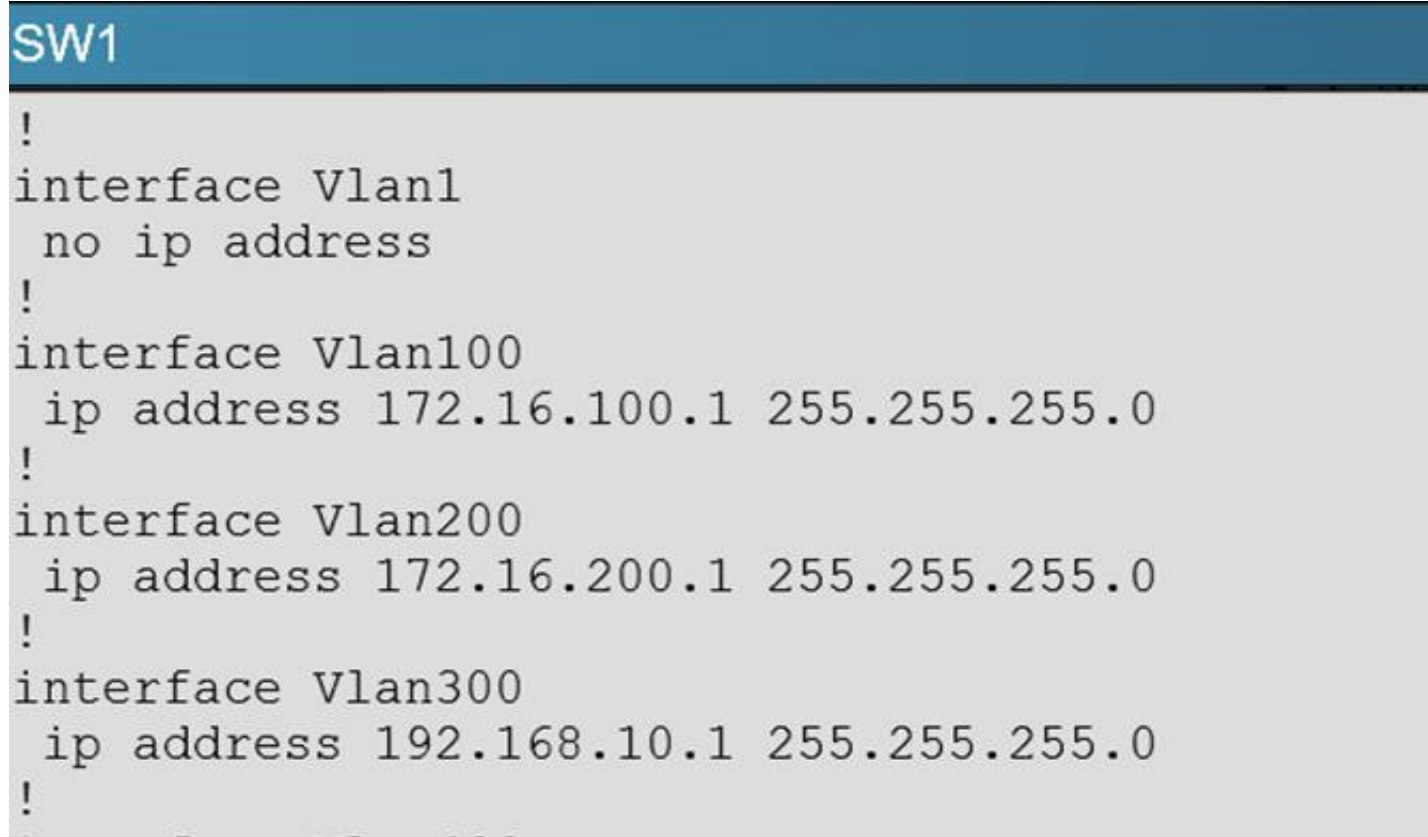
Refer to the topology.

SW1 Switch Management IP address is not pingable from SW4. What could be the issue?

- A. Management VLAN not allowed in the trunk links between SW1 and SW4
- B. Management VLAN not allowed in the trunk links between SW1 and SW2
- C. Management VLAN not allowed in the trunk link between SW2 and SW4
- D. Management VLAN ip address on SW4 is configured in wrong subnet
- E. Management VLAN interface is shutdown on SW4

Answer: D

Explanation: In the network, VLAN 300 is called the Management VLAN. Based on the configurations shown below, SW1 has VLAN 300 configured with the IP address of 192.168.10.1/24, while on SW4 VLAN 300 has an IP address of 192.168.100.4/24, which is not in the same subnet.



SW4

```
switchport mode trunk
duplex auto
!
interface Ethernet2/2
shutdown
duplex auto
!
interface Ethernet2/3
shutdown
duplex auto
!
interface Vlan1
no ip address
!
interface Vlan300
ip address 192.168.100.4 255.255.255.0
!
!
```

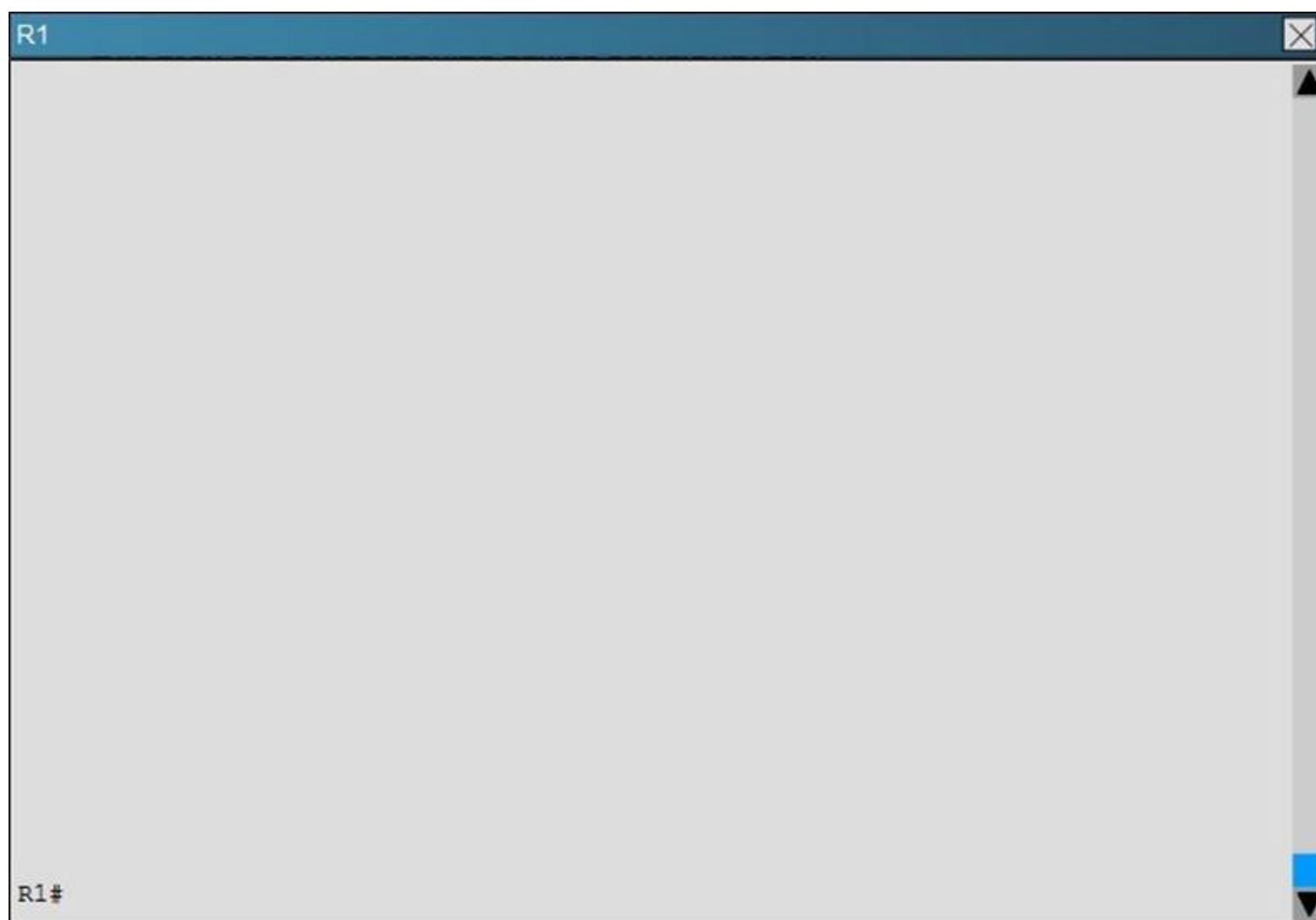
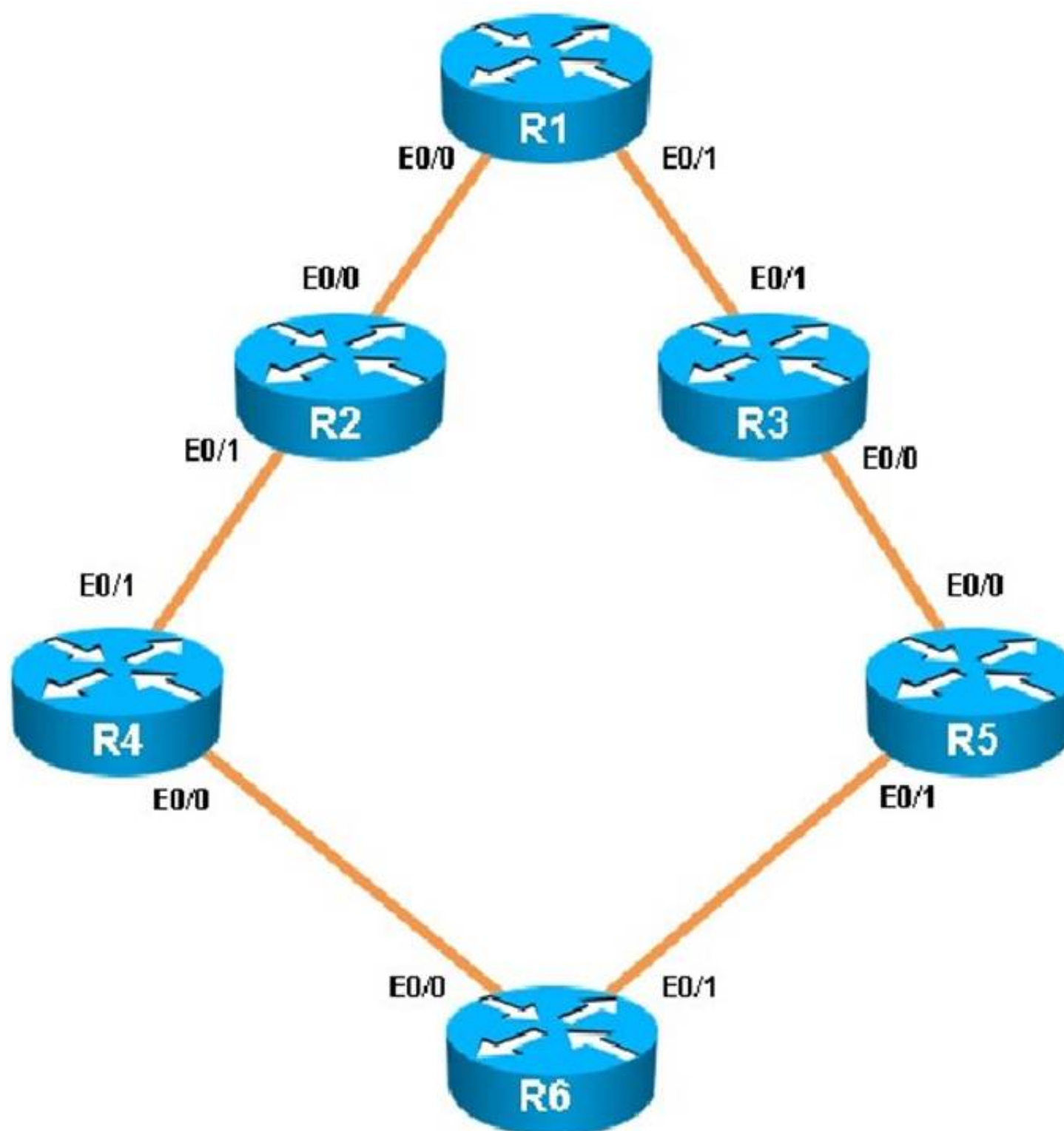
Topic 3, Troubleshooting EIGRP

NEW QUESTION 73

Scenario:

You have been brought in to troubleshoot an EIGRP network. You have resolved the initial issue between routers R2 and R4, but another issue remains. You are to locate the problem and suggest solution to resolve the issue.

The customer has disabled access to the show running-config command.



R2

R2#

R3

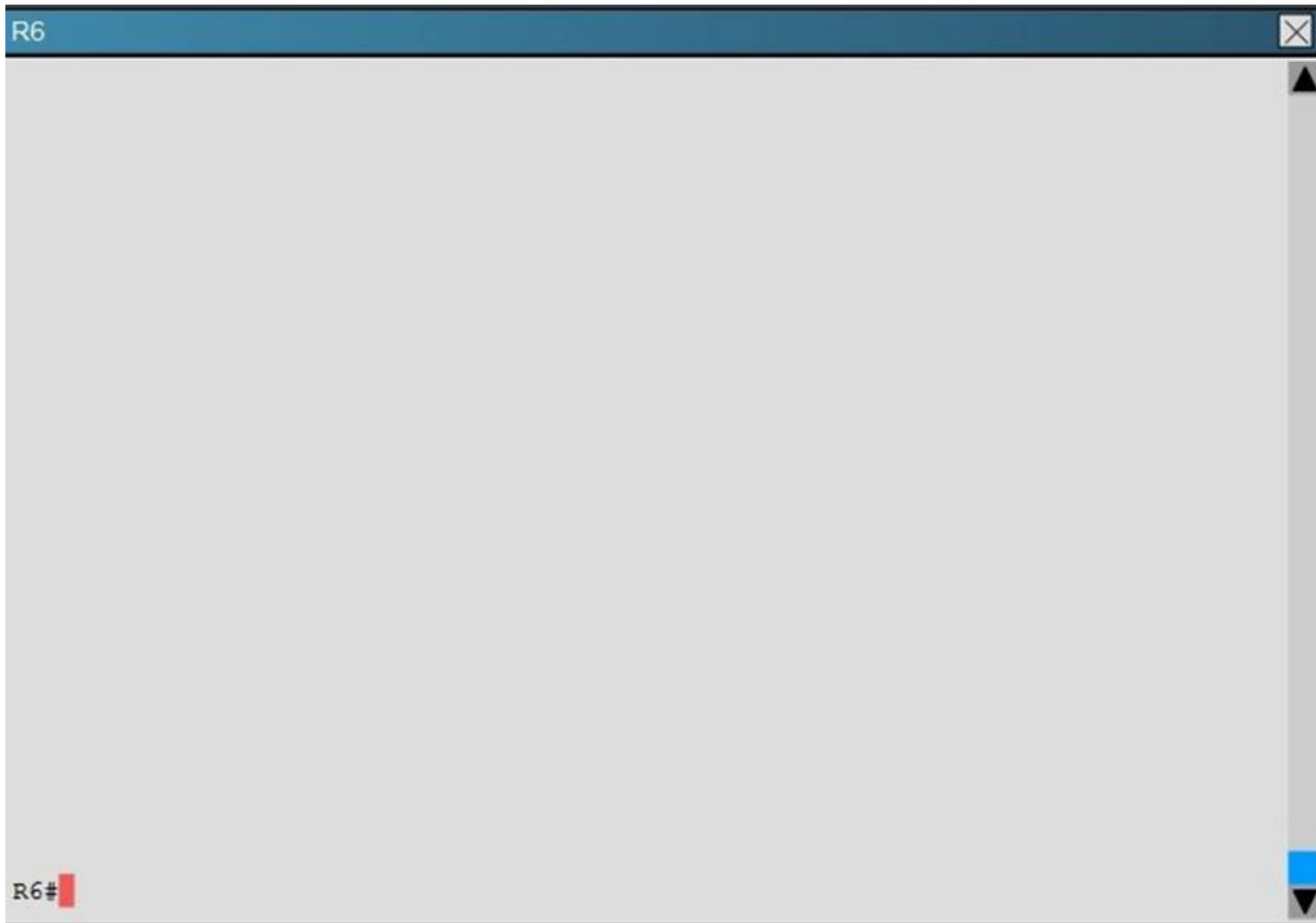
R3#

R4

R4#

R5

R5#

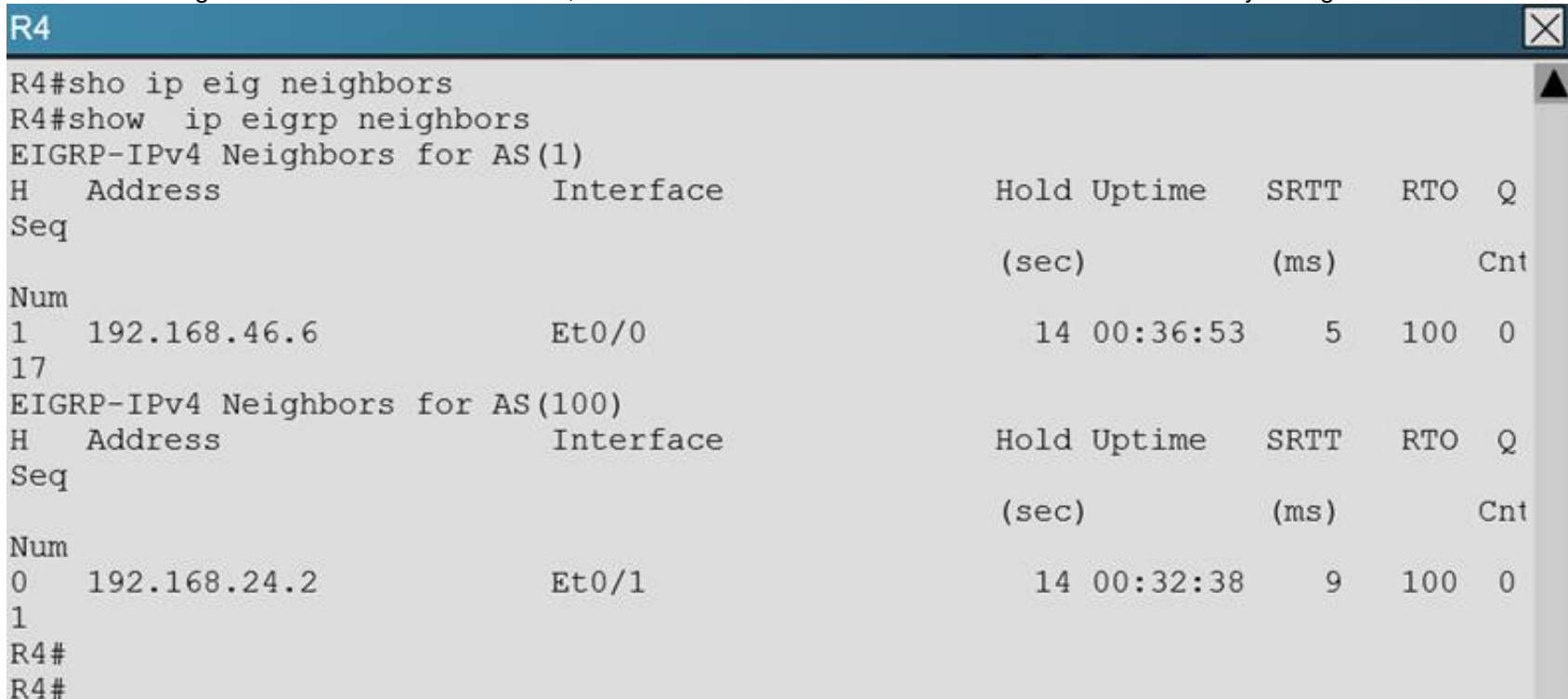


The network segment between R2 and R4 has become disconnected from the remainder of the network. How should this issue be resolved?

- A. Change the autonomous system number in the remainder of the network to be consistent with R2 and R4.
- B. Move the 192.168.24.0 network to the EIGRP 1 routing process in R2 and R4.
- C. Enable the R2 and R4 router interfaces connected to the 192.168.24.0 network.
- D. Remove the distribute-list command from the EIGRP 200 routing process in R2.
- E. Remove the distribute-list command from the EIGRP 100 routing process in R2.

Answer: B

Explanation: When issuing the “show ip eigrp neighbors” command (which is about the only command that it lets you do in this question) you will see that all other routers are configured for EIGRP AS 1. However, the 192.168.24.0 network between R2 and R4 is incorrectly configured for EIGRP AS 100:

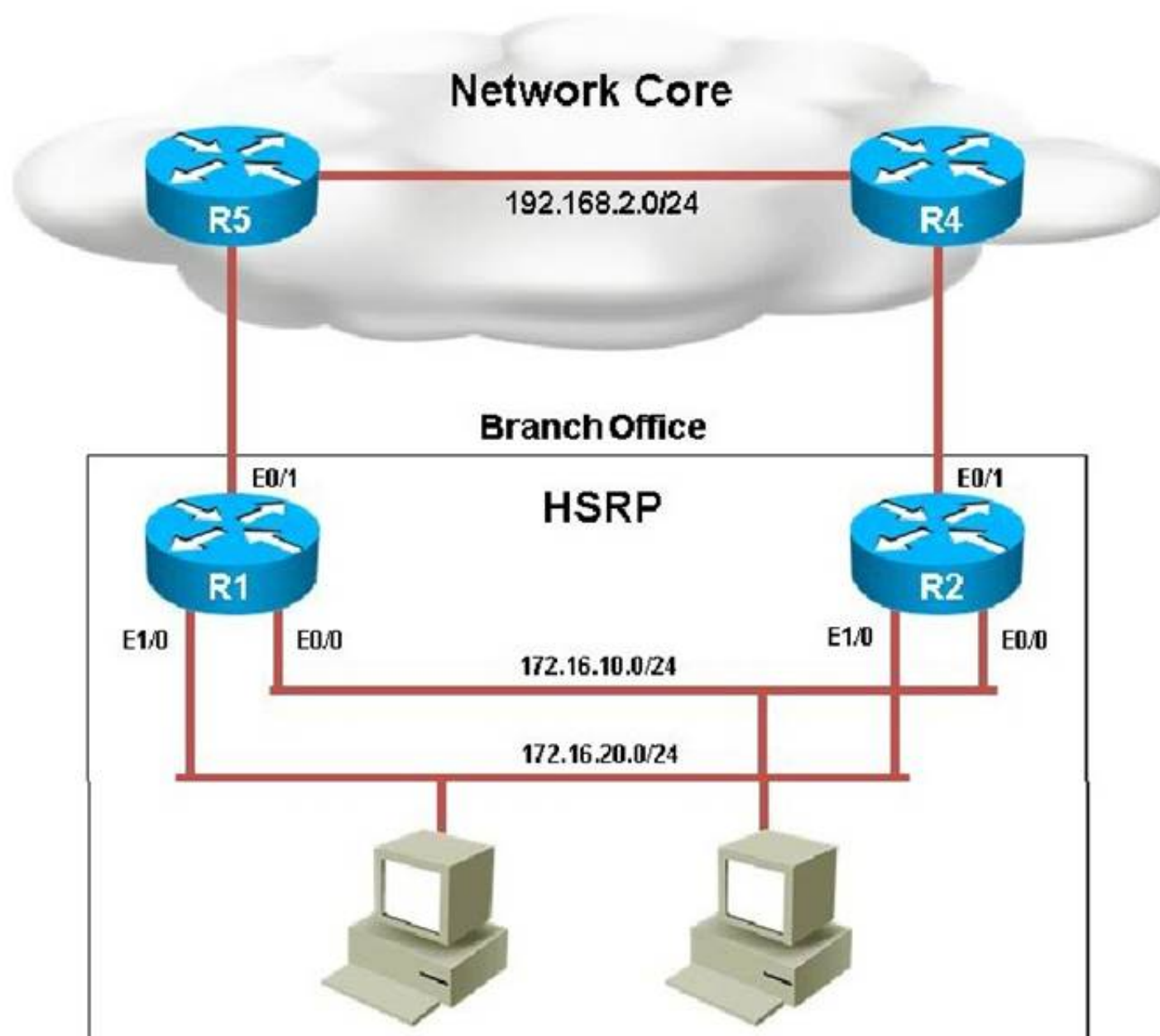



```
R2
R2#show ip eigrp neighbors
EIGRP-IPv4 Neighbors for AS(1)
H   Address                Interface      Hold Uptime    SRTT    RTO   Q
Seq                                (sec)          (ms)          Cnt
Num
0   192.168.12.1            Et0/0         10 00:28:28    5     100   0
27
EIGRP-IPv4 Neighbors for AS(100)
H   Address                Interface      Hold Uptime    SRTT    RTO   Q
Seq                                (sec)          (ms)          Cnt
Num
0   192.168.24.4            Et0/1         11 00:20:36    16     100   0
1
R2#
```

NEW QUESTION 78

Scenario:

You have been asked by your customer to help resolve issues in their routed network. Their network engineer has deployed HSRP. On closer inspection HSRP doesn't appear to be operating properly and it appears there are other network problems as well. You are to provide solutions to all the network problems.

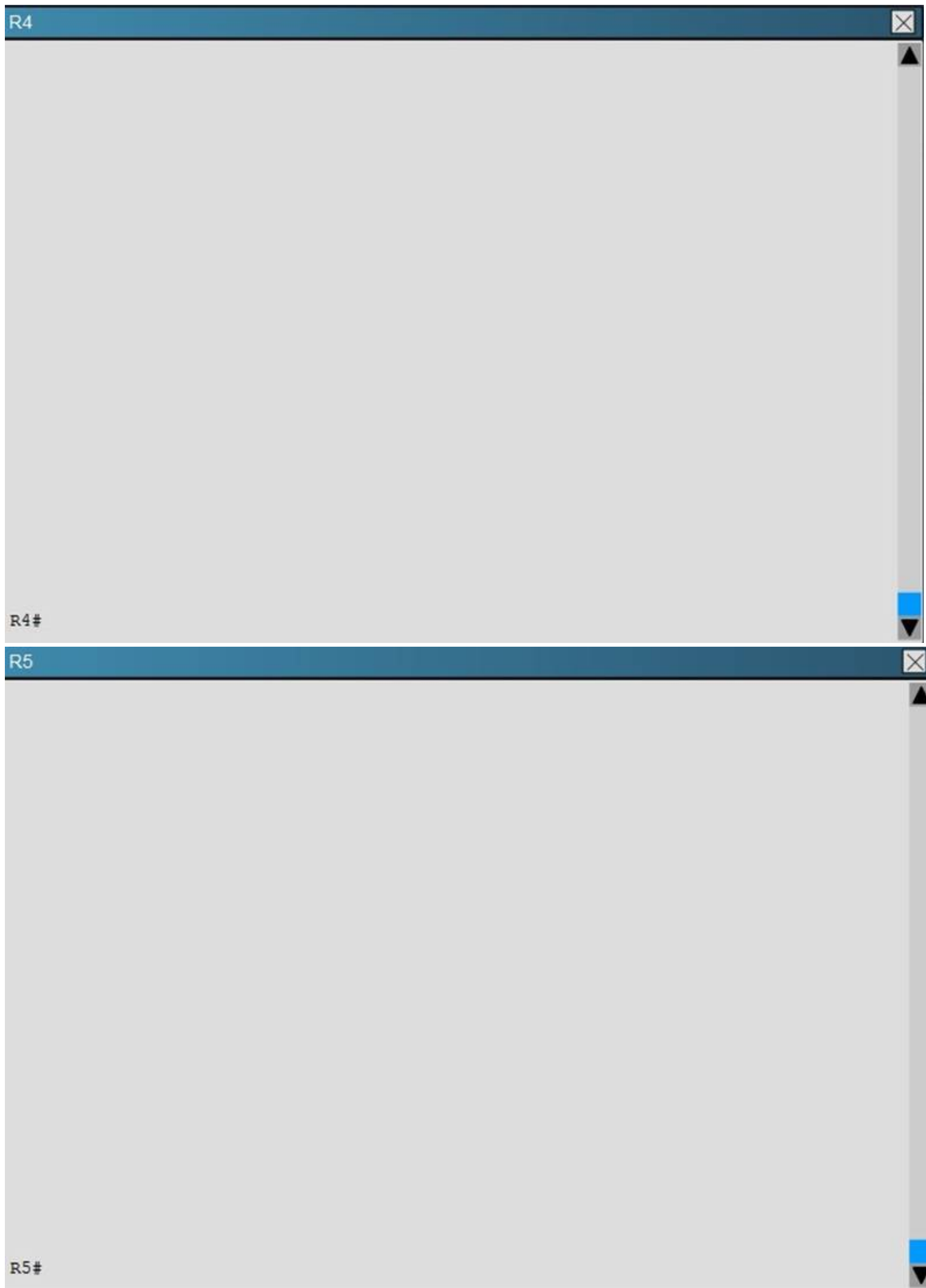


R1

R1#

R2

R2#



The following debug messages are noticed for HSRP group 2. But still neither R1 nor R2 has identified one of them as standby router. Identify the reason causing the issue.

Note: only show commands can be used to troubleshoot the ticket. R1#

```
'Mar 26 11:17:39.234: HSRP: Et1/0 Grp 2 Hello out 172.16.20.2 Active pri 100 vIP 172.16.20.254
```

```
'Mar 26 11:17:40.034: HSRP: EtO/0 Grp 1 Hello out 172.16.10.2 Active prj 130 vIP 172.16.10.254
```

R1#

```
'Mar 26 11:17:40.364: HSRP: EtO/0 Grp 1 Hello in 172.16.10.1 Standby pri 100 vIP 172.16.10.254
```

R1#

```
'Mar 26 11:17:41.969: HSRP: Et1/0 Grp 2 Hello out 172.16.20.2 Active pri 100 vIP 172.16.20.254
```

```
'Mar 26 11:17:42.719: HSRP: EtO/0 Grp 1 Hello out 172.16.10.2 Active prj 130 vIP
172.16.10.254
'Mar 26 11:17:42.918: HSRP: EtO/0 Grp 1 Hello in 172.16.10.1 Standby pri 100 vIP
172.16.10.254
R1#
'Mar 26 11:17:44.869: HSRP: Et1/0 Grp 2 Hello out 172.16.20.2 Active pri 100 vIP
172.16.20.254
'Mar 26 11:17:45.485: HSRP: EtO/0 Grp 1 Hello out 172.16.10.2 Active prj 130 vIP
172.16.10.254
'Mar 26 11:17:45.718: HSRP: EtO/0 Grp 1 Hello in 172.16.10.1 Standby pri 100 vIP
172.16.10.254
R1#
'Mar 26 11:17:47.439: HSRP: Et1/0 Grp 2 Hello out 172.16.20.2 Active pri 100 vIP
172.16.20.254
'Mar 26 11:17:48.252: HSRP: EtO/0 Grp 1 Hello in 172.16.10.1 Standby pri 100 vIP
172.16.10.254
'Mar 26 11:17:48.322: HSRP: EtO/0 Grp 1 Hello out 172.16.10.2 Active prj 130 vIP
172.16.10.254
R1#
'Mar 26 11:17:50.389: HSRP: Et1/0 Grp 2 Hello out 172.16.20.2 Active pri 100 vIP
172.16.20.254
'Mar 26 11:17:50.735: HSRP: EtO/0 Grp 1 Hello in 172.16.10.1 Standby pri 100 vIP
172.16.10.254
'Mar 26 11:17:50.921: HSRP: EtO/0 Grp 1 Hello out 172.16.10.2 Active prj 130 vIP
172.16.10.254
R1#
'Mar 26 11:17:53.089: HSRP: Et1/0 Grp2 Hello out 172.16.20.2 Active pri 100 vIP
172.16.20.254
'Mar 26 11:17:53.338: HSRP: EtO/0 Grp 1 Hello out 172.16.10.2 Active pri130vIP
172.16.10.254
'Mar 26 11:17:53.633: HSRP: EtO/0 Grp 1 Hello in 172.16.10.1 Standby pri 100 vIP
172.16.10.254
```

- A. HSRP group priority misconfiguration
- B. There is an HSRP authentication misconfiguration
- C. There is an HSRP group number mismatch
- D. This is not an HSRP issue: this is DHCP issue.
- E. The ACL applied to interface is blocking HSRP hello packet exchange

Answer: E

Explanation: On R1 we see that access list 102 has been applied to the Ethernet 1/0 interface:

R1

```
interface Ethernet1/0
description connection to 172.16.20.0/24 network
ip address 172.16.20.2 255.255.255.0
ip access-group 102 in
standby version 2
standby 2 ip 172.16.20.254
standby 2 authentication cisco123
!
```

R1

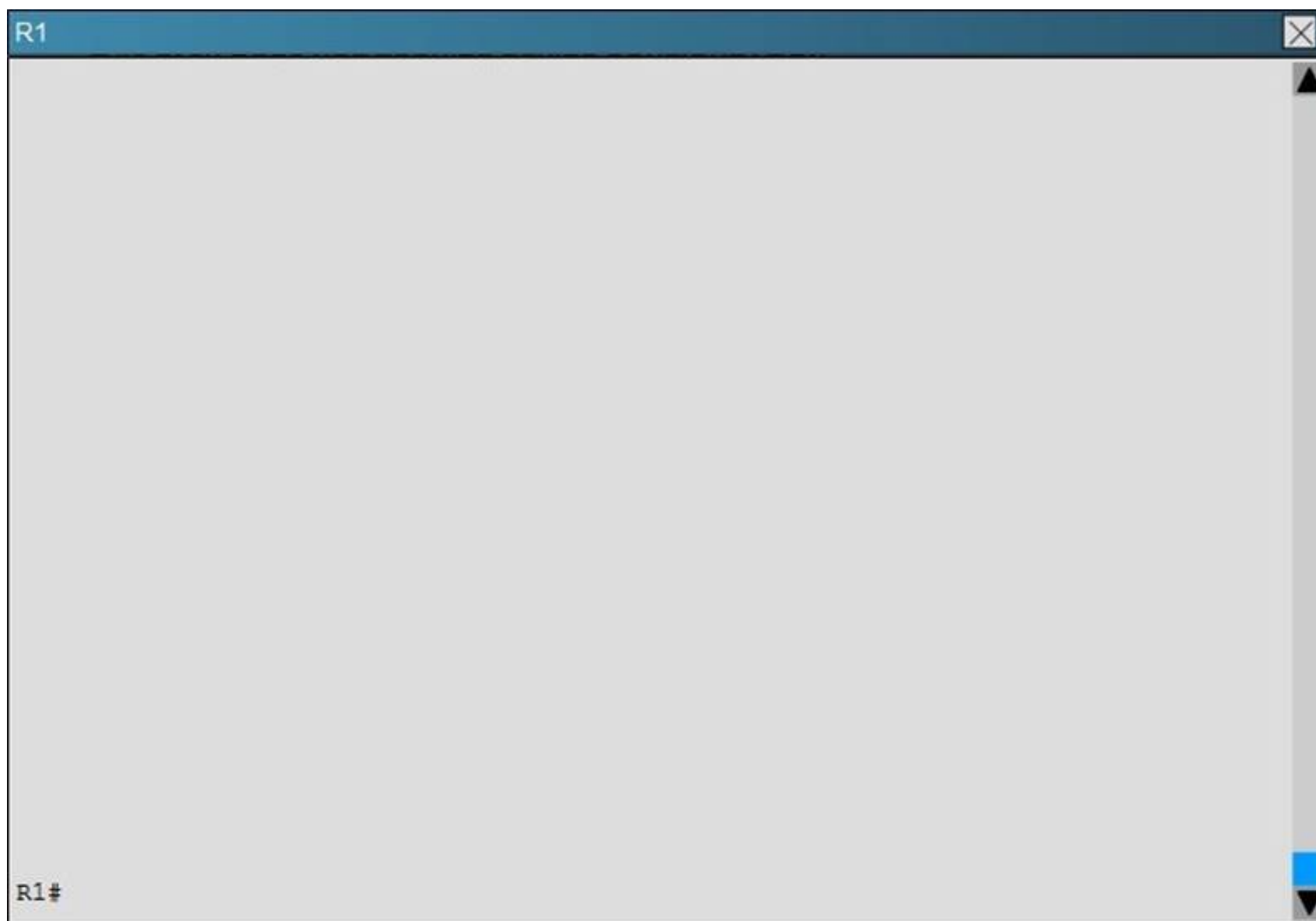
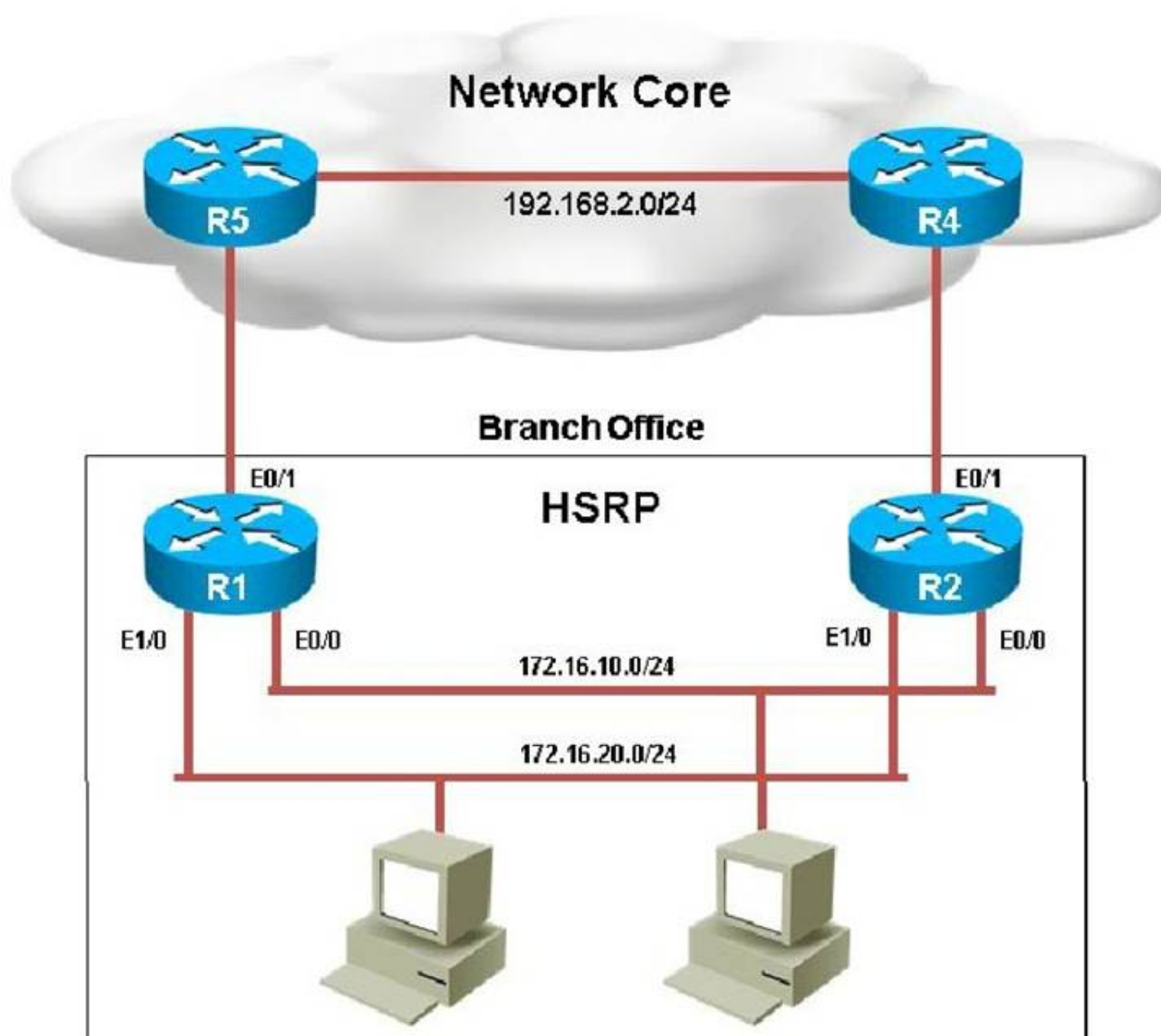
```
no ip http server
!
access-list 102 deny ip any host 224.0.0.102
access-list 102 permit ip any any
!
!
```

This access list is blocking all traffic to the 224.0.0.102 IP address, which is the multicast address used by HSRP.

NEW QUESTION 82

Scenario:

You have been asked by your customer to help resolve issues in their routed network. Their network engineer has deployed HSRP. On closer inspection HSRP doesn't appear to be operating properly and it appears there are other network problems as well. You are to provide solutions to all the network problems.

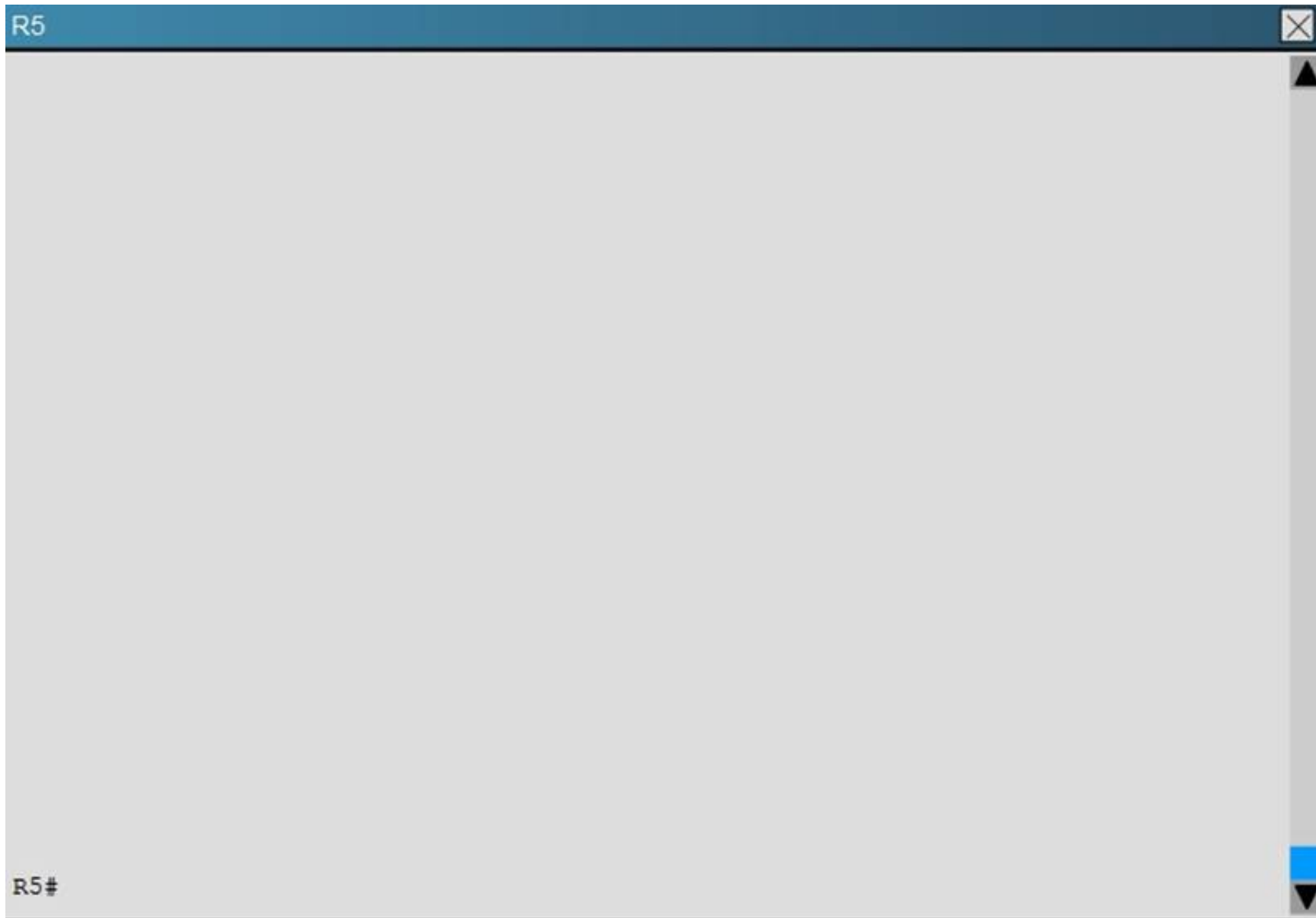


R2

R2#

R4

R4#



Examine the configuration on R4. The routing table shows no entries for 172.16.10.0/24 and 172.16.20.0/24. Identify which of the following is the issue preventing route entries being installed on R4 routing table?

- A. HSRP issue between R4 and R2
- B. This is an OSPF issue between R4 and R2
- C. This is a DHCP issue between R4 and R2
- D. The distribute-list configured on R4 is blocking route entries
- E. The ACL configured on R4 is blocking inbound traffic on the interface connected to R2

Answer: D

Explanation: If we look at the configuration on R4 we see that there is a distribute list applied to OSPF, which blocks the 172.16.20.0/24 and 172.16.10.0/24 networks.

```

R4
!
router ospf 10
 network 0.0.0.0 255.255.255.255 area 0
 distribute-list 1 in
!
!
!
no ip http server
!
access-list 1 permit 172.18.30.0
access-list 1 deny 172.16.20.0
access-list 1 permit 172.18.20.0
access-list 1 permit 172.18.10.0
access-list 1 deny 172.16.10.0
access-list 1 permit any
!
!

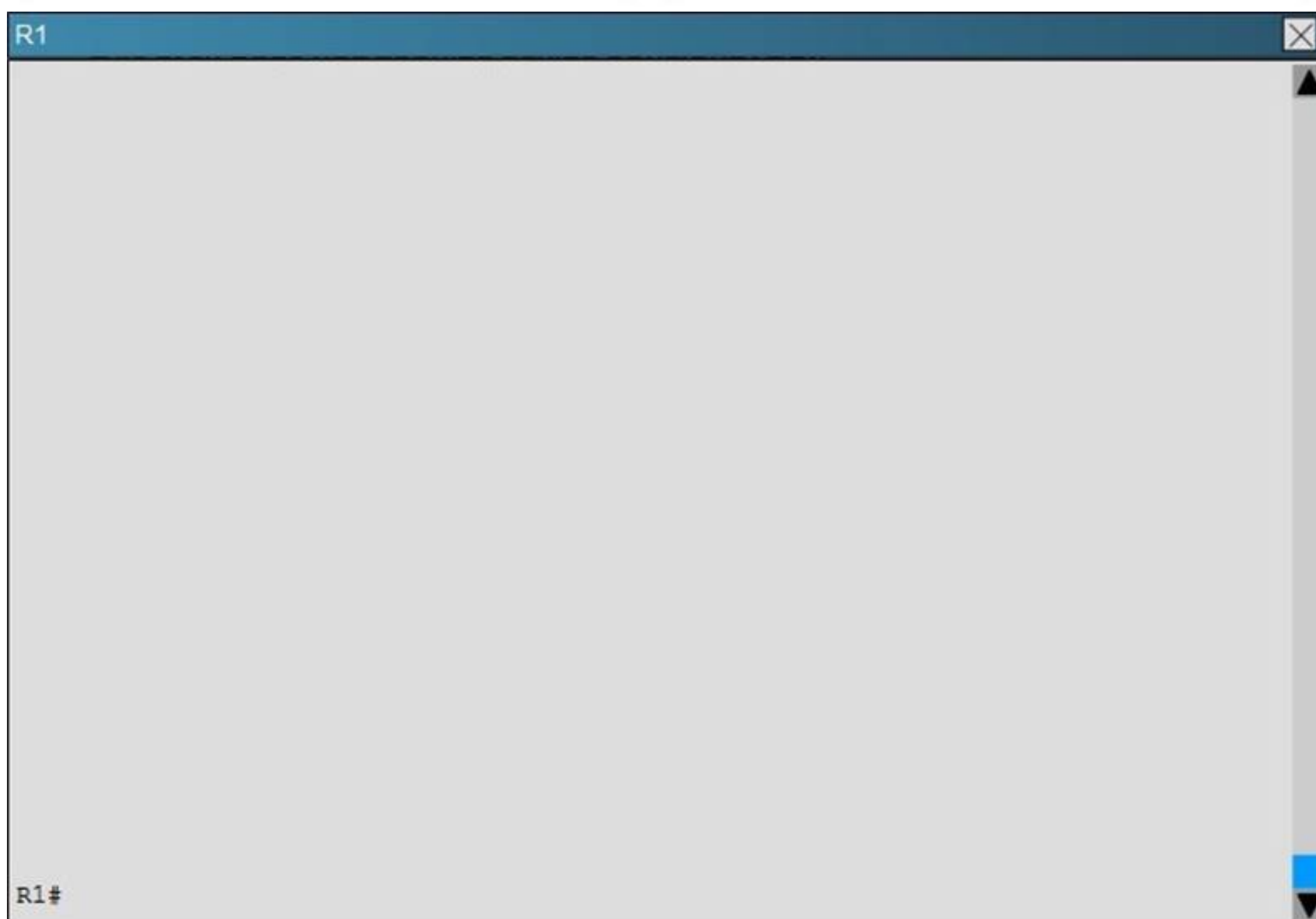
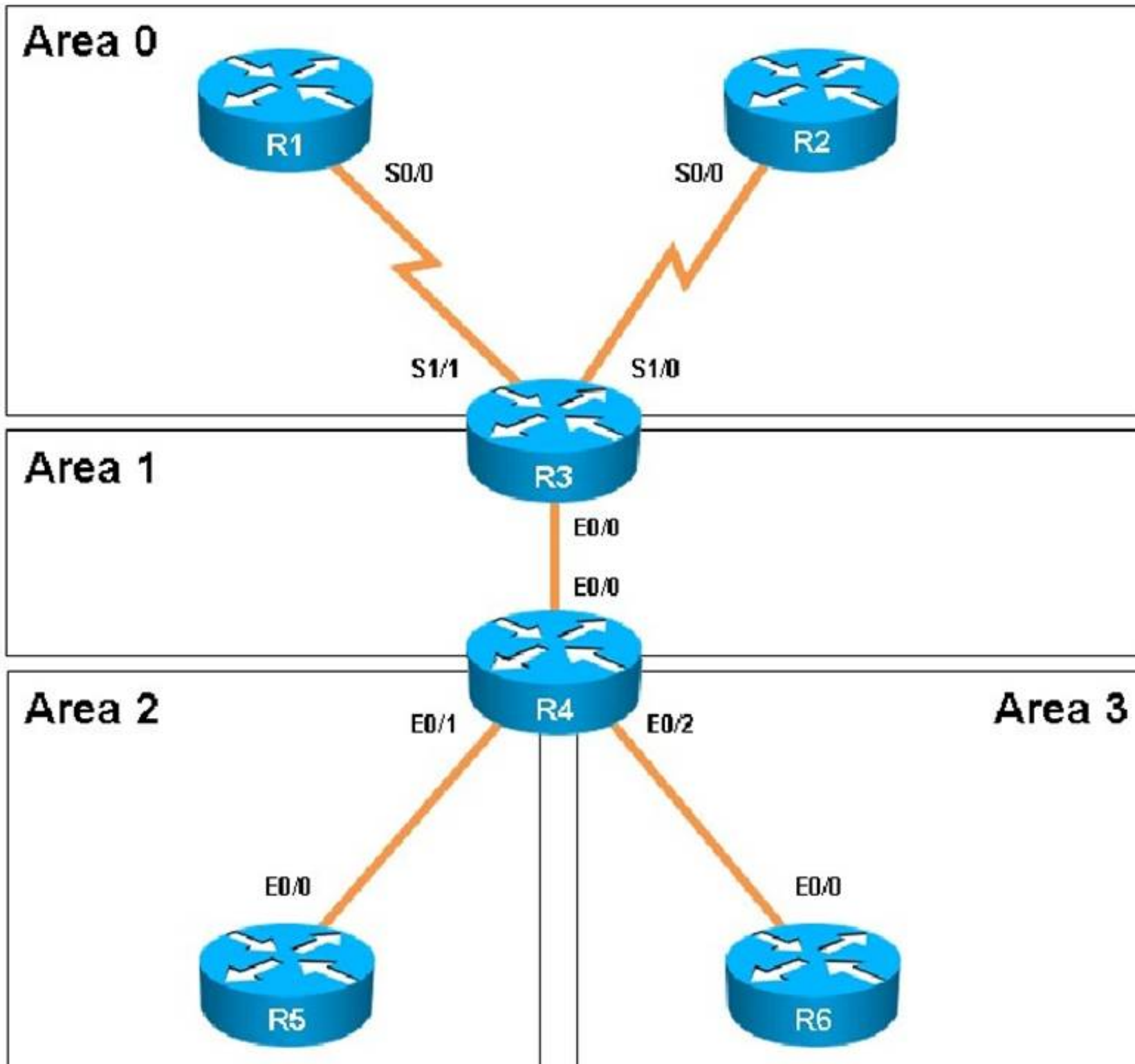
```

Topic 5, Troubleshooting OSPF

NEW QUESTION 87

Scenario:

A customer network engineer has edited their OSPF network configuration and now your customer is experiencing network issues. They have contacted you to resolve the issues and return the network to full functionality.



R2

R2#

R3

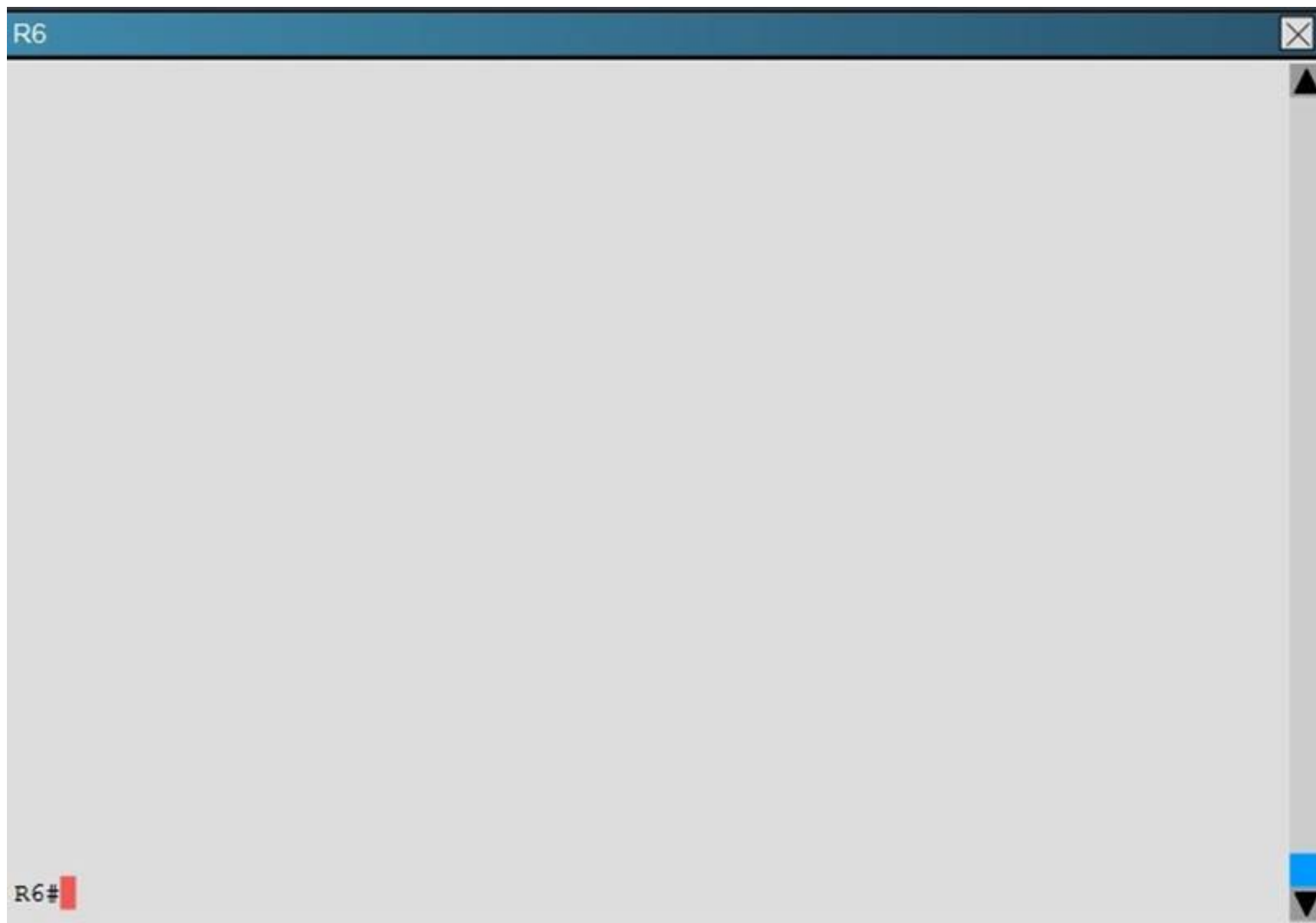
R3#

R4

R4#

R5

R5#

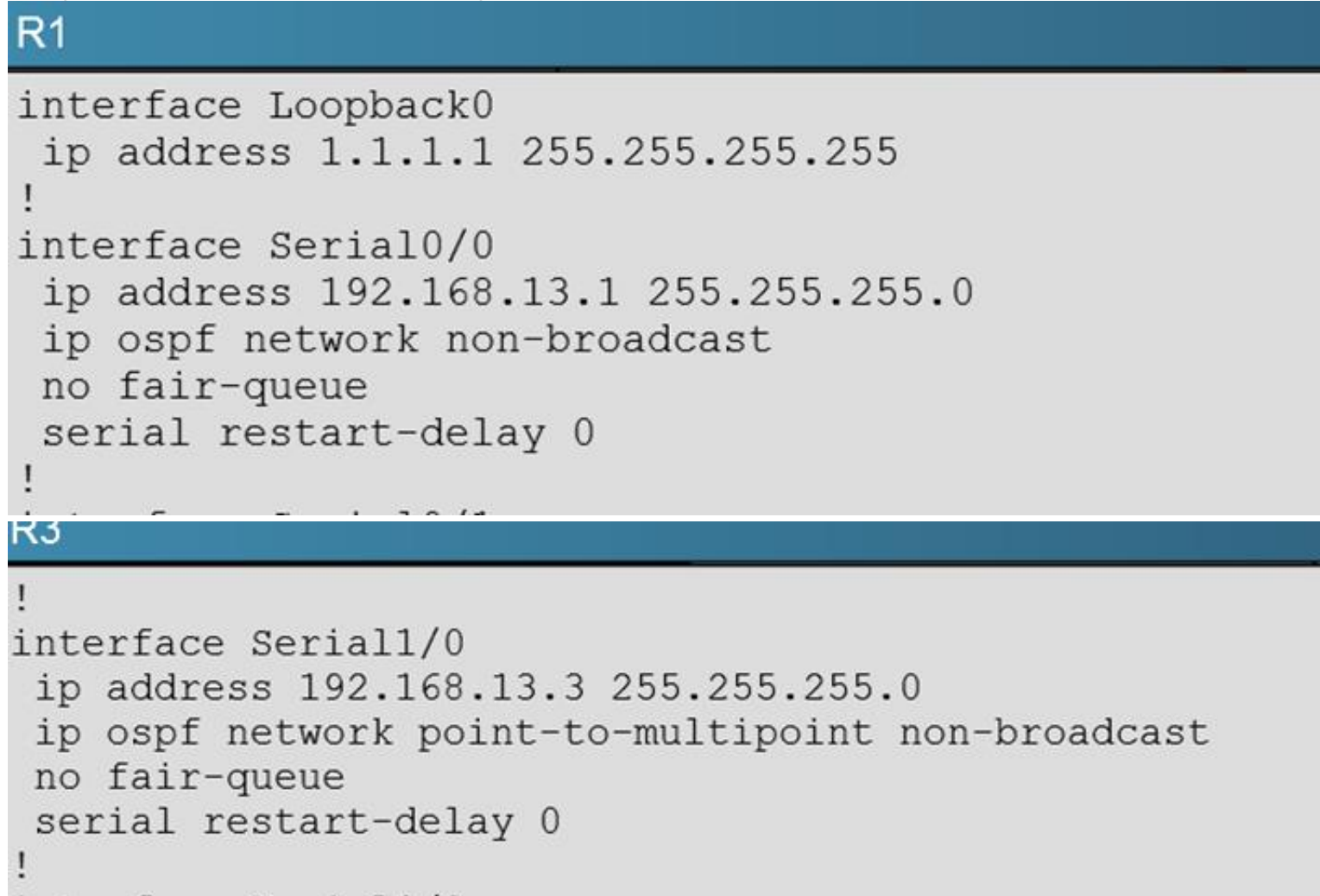


The OSPF neighbour relationship has been lost between R1 and R3. What is causing this problem?

- A. The serial interface in R1 should be taken out of the shutdown state.
- B. A neighbor statement needs to be configured in R1 and R3 pointing at each other.
- C. The R1 network type should be changed to point-to-multipoint non-broadcast.
- D. The hello, dead and wait timers on R1 need to be reconfigured to match the values on R3.

Answer: C

Explanation: In order for two OSPF routers to become neighbors, they must have matching network types across the links. In this case, we see that R1 has been configured as non-broadcast and R3 is using point non-broadcast.



This can be seen by issuing the “show running-config” command on each router, or the “show ip ospf interface” command:

```

R1
Serial0/0 is up, line protocol is up
  Internet Address 192.168.13.1/24, Area 0, Attached via Network Statement
  Process ID 100, Router ID 1.1.1.1, Network Type NON_BROADCAST, Cost: 1943
  Topology-MTID      Cost      Disabled      Shutdown      Topology Name
        0             1943         no           no           Base
  Transmit Delay is 1 sec, State DR, Priority 1
  Designated Router (ID) 1.1.1.1, Interface address 192.168.13.1
  Backup Designated router (ID) 3.3.3.3, Interface address 192.168.13.3
  Timer intervals configured, Hello 30, Dead 120, Wait 120, Retransmit 5
    oob-resync timeout 120
    Hello due in 00:00:01
  Supports Link-local Signaling (LLS)
  Cisco NSF helper support enabled
  IETF NSF helper support enabled
  Index 1/1, flood queue length 0
  Next 0x0(0)/0x0(0)
  Last flood scan length is 1, maximum is 9
  Last flood scan time is 0 msec, maximum is 0 msec
  Neighbor Count is 1, Adjacent neighbor count is 1
    Adjacent with neighbor 3.3.3.3 (Backup Designated Router)
  Suppress hello for 0 neighbor(s)
R1#

R3
Serial1/0 is up, line protocol is up
  Internet Address 192.168.13.3/24, Area 0, Attached via Network Statement
  Process ID 100, Router ID 3.3.3.3, Network Type POINT_TO_MULTIPOINT, Cost: 64
  Topology-MTID      Cost      Disabled      Shutdown      Topology Name
        0             64         no           no           Base
  Transmit Delay is 1 sec, State POINT_TO_MULTIPOINT
  Timer intervals configured, Hello 30, Dead 120, Wait 120, Retransmit 5
    oob-resync timeout 120
    Hello due in 00:00:19
  Supports Link-local Signaling (LLS)
  Cisco NSF helper support enabled
  IETF NSF helper support enabled
  Index 2/3, flood queue length 0
  Next 0x0(0)/0x0(0)
  Last flood scan length is 1, maximum is 7
  Last flood scan time is 0 msec, maximum is 0 msec
  Neighbor Count is 1, Adjacent neighbor count is 1
    Adjacent with neighbor 1.1.1.1
  Suppress hello for 0 neighbor(s)
OSPF_VL0 is down, line protocol is down
  Internet Address 0.0.0.0/0, Area 0, Attached via Not Attached
  Process ID 100, Router ID 3.3.3.3, Network Type VIRTUAL_LINK, Cost: 65535
  Topology-MTID      Cost      Disabled      Shutdown      Topology Name
        0             65535         no           no           Base
  
```

Topic 6, Ticket 1: Switch Port Trunk

Topology Overview (Actual Troubleshooting lab design is for below network design)

Client Should have IP 10.2.1.3

EIGRP 100 is running between switch DSW1 & DSW2

OSPF (Process ID 1) is running between R1, R2, R3, R4

Network of OSPF is redistributed in EIGRP

BGP 65001 is configured on R1 with Webserver cloud AS 65002

HSRP is running between DSW1 & DSW2 Switches

The company has created the test bed shown in the layer 2 and layer 3 topology exhibits.

This network consists of four routers, two layer 3 switches and two layer 2 switches.

In the IPv4 layer 3 topology, R1, R2, R3, and R4 are running OSPF with an OSPF process number 1. DSW1, DSW2 and R4 are running EIGRP with an AS of 10. Redistribution is enabled where necessary.

R1 is running a BGP AS with a number of 65001. This AS has an eBGP connection to AS 65002 in the ISP's network. Because the company's address space is in the private range.

R1 is also providing NAT translations between the inside (10.1.0.0/16 & 10.2.0.0/16) networks and outside (209.65.0.0/24) network.

ASW1 and ASW2 are layer 2 switches.

NTP is enabled on all devices with 209.65.200.226 serving as the master clock source.

The client workstations receive their IP address and default gateway via R4's DHCP server.

The default gateway address of 10.2.1.254 is the IP address of HSRP group 10 which is running on DSW1 and DSW2.

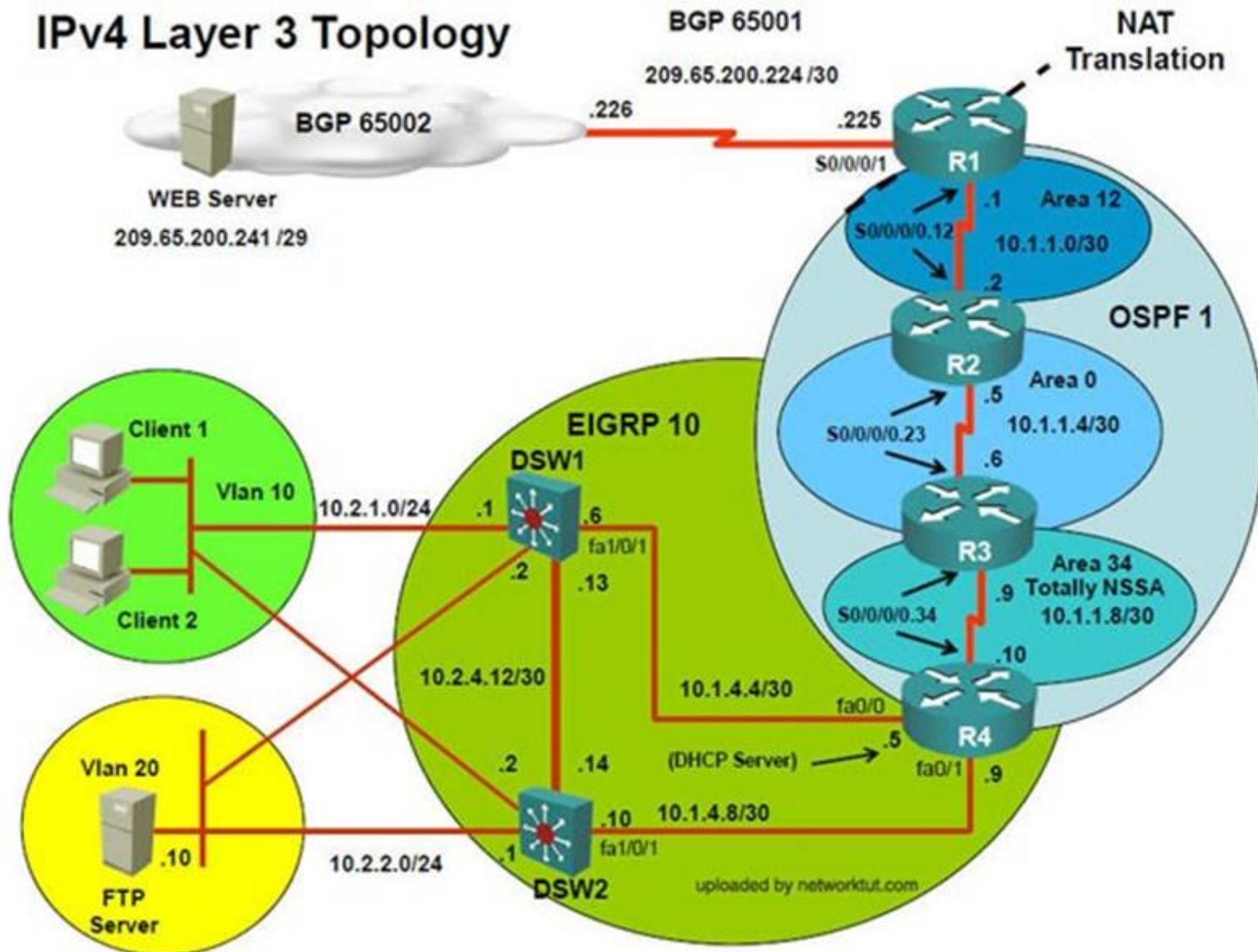
In the IPv6 layer 3 topology R1, R2, and R3 are running OSPFv3 with an OSPF process number 6. DSW1, DSW2 and R4 are running RIPng process name RIP_ZONE.

The two IPv6 routing domains, OSPF 6 and RIPng are connected via GRE tunnel running over the underlying IPv4 OSPF domain. Redistribution is enabled where necessary.

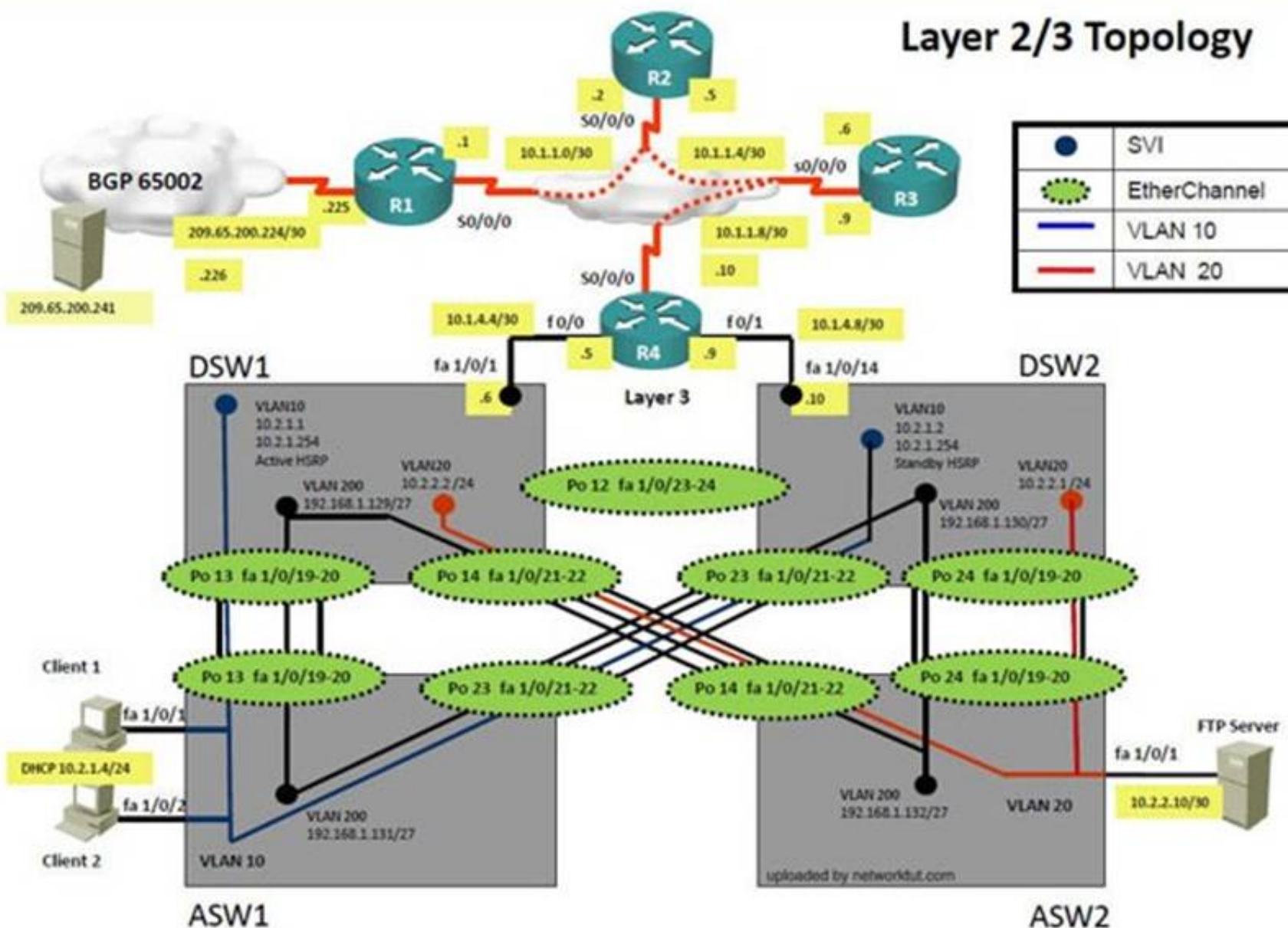
Recently the implementation group has been using the test bed to do a 'proof-of-concept' on several implementations. This involved changing the configuration on one or more of the devices. You will be presented with a series of trouble tickets related to issues introduced during these configurations.

Note: Although trouble tickets have many similar fault indications, each ticket has its own issue and solution.
Each ticket has 3 sub questions that need to be answered & topology remains same. Question-1 Fault is found on which device,
Question-2 Fault condition is related to,
Question-3 What exact problem is seen & what needs to be done for solution

IPv4 Layer 3 Topology



Layer 2/3 Topology



Client is unable to ping IP 209.65.200.241

Solution

Steps need to follow as below:-

When we check on client 1 & Client 2 desktop we are not receiving DHCP address from R4 Ipconfig ----- Client will be getting 169.X.X.X

On ASW1 port Fa1/0/1 & Fa1/0/2 access port VLAN 10 was assigned which is using IP address 10.2.1.0/24

Sh run ----- & check for running config of int fa1/0/1 & fa1/0/2


```
=====
interface FastEthernet1/0/1switchport mode accessswitchport access vlan 10interface FastEthernet1/0/2switchport mode accessswitchport access vlan 10
=====
```

We need to check on ASW 1 trunk port the trunk Po13 & Po23 were receiving VLAN 20 & 200 but not VLAN 10 so that switch could not get DHCP IP address and was failing to reach IP address of Internet

Port	Mode	Encapsulation	Status	Native vlan
Po13	on	802.1q	trunking	1
Po23	auto	802.1q	trunking	1

Port	Vlans allowed on trunk
Po13	20,200
Po23	20,200

Port	Vlans allowed and active in management domain
Po13	200
Po23	200

Port	Vlans in spanning tree forwarding state and not pruned
Po13	200
Po23	none

Change required: On ASW1 below change is required for switch-to-switch connectivity..

int range portchannel13,portchannel23 switchport trunk allowed vlan none switchport trunk allowed vlan 10,200

NEW QUESTION 91

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing scheme, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address.

Use the supported commands to isolated the cause of this fault and answer the following questions. What is the solution to the fault condition?

- A. In Configuration mode, using the interface range Fastethernet 1/0/1 – 2, then switchport mode access vlan 10 command.
- B. In Configuration mode, using the interface range Fastethernet 1/0/1 – 2, then switchport access mode vlan 10 command.
- C. In Configuration mode, using the interface range Fastethernet 1/0/1 – 2, then switchport vlan 10 access command.
- D. In Configuration mode, using the interface range Fastethernet 1/0/1 – 2, then switchport access vlan 10 command.

Answer: D

Explanation: The problem here is that VLAN 10 is not configured on the proper interfaces on switch ASW1.

NEW QUESTION 95

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing scheme, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address.

Use the supported commands to isolated the cause of this fault and answer the following questions. What is the solution to the fault condition?

- A. Enable OSPF authentication on the s0/0/0 interface using the ip ospf authentication message-digest command
- B. Enable OSPF routing on the s0/0/0 interface using the network 10.1.1.0 0.0.0.255 area 12 command.
- C. Enable OSPF routing on the s0/0/0 interface using the network 209.65.200.0 0.0.0.255 area 12 command.
- D. Redistribute the BGP route into OSPF using the redistribute BGP 65001 subnet command.

Answer: A

Explanation: On R1, for IPV4 authentication of OSPF the command is missing and required to configure----- ip ospf authentication message-digest

Topic 9, Ticket 4 : BGP Neighbor

Topology Overview (Actual Troubleshooting lab design is for below network design)

Client Should have IP 10.2.1.3

EIGRP 100 is running between switch DSW1 & DSW2

OSPF (Process ID 1) is running between R1, R2, R3, R4

Network of OSPF is redistributed in EIGRP

BGP 65001 is configured on R1 with Webserver cloud AS 65002

HSRP is running between DSW1 & DSW2 Switches

The company has created the test bed shown in the layer 2 and layer 3 topology exhibits. This network consists of four routers, two layer 3 switches and two layer 2 switches.

In the IPv4 layer 3 topology, R1, R2, R3, and R4 are running OSPF with an OSPF process number 1. DSW1, DSW2 and R4 are running EIGRP with an AS of 10. Redistribution is enabled where necessary.

R1 is running a BGP AS with a number of 65001. This AS has an eBGP connection to AS 65002 in the ISP's network. Because the company's address space is in the private range.

R1 is also providing NAT translations between the inside (10.1.0.0/16 & 10.2.0.0/16) networks and outside (209.65.0.0/24) network.

ASW1 and ASW2 are layer 2 switches.

NTP is enabled on all devices with 209.65.200.226 serving as the master clock source.

The client workstations receive their IP address and default gateway via R4's DHCP server.

The default gateway address of 10.2.1.254 is the IP address of HSRP group 10 which is running on DSW1 and DSW2.

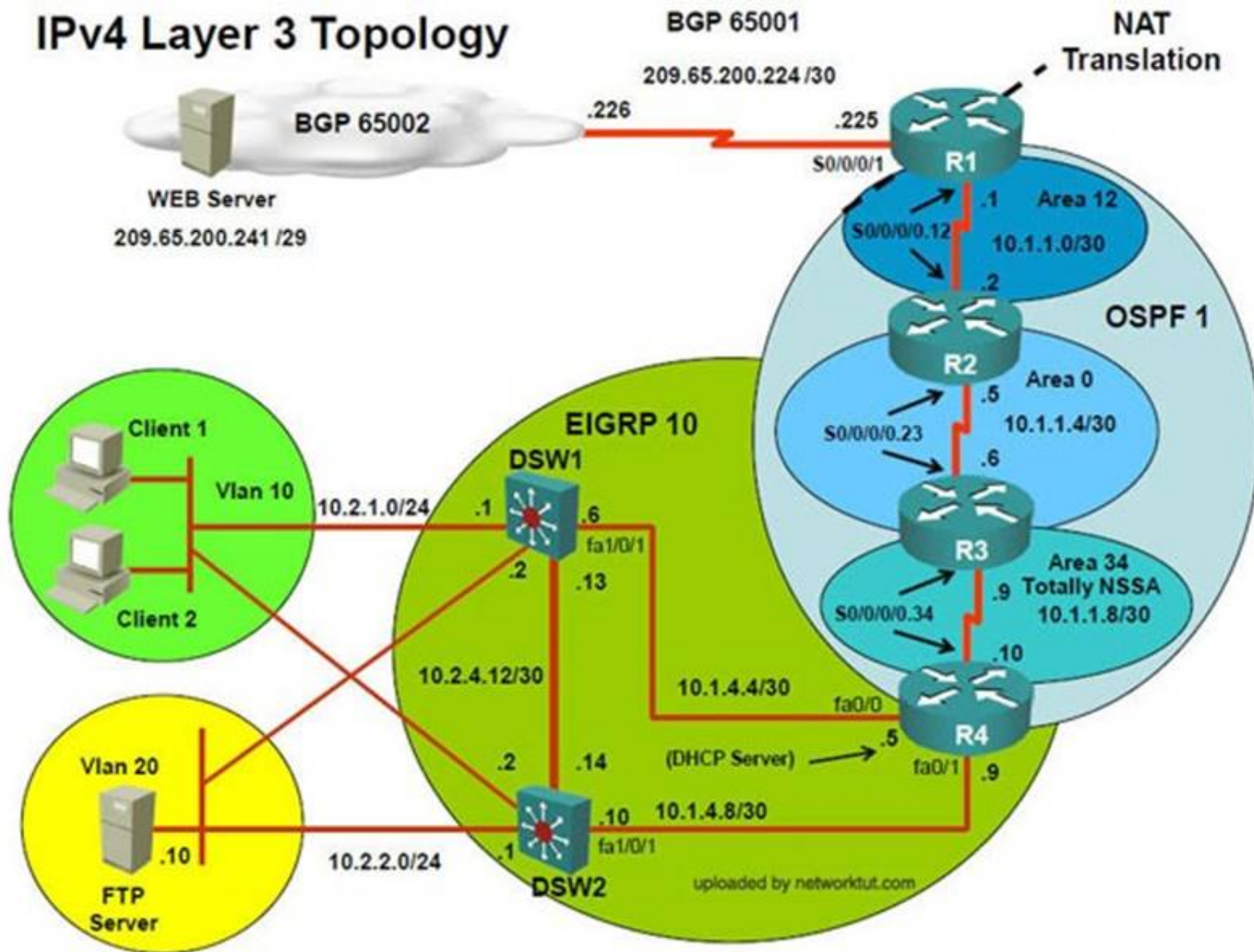
In the IPv6 layer 3 topology R1, R2, and R3 are running OSPFv3 with an OSPF process number 6. DSW1, DSW2 and R4 are running RIPng process name RIP_ZONE.

The two IPv6 routing domains, OSPF 6 and RIPng are connected via GRE tunnel running over the underlying IPv4 OSPF domain. Redistrution is enabled where necessary.

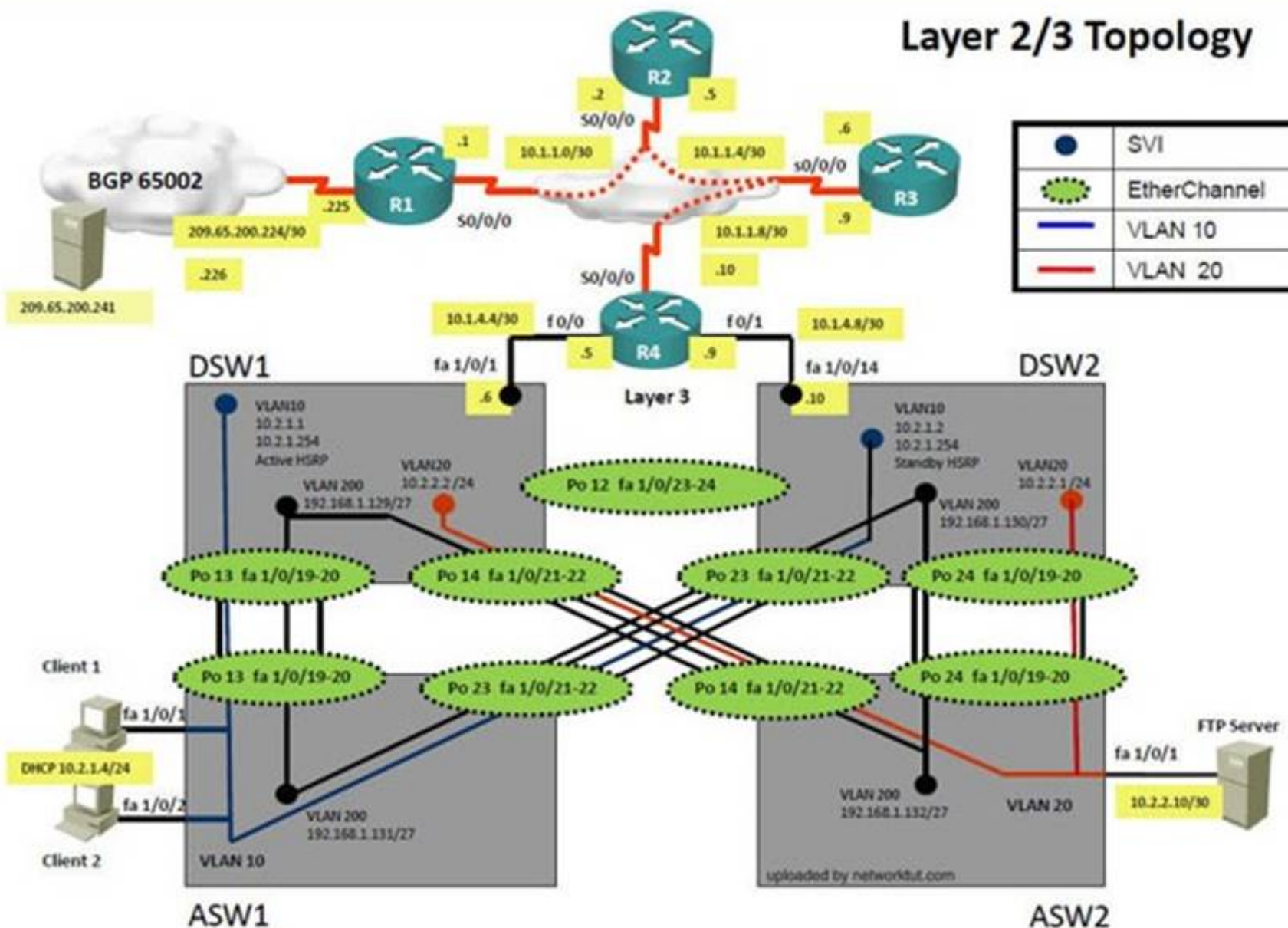
Recently the implementation group has been using the test bed to do a 'proof-of-concept' on several implementations. This involved changing the configuration

on one or more of the devices. You will be presented with a series of trouble tickets related to issues introduced during these configurations.
Note: Although trouble tickets have many similar fault indications, each ticket has its own issue and solution.
Each ticket has 3 sub questions that need to be answered & topology remains same. Question-1 Fault is found on which device,
Question-2 Fault condition is related to,
Question-3 What exact problem is seen & what needs to be done for solution

IPv4 Layer 3 Topology



Layer 2/3 Topology



Client is unable to ping IP 209.65.200.241

Solution

Steps need to follow as below:-

When we check on client 1 & Client 2 desktop we are not receiving DHCP address from R4 ipconfig ----- Client will be receiving IP address 10.2.1.3

IP 10.2.1.3 will be able to ping from R4 , R3, R2, R1

Look for BGP Neighbourship

Sh ip bgp summary ----- No O/P will be seen

Check for interface IP & ping IP 209.65.200.225 ---- Reply will be received from Webserver interface

Look for peering IP address via sh run on R1 interface serial 0/0/1

```
interface Serial0/0/1
description Link to ISP
ip address 209.65.200.225 255.255.255.252
ip nat outside
ip virtual-reassembly
ntp broadcast client
ntp broadcast key 1
```

```
router bgp 65001
no synchronization
bgp log-neighbor-changes
neighbor 209.56.200.226 remote-as 65002
no auto-summary
```

Since we are receiving icmp packets from Webserver interface on R1 so peering IP address under router BGP is configured wrong IP but with correct AS nos. Change required: On R1 under router BGP Change neighbor 209.56.200.226 remote-as 65002 statement to neighbor 209.65.200.226 remote-as 65002

NEW QUESTION 100

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing schemes, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address.

Use the supported commands to isolated the cause of this fault and answer the following questions. On which device is the fault condition located?

- A. R1
- B. R2
- C. R3
- D. R4
- E. DSW1
- F. DSW2
- G. ASW1

Answer: A

Explanation: The BGP neighbor statement is wrong on R1.

NEW QUESTION 101

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing schemes, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address.

Use the supported commands to isolated the cause of this fault and answer the following questions. On which device is the fault condition located?

- A. R1
- B. R2
- C. R3
- D. R4
- E. DSW1
- F. DSW2
- G. ASW1

Answer: A

Explanation: On R1 we need to add the client IP address for reachability to server to the access list that is used to specify which hosts get NATed.

NEW QUESTION 104

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing scheme, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address.

Use the supported commands to isolated the cause of this fault and answer the following questions. What is the solution to the fault condition?

- A. Under the interface Serial0/0/1 enter the ip access-group edge_security out command.
- B. Under the ip access-list extended edge_security configuration add the permit ip 209.65.200.224 0.0.0.3 any command.
- C. Under the ip access-list extended edge_security configuration delete the deny ip 10.0.0.0 0.255.255.255 any command.
- D. Under the interface Serial0/0/0 configuration delete the ip access-group edge_security in command and enter the ip access-group edge_security out command.

Answer: B

Explanation: On R1, we need to permit IP 209.65.200.222/30 under the access list.

Topic 12, Ticket 7 : Port Security

Topology Overview (Actual Troubleshooting lab design is for below network design)

Client Should have IP 10.2.1.3

EIGRP 100 is running between switch DSW1 & DSW2

OSPF (Process ID 1) is running between R1, R2, R3, R4

Network of OSPF is redistributed in EIGRP

BGP 65001 is configured on R1 with Webserver cloud AS 65002

HSRP is running between DSW1 & DSW2 Switches

The company has created the test bed shown in the layer 2 and layer 3 topology exhibits. This network consists of four routers, two layer 3 switches and two layer 2 switches.

In the IPv4 layer 3 topology, R1, R2, R3, and R4 are running OSPF with an OSPF process number 1. DSW1, DSW2 and R4 are running EIGRP with an AS of 10. Redistribution is enabled where necessary.

R1 is running a BGP AS with a number of 65001. This AS has an eBGP connection to AS 65002 in the ISP's network. Because the company's address space is in the private range.

R1 is also providing NAT translations between the inside (10.1.0.0/16 & 10.2.0.0/16) networks and outside (209.65.0.0/24) network.

ASW1 and ASW2 are layer 2 switches.

NTP is enabled on all devices with 209.65.200.226 serving as the master clock source.

The client workstations receive their IP address and default gateway via R4's DHCP server.

The default gateway address of 10.2.1.254 is the IP address of HSRP group 10 which is running on DSW1 and DSW2.

In the IPv6 layer 3 topology R1, R2, and R3 are running OSPFv3 with an OSPF process number 6. DSW1, DSW2 and R4 are running RIPng process name RIP_ZONE.

The two IPv6 routing domains, OSPF 6 and RIPng are connected via GRE tunnel running over the underlying IPv4 OSPF domain. Redistribution is enabled where necessary.

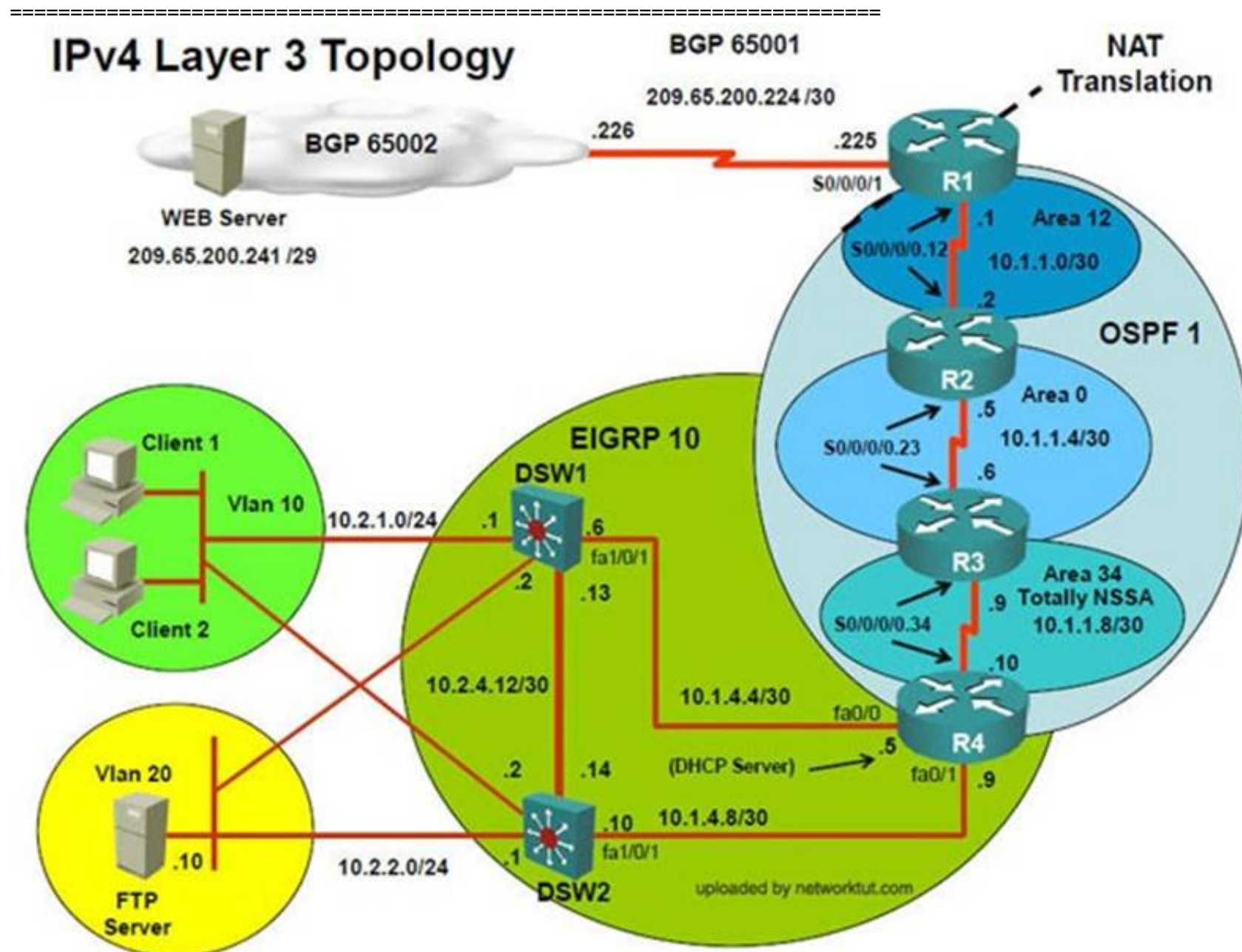
Recently the implementation group has been using the test bed to do a 'proof-of-concept' on several implementations. This involved changing the configuration on one or more of the devices. You will be presented with a series of trouble tickets related to issues introduced during these configurations.

Note: Although trouble tickets have many similar fault indications, each ticket has its own issue and solution.

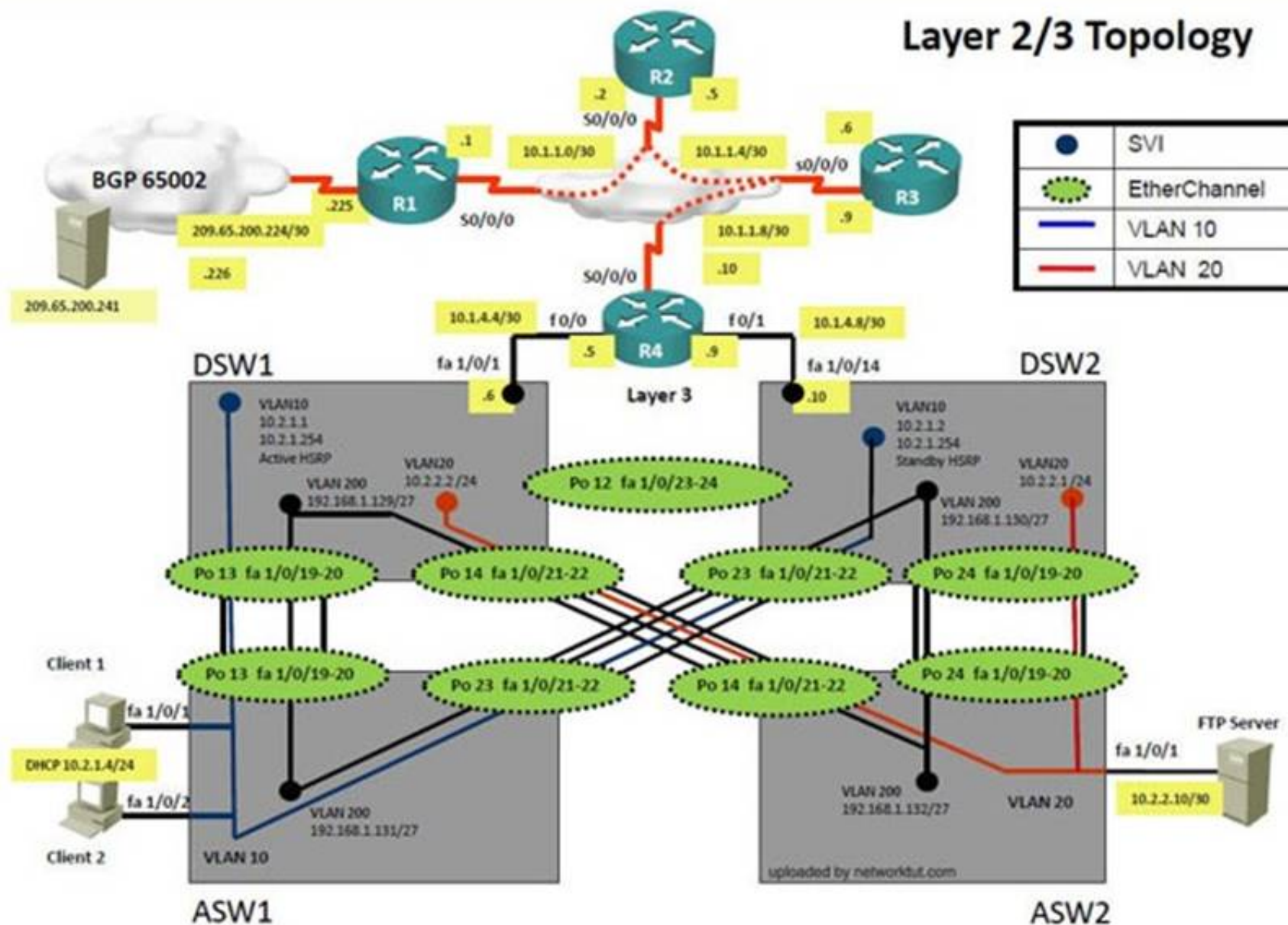
Each ticket has 3 sub questions that need to be answered & topology remains same. Question-1 Fault is found on which device,

Question-2 Fault condition is related to,

Question-3 What exact problem is seen & what needs to be done for solution



Layer 2/3 Topology



Client is unable to ping IP 209.65.200.241

Solution

Steps need to follow as below:-

When we check on client 1 & Client 2 desktop we are not receiving DHCP address from R4 ipconfig ----- Client will be getting 169.X.X.X

On ASW1 port Fa1/0/1 & Fa1/0/2 access port VLAN 10 was assigned but when we checked interface it was showing down

Sh run ----- check for running config of int fa1/0/1 & fa1/0/2 (switchport access Vlan 10 will be there with switch

port security command). Now check as below Sh int fa1/0/1 & sh int fa1/0/2

```
ASW1
FastEthernet1/0/1 is down, line protocol is down (err-disabled)
Hardware is Fast Ethernet, address is 001b.90ab.bc83 (bia 001b.90ab.bc83)
Description: link to Client 1
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
reliability 255/255, txload 1/255, rxload 1/255

ASW1
FastEthernet1/0/2 is down, line protocol is down (err-disabled)
Hardware is Fast Ethernet, address is 001b.90ab.bc84 (bia 001b.90ab.bc84)
Description: link to Clint 2
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
reliability 255/255, txload 1/255, rxload 1/255
```

As seen on interface the port is in err-disable mode so need to clear port.

Change required: On ASW1, we need to remove port-security under interface fa1/0/1 & fa1/0/2.

NEW QUESTION 105

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing scheme, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address.

Use the supported commands to isolated the cause of this fault and answer the following questions. What is the solution to the fault condition?

- A. In Configuration mode, using the interface range Fa 1/0/1 – 2, then no switchport port-security interface configuration command
- B. Then in exec mode clear errdisable interface fa 1/0/1 – 2 vlan 10 command
- C. In Configuration mode, using the interface range Fa 1/0/1 – 2, then no switchport port-security, followed by shutdown, no shutdown interface configuration commands.
- D. In Configuration mode, using the interface range Fa 1/0/1 – 2, then no switchport port-security interface configuration commands.
- E. In Configuration mode, using the interface range Fa 1/0/1 – 2, then no switchport port-security interface configuration command
- F. Then in exec mode clear errdisable interface fa 1/0/1, then clear errdisable interface fa 1/0/2 commands.

Answer: B

Explanation: On ASW1, we need to remove port-security under interface fa1/0/1 & fa1/0/2. Reference:
http://www.cisco.com/en/US/tech/ABC389/ABC621/technologies_tech_note09186a00806cd87b.shtml

NEW QUESTION 106

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing scheme, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address. Use the supported commands to isolated the cause of this fault and answer the following questions. The fault condition is related to which technology?

- A. NTP
- B. Switch-to-Switch Connectivity
- C. Access Vlans
- D. Port Security
- E. VLAN ACL / Port ACL
- F. Switch Virtual Interface

Answer: D

Explanation: Port security is causing the connectivity issues. On ASW1, we need to remove port-security under interface fa1/0/1 & fa1/0/2.

Topic 13, Ticket 8 : Redistribution of EIGRP to OSPF

Topology Overview (Actual Troubleshooting lab design is for below network design)

Client Should have IP 10.2.1.3

EIGRP 100 is running between switch DSW1 & DSW2

OSPF (Process ID 1) is running between R1, R2, R3, R4

Network of OSPF is redistributed in EIGRP

BGP 65001 is configured on R1 with Webserver cloud AS 65002

HSRP is running between DSW1 & DSW2 Switches

The company has created the test bed shown in the layer 2 and layer 3 topology exhibits. This network consists of four routers, two layer 3 switches and two layer 2 switches.

In the IPv4 layer 3 topology, R1, R2, R3, and R4 are running OSPF with an OSPF process number 1. DSW1, DSW2 and R4 are running EIGRP with an AS of 10. Redistribution is enabled where necessary.

R1 is running a BGP AS with a number of 65001. This AS has an eBGP connection to AS 65002 in the ISP's network. Because the company's address space is in the private range.

R1 is also providing NAT translations between the inside (10.1.0.0/16 & 10.2.0.0/16) networks and outside (209.65.0.0/24) network.

ASW1 and ASW2 are layer 2 switches.

NTP is enabled on all devices with 209.65.200.226 serving as the master clock source.

The client workstations receive their IP address and default gateway via R4's DHCP server.

The default gateway address of 10.2.1.254 is the IP address of HSRP group 10 which is running on DSW1 and DSW2.

In the IPv6 layer 3 topology R1, R2, and R3 are running OSPFv3 with an OSPF process number 6. DSW1, DSW2 and R4 are running RIPng process name RIP_ZONE.

The two IPv6 routing domains, OSPF 6 and RIPng are connected via GRE tunnel running over the underlying IPv4 OSPF domain. Redistrution is enabled where necessary.

Recently the implementation group has been using the test bed to do a 'proof-of-concept' on several implementations. This involved changing the configuration on one or more of the devices. You will be presented with a series of trouble tickets related to issues introduced during these configurations.

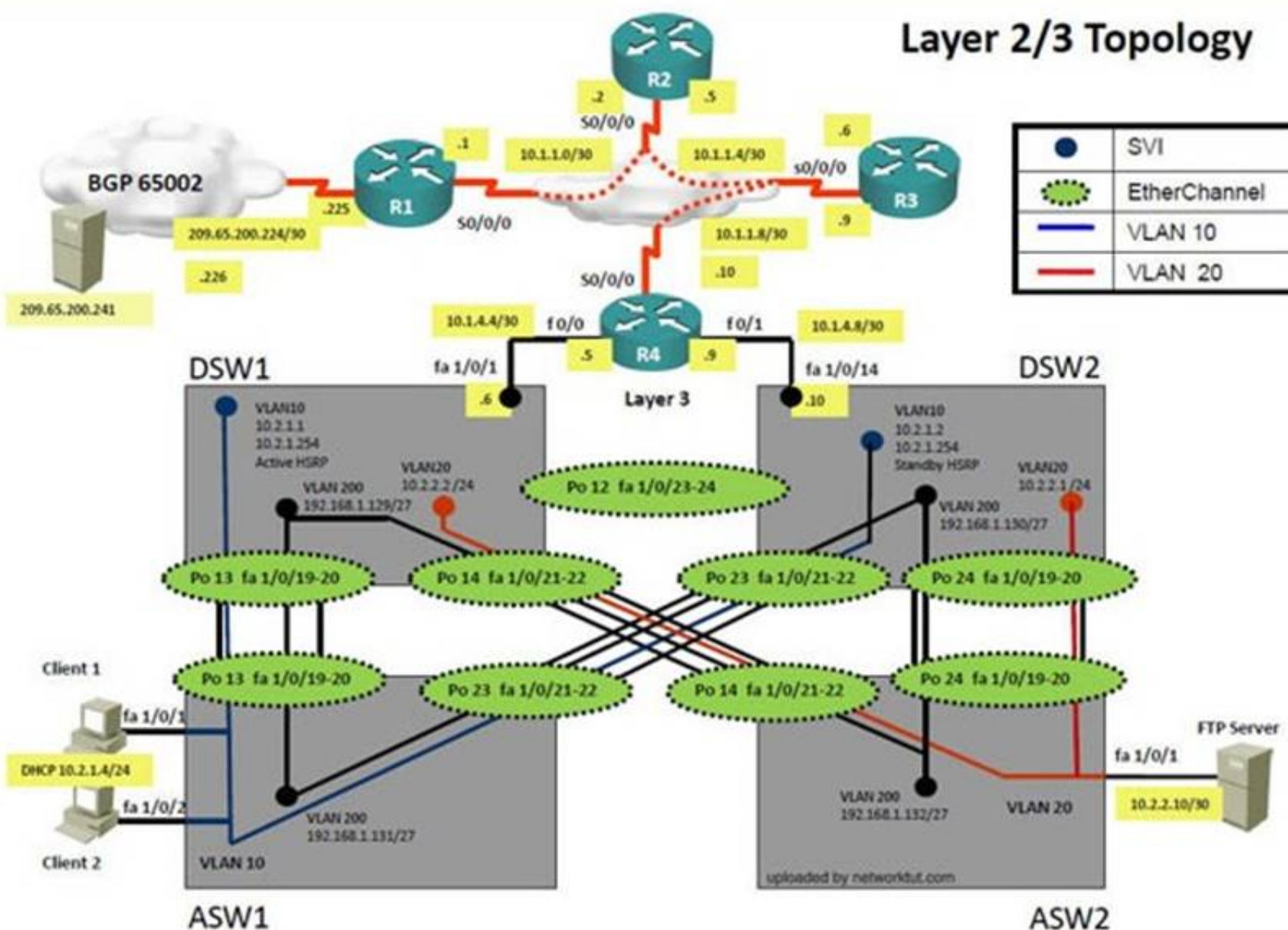
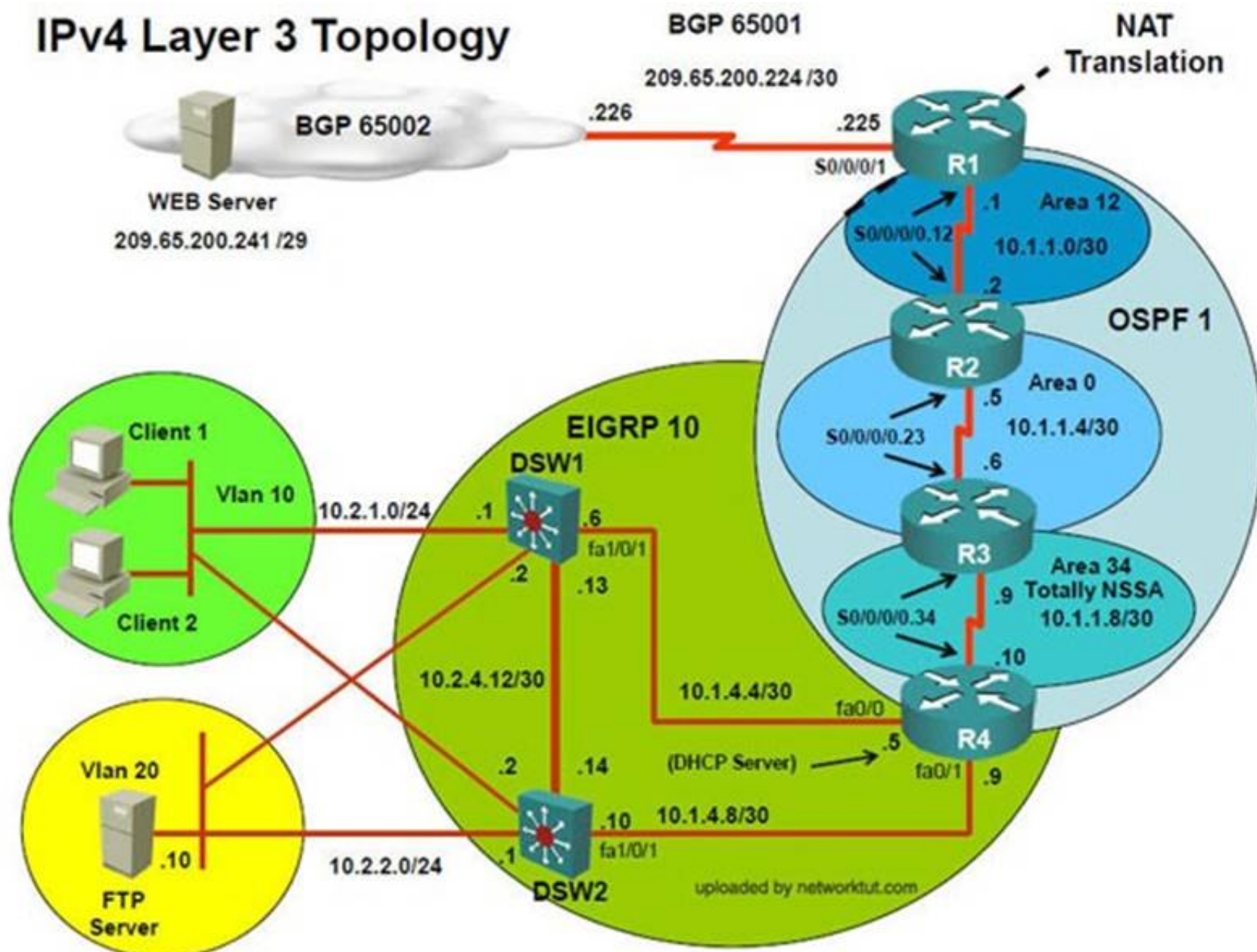
Note: Although trouble tickets have many similar fault indications, each ticket has its own issue and solution.

Each ticket has 3 sub questions that need to be answered & topology remains same. Question-1 Fault is found on which device,

Question-2 Fault condition is related to,

Question-3 What exact problem is seen & what needs to be done for solution

=====



Client is unable to ping IP 209.65.200.241

Solution

Steps need to follow as below:-

When we check on client 1 & Client 2 desktop we are not receiving DHCP address from R4 ipconfig ----- Client will be receiving IP address 10.2.1.3

IP 10.2.1.3 will be able to ping from R4 , but cannot ping from R3, R2, R1

This clearly shows problem at R4 since EIGRP is between DSW1, DSW2 & R4 and OSPF protocol is running between R4, R3, R2, R1 so routes from R4 are not propagated to R3, R2, R1

Since R4 is able to ping 10.2.1.3 it means that routes are received in EIGRP & same needs to be advertised in OSPF to ping from R3, R2, R1.

Need to check the routes are being advertised properly or not in OSPF & EIGRP vice-versa.


```
!
router eigrp 10
 redistribute ospf 1 route-map OSPF_to_EIGRP
 network 10.1.4.0 0.0.0.255
 network 10.1.10.0 0.0.0.255
 network 10.1.21.128 0.0.0.3
 default-metric 100000 100 100 1 1500
 auto-summary
!
router ospf 1
 log-adjacency-changes
 area 34 nssa
 summary-address 10.2.0.0 255.255.0.0
 redistribute eigrp 10 subnets route-map EIGPR->OSPF
 network 10.1.1.0 0.0.0.255 area 34
 network 10.1.2.0 0.0.0.255 area 34
!
route-map EIGPR->OSPF deny 10
 match tag 110
!
route-map EIGPR->OSPF permit 20
 set tag 90
!
route-map OSPF->EIGRP deny 10
 match tag 90
!
route-map OSPF->EIGRP permit 20
```

From above snap shot it clearly indicates that redistribution done in EIGRP is having problem & by default all routes are denied from ospf to EIGRP... so need to change route-map name.

Change required: On R4, in the redistribution of EIGRP routing protocol, we need to change name of route-map to resolve the issue. It references route-map OSPF_to_EIGRP but the actual route map is called OSPF->EIGRP.

NEW QUESTION 111

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing scheme, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address.

Use the supported commands to isolated the cause of this fault and answer the following questions. On which device is the fault condition located?

- A. R1
- B. R2
- C. R3
- D. R4
- E. DSW1
- F. DSW2
- G. ASW1
- H. ASW2

Answer: D

Explanation: On R4, in the redistribution of EIGRP routing protocol, we need to change name of route-map to resolve the issue. It references route-map OSPF_to_EIGRP but the actual route map is called OSPF->EIGRP.

NEW QUESTION 115

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing scheme, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address.

Use the supported commands to isolated the cause of this fault and answer the following questions. What is the solution to the fault condition?

- A. Disable auto summary on the EIGRP process
- B. Enable EIGRP on the FastEthernet0/0 and FastEthernet0/1 interface using the no passive-interface command.
- C. Change the AS number on the EIGRP routing process from 1 to 10 to much the AS number used on DSW1 and DSW2.

D. Under the EIGRP process, delete the network 10.1.4.0 0.0.0.255 command and enter the network 10.1.4.4 0.0.0.252 and 10.1.4.8 0.0.0.252 commands.

Answer: C

Explanation: On R4, IPV4 EIGRP Routing, need to change the EIGRP AS number from 1 to 10 since DSW1 & DSW2 is configured to be in EIGRP AS number 10.

=====

NEW QUESTION 117

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing scheme, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address.

Use the supported commands to isolated the cause of this fault and answer the following questions. On which device is the fault condition located?

- A. R1
- B. R2
- C. R3
- D. R4
- E. DSW1
- F. DSW2
- G. ASW1
- H. ASW2

Answer: D

Explanation: The EIGRP AS number configured on R4 is wrong.

NEW QUESTION 121

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing scheme, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address.

Use the supported commands to isolated the cause of this fault and answer the following questions. On which device is the fault condition located?

- A. R1
- B. R2
- C. R3
- D. R4
- E. DSW1
- F. DSW2
- G. ASW1
- H. ASW2

Answer: E

Explanation: On DSW1, VALN ACL, Need to delete the VLAN access-map test1 whose action is to drop access-list 10; specifically 10.2.1.3

NEW QUESTION 125

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing scheme, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address.

Use the supported commands to isolated the cause of this fault and answer the following questions. The fault condition is related to which technology?

- A. Under the global configuration mode enter no access-list 10 command.
- B. Under the global configuration mode enter no access-map vlan 10 command.
- C. Under the global configuration mode enter no vlan access-map test1 10 command.
- D. Under the global configuration mode enter no vlan filter test1 vlan-list 10 command.

Answer: C

Explanation: On DSW1, VALN ACL, Need to delete the VLAN access-map test1 whose action is to drop access-list 10; specifically 10.2.1.3

Topic 16, Ticket 11 : IPV6 OSPF

Topology Overview (Actual Troubleshooting lab design is for below network design)

Client Should have IP 10.2.1.3

EIGRP 100 is running between switch DSW1 & DSW2

OSPF (Process ID 1) is running between R1, R2, R3, R4

Network of OSPF is redistributed in EIGRP

BGP 65001 is configured on R1 with Webserver cloud AS 65002

HSRP is running between DSW1 & DSW2 Switches

The company has created the test bed shown in the layer 2 and layer 3 topology exhibits. This network consists of four routers, two layer 3 switches and two layer 2 switches.

In the IPv4 layer 3 topology, R1, R2, R3, and R4 are running OSPF with an OSPF process number 1. DSW1, DSW2 and R4 are running EIGRP with an AS of 10. Redistribution is enabled where necessary.

R1 is running a BGP AS with a number of 65001. This AS has an eBGP connection to AS 65002 in the ISP's network. Because the company's address space is in the private range.

R1 is also providing NAT translations between the inside (10.1.0.0/16 & 10.2.0.0/16) networks and outside (209.65.0.0/24) network.

ASW1 and ASW2 are layer 2 switches.

NTP is enabled on all devices with 209.65.200.226 serving as the master clock source.

The client workstations receive their IP address and default gateway via R4's DHCP server.

The default gateway address of 10.2.1.254 is the IP address of HSRP group 10 which is running on DSW1 and DSW2.

In the IPv6 layer 3 topology R1, R2, and R3 are running OSPFv3 with an OSPF process number 6. DSW1, DSW2 and R4 are running RIPng process name RIP_ZONE.

The two IPv6 routing domains, OSPF 6 and RIPng are connected via GRE tunnel running over the underlying IPv4 OSPF domain. Redistribution is enabled where necessary.

Recently the implementation group has been using the test bed to do a 'proof-of-concept' on several

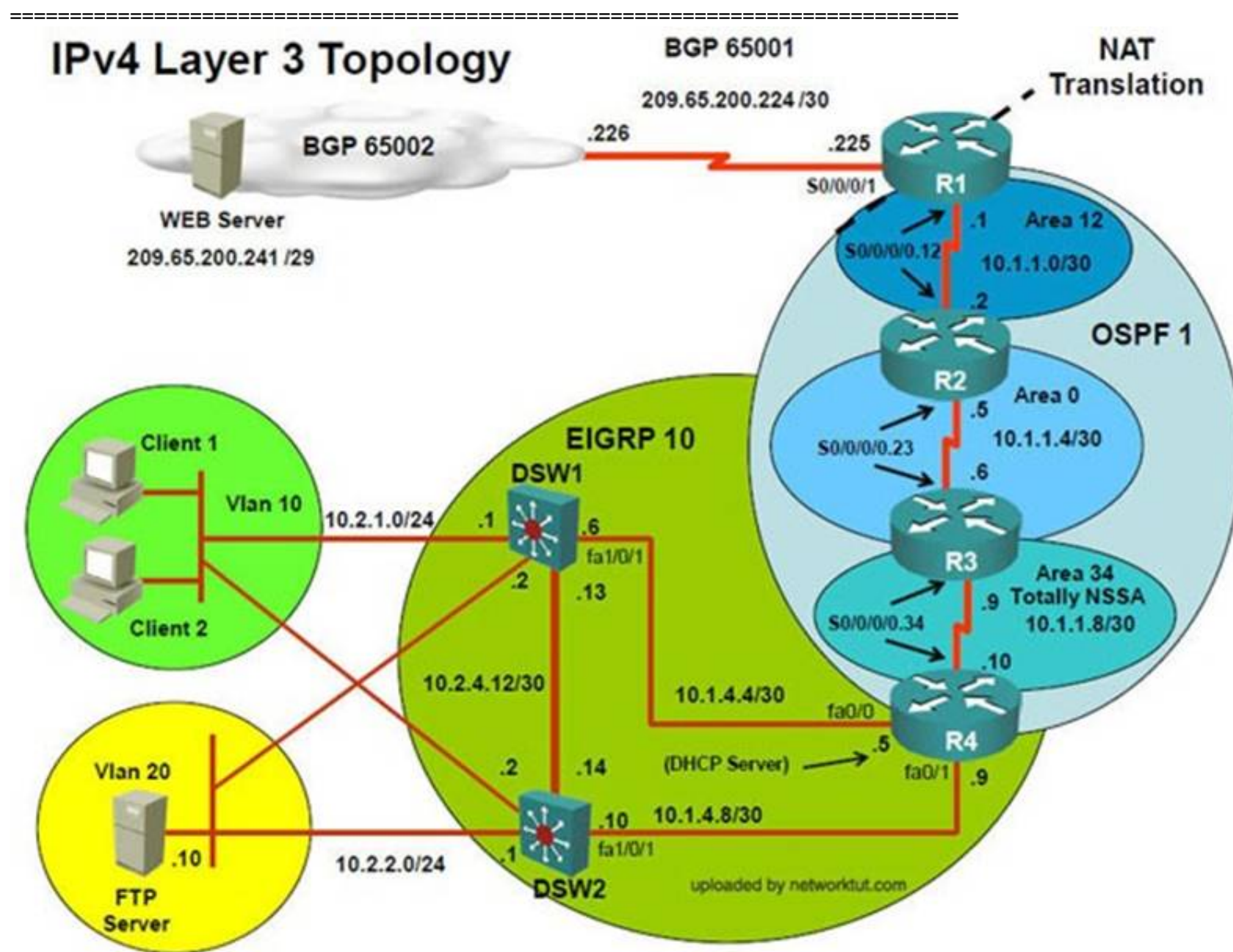
implementations. This involved changing the configuration on one or more of the devices. You will be presented with a series of trouble tickets related to issues introduced during these configurations.

Note: Although trouble tickets have many similar fault indications, each ticket has its own issue and solution.

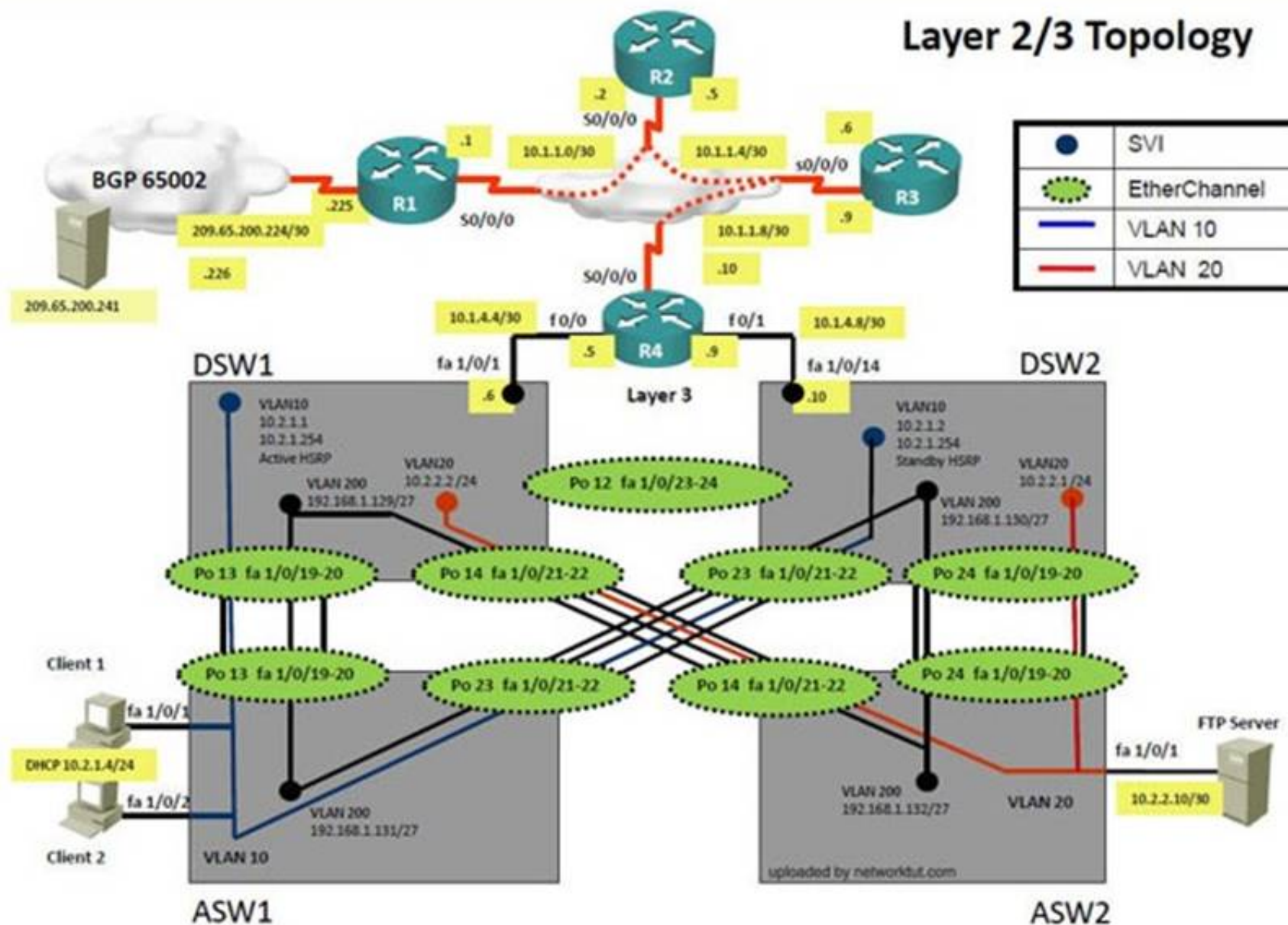
Each ticket has 3 sub questions that need to be answered & topology remains same. Question-1 Fault is found on which device,

Question-2 Fault condition is related to,

Question-3 What exact problem is seen & what needs to be done for solution



Layer 2/3 Topology



The implementation group has been using the test bed to do an IPv6 'proof-of-concept'. After several changes to the network addressing and routing schemes, a trouble ticket has been opened indicating that the loopback address on R1 (2026::111:1) is not able to ping the loopback address on DSW2 (2026::102:1).

Solution

Steps need to follow as below:-

When we check on client 1 & Client 2 desktop we are not receiving DHCP address from R4 ipconfig ----- Client will be receiving IP address 10.2.1.3

From Client PC we can ping 10.2.1.254....

But IP 10.2.1.3 is able to ping from R4, R3, R2, R1.

Since the problem is R1 (2026::111:1) is not able to ping loopback of DSW1 (2026::102:1).

Kindly check for neighbourship of routers as IPV6.... As per design below neighbourship should be present for IPV6

R1 ---R2 --- R3 --- R4--- DSW1 & DSW2 ----- Neighbourship between devices of IPV6

```
R2#sh ipv6 ospf nei
Neighbor ID      Pri   State           Dead Time   Interface ID  Interface
10.1.10.1        1     FULL/-          00:00:32    6             Serial0/0/0.12
R2#
```

R2 IPV6 OSPF neighbourship is with R1

```
R3>sh ipv6 ospf ne
R3>sh ipv6 ospf neighbor
Neighbor ID      Pri   State           Dead Time   Interface ID  Interface
10.1.21.129      1     FULL/-          00:00:31    15            Tunnel134
R3>
```

R3 IPV6 OSPF neighbourship is with R4

```
interface Serial0/0/0.23 point-to-point
description Link to R3
ip address 10.1.1.5 255.255.255.252
ipv6 address 2026::1:1/123
frame-relay interface-dlci 302
```

```
!
interface Serial0/0/0.23 point-to-point
ip address 10.1.1.6 255.255.255.252
ipv6 address 2026::1:2/122
ipv6 ospf 6 area 0
frame-relay interface-dlci 203
!
```

As per above snapshot we cannot see IPV6 neighbourship between R2 & R3 when checked interface configuration ipv6 ospf area 0 is missing on R2 which is connected to R3

Change required: On R2, IPV6 OSPF routing, Configuration is required to add ipv6 ospf 6 area 0 under interface serial 0/0/0.23

NEW QUESTION 128

The implementations group has been using the test bed to do a 'proof-of-concept'. After several changes to the network addressing, routing schemes, a trouble ticket has been opened indicating that the loopback address on R1 (2026::111:1) is not able to ping the loopback address on DSW2(2026::102:1). Use the supported commands to isolated the cause of this fault and answer the following questions. On which device is the fault condition located?

- A. R1
- B. R2
- C. R3
- D. R4
- E. DSW1
- F. DSW2
- G. ASW1
- H. ASW2

Answer: B

Explanation: R2 is missing the needed IPV6 OSPF for interface s0/0/0.23

NEW QUESTION 132

The implementations group has been using the test bed to do a 'proof-of-concept'. After several changes to the network addressing, routing schemes, a trouble ticket has been opened indicating that the loopback address on R1 (2026::111:1) is not able to ping the loopback address on DSW2(2026::102:1). Use the supported commands to isolated the cause of this fault and answer the following questions. The fault condition is related to which technology?

- A. NTP
- B. IPv4 OSPF Routing
- C. IPv6 OSPF Routing
- D. IPv4 layer 3 security

Answer: C

Explanation: On R2, IPV6 OSPF routing, configuration is required to add ipv6 ospf 6 area 0 under interface serial 0/0/0.23

Topic 17, Ticket 12 : HSRP Issue

Topology Overview (Actual Troubleshooting lab design is for below network design)

Client Should have IP 10.2.1.3

EIGRP 100 is running between switch DSW1 & DSW2

OSPF (Process ID 1) is running between R1, R2, R3, R4

Network of OSPF is redistributed in EIGRP

BGP 65001 is configured on R1 with Webserver cloud AS 65002

HSRP is running between DSW1 & DSW2 Switches

The company has created the test bed shown in the layer 2 and layer 3 topology exhibits. This network consists of four routers, two layer 3 switches and two layer 2 switches.

In the IPv4 layer 3 topology, R1, R2, R3, and R4 are running OSPF with an OSPF process number 1. DSW1, DSW2 and R4 are running EIGRP with an AS of 10. Redistribution is enabled where necessary.

R1 is running a BGP AS with a number of 65001. This AS has an eBGP connection to AS 65002 in the ISP's network. Because the company's address space is in the private range.

R1 is also providing NAT translations between the inside (10.1.0.0/16 & 10.2.0.0/16) networks and outside (209.65.0.0/24) network.

ASW1 and ASW2 are layer 2 switches.

NTP is enabled on all devices with 209.65.200.226 serving as the master clock source.

The client workstations receive their IP address and default gateway via R4's DHCP server.

The default gateway address of 10.2.1.254 is the IP address of HSRP group 10 which is running on DSW1 and DSW2.

In the IPv6 layer 3 topology R1, R2, and R3 are running OSPFv3 with an OSPF process number 6. DSW1, DSW2 and R4 are running RIPng process name RIP_ZONE.

The two IPv6 routing domains, OSPF 6 and RIPng are connected via GRE tunnel running over the underlying IPv4 OSPF domain. Redistrution is enabled where necessary.

Recently the implementation group has been using the test bed to do a 'proof-of-concept' on several implementations. This involved changing the configuration on one or more of the devices. You will be presented with a series of trouble tickets related to issues introduced during these configurations.

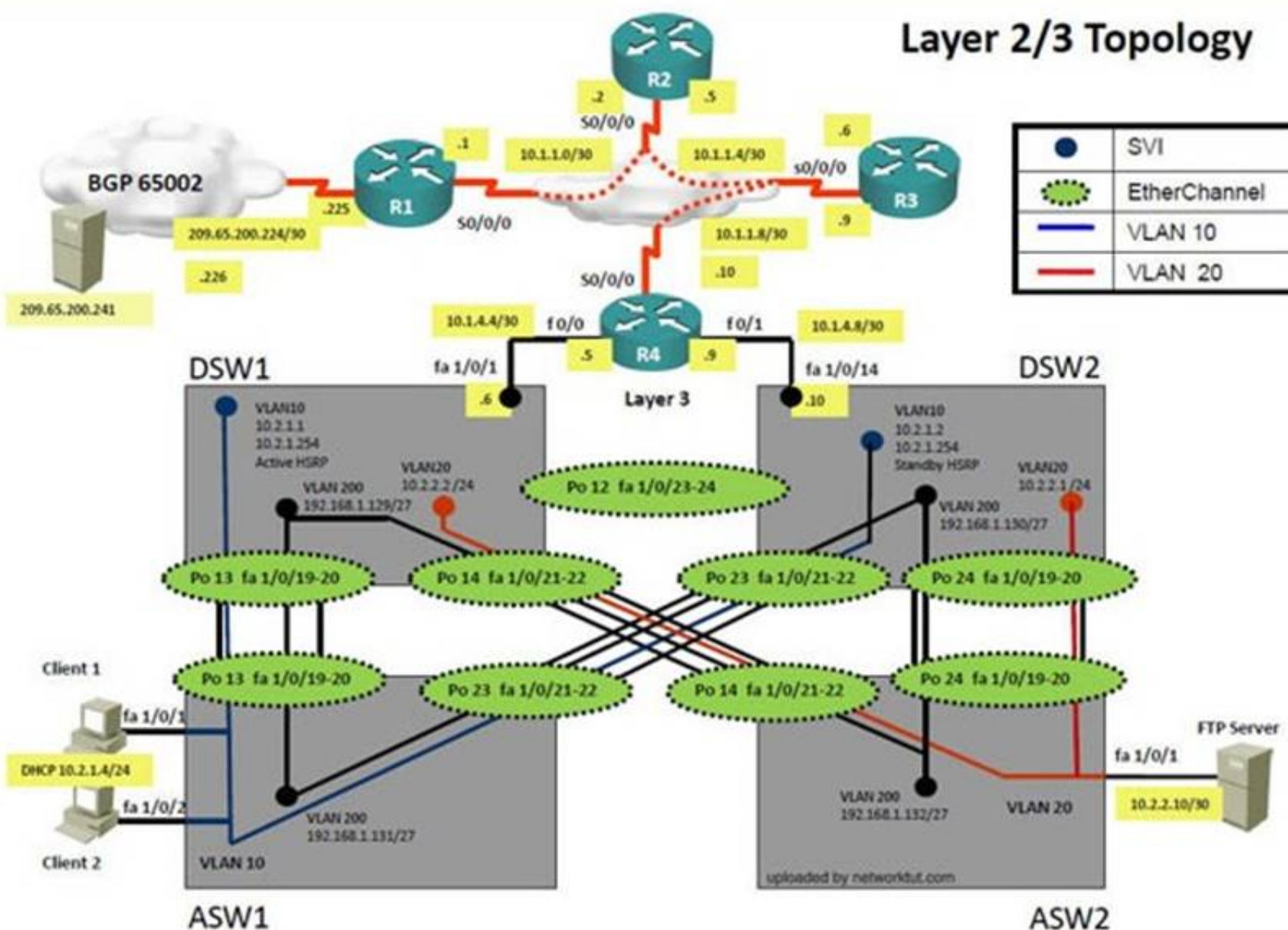
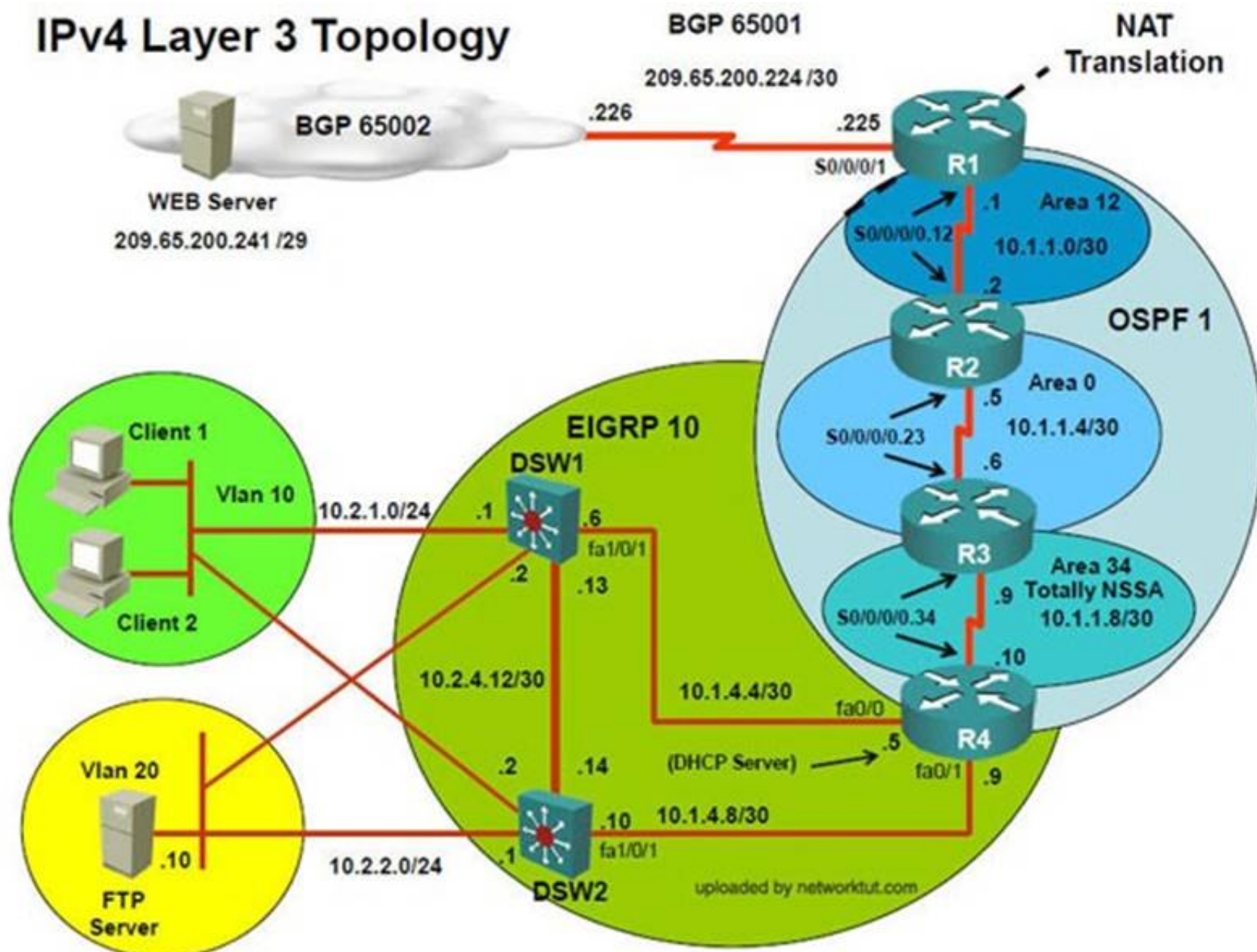
Note: Although trouble tickets have many similar fault indications, each ticket has its own issue and solution.

Each ticket has 3 sub questions that need to be answered & topology remains same. Question-1 Fault is found on which device,

Question-2 Fault condition is related to,

Question-3 What exact problem is seen & what needs to be done for solution

=====



The implementation group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the Web Server at 209.65.200.241. After several changes to the network addressing, routing schemes, DHCP services, NTP services, layer 2 connectivity, HSRP services, and, device security, a trouble ticket has been opened indicating DSW1 will not become the active router for HSRP group 10.

Solution

Steps need to follow as below:-

Since the problem is raised that DSW1 will not become active router for HSRP group 10 we will check for the HSRP configuration...

DSW1


```
track 1 ip route 10.2.21.128 255.255.255.224 metric threshold
threshold metric up 1 down 2
track 10 ip route 10.1.21.128 255.255.255.224 metric threshold
threshold metric up 61 down 62
no ip subnet-zero
ip routing
```

```
interface Vlan10
 ip address 10.2.1.1 255.255.255.0
 ip helper-address 10.1.21.129
 standby 10 ip 10.2.1.254
 standby 10 priority 200
 standby 10 preempt
 standby 10 track 1 decrement 60
```

DSW2

```
interface Vlan10
 ip address 10.2.1.2 255.255.255.0
 ip helper-address 10.1.21.129
 standby 10 ip 10.2.1.254
 standby 10 priority 150
 standby 10 preempt
```

From snapshot we see that the track command given needs to be changed under active VLAN10 router

Change Required: On DSW1, related to HSRP, under vlan 10 change the given track 1 command to instead use the track 10 command.

NEW QUESTION 135

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing schemes, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened DSW1 will not become the active router for HSRP group 10.

Use the supported commands to isolated the cause of this fault and answer the following questions. On which device is the fault condition located?

- A. R1
- B. R2
- C. R3
- D. R4
- E. DSW1
- F. DSW2
- G. ASW1
- H. ASW2

Answer: E

Explanation: DSW references the wrong track ID number.

NEW QUESTION 139

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing schemes, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened DSW1 will not become the active router for HSRP group 10.

Use the supported commands to isolated the cause of this fault and answer the following questions. What is the solution to the fault condition?

- A. Under the interface vlan 10 configuration enter standby 10 preempt command.
- B. Under the track 1 object configuration delete the threshold metric up 1 down 2 command and enter the threshold metric up 61 down 62 command.
- C. Under the track 10 object configuration delete the threshold metric up 61 down 62 command and enter the threshold metric up 1 down 2 command.
- D. Under the interface vlan 10 configuration delete the standby 10 track1 decrement 60 command and enter the standby 10 track 10 decrement 60 command.

Answer: D

Explanation: On DSW1, related to HSRP, under VLAN 10 change the given track 1 command to instead use the track 10 command.

NEW QUESTION 142

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing schemes, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened DSW1 will

not become the active router for HSRP group 10.

Use the supported commands to isolated the cause of this fault and answer the following questions. The fault condition is related to which technology?

- A. NTP
- B. HSRP
- C. IP DHCP Helper
- D. IPv4 EIGRP Routing
- E. IPv6 RIP Routing
- F. IPv4 layer 3 security
- G. Switch-to-Switch Connectivity
- H. Loop Prevention
- I. Access Vlans
- J. Port Security
- K. VLAN ACL/Port ACL
- L. Switch Virtual Interface

Answer: B

Explanation: On DSW1, related to HSRP, under VLAN 10 change the given track 1 command to instead use the track 10 command.

Topic 18, Ticket 13: DHCP Issue

Topology Overview (Actual Troubleshooting lab design is for below network design)

Client Should have IP 10.2.1.3

EIGRP 100 is running between switch DSW1 & DSW2

OSPF (Process ID 1) is running between R1, R2, R3, R4

Network of OSPF is redistributed in EIGRP

BGP 65001 is configured on R1 with Webserver cloud AS 65002

HSRP is running between DSW1 & DSW2 Switches

The company has created the test bed shown in the layer 2 and layer 3 topology exhibits. This network consists of four routers, two layer 3 switches and two layer 2 switches.

In the IPv4 layer 3 topology, R1, R2, R3, and R4 are running OSPF with an OSPF process number 1. DSW1, DSW2 and R4 are running EIGRP with an AS of 10.

Redistribution is enabled where necessary.

R1 is running a BGP AS with a number of 65001. This AS has an eBGP connection to AS 65002 in the ISP's network. Because the company's address space is in the private range.

R1 is also providing NAT translations between the inside (10.1.0.0/16 & 10.2.0.0/16) networks and outside (209.65.0.0/24) network.

ASW1 and ASW2 are layer 2 switches.

NTP is enabled on all devices with 209.65.200.226 serving as the master clock source.

The client workstations receive their IP address and default gateway via R4's DHCP server.

The default gateway address of 10.2.1.254 is the IP address of HSRP group 10 which is running on DSW1 and DSW2.

In the IPv6 layer 3 topology R1, R2, and R3 are running OSPFv3 with an OSPF process number 6. DSW1, DSW2 and R4 are running RIPng process name RIP_ZONE.

The two IPv6 routing domains, OSPF 6 and RIPng are connected via GRE tunnel running over the underlying IPv4 OSPF domain. Redistrution is enabled where necessary.

Recently the implementation group has been using the test bed to do a 'proof-of-concept' on several implementations. This involved changing the configuration on one or more of the devices. You will be

presented with a series of trouble tickets related to issues introduced during these configurations.

Note: Although trouble tickets have many similar fault indications, each ticket has its own issue and solution.

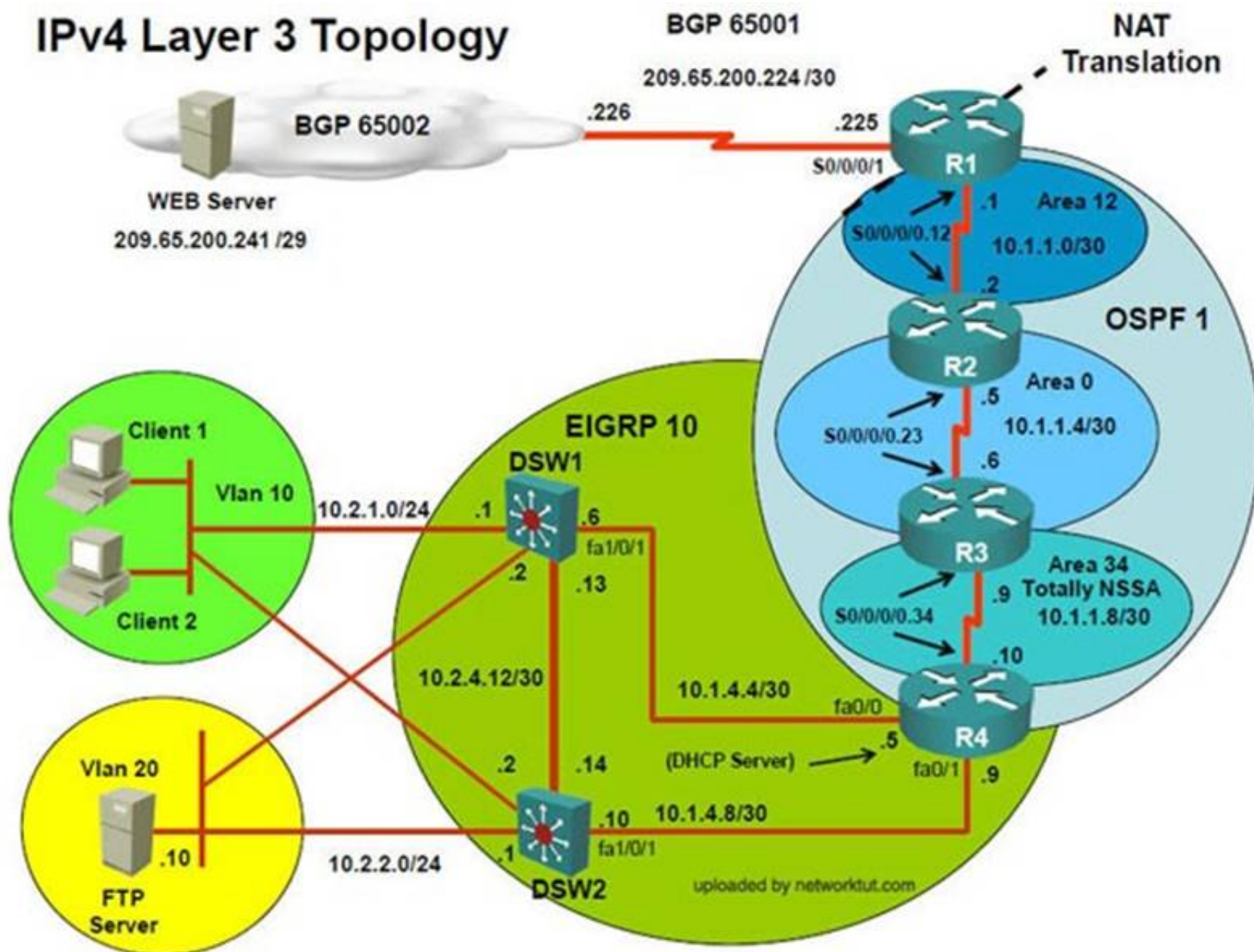
Each ticket has 3 sub questions that need to be answered & topology remains same. Question-1 Fault is found on which device,

Question-2 Fault condition is related to,

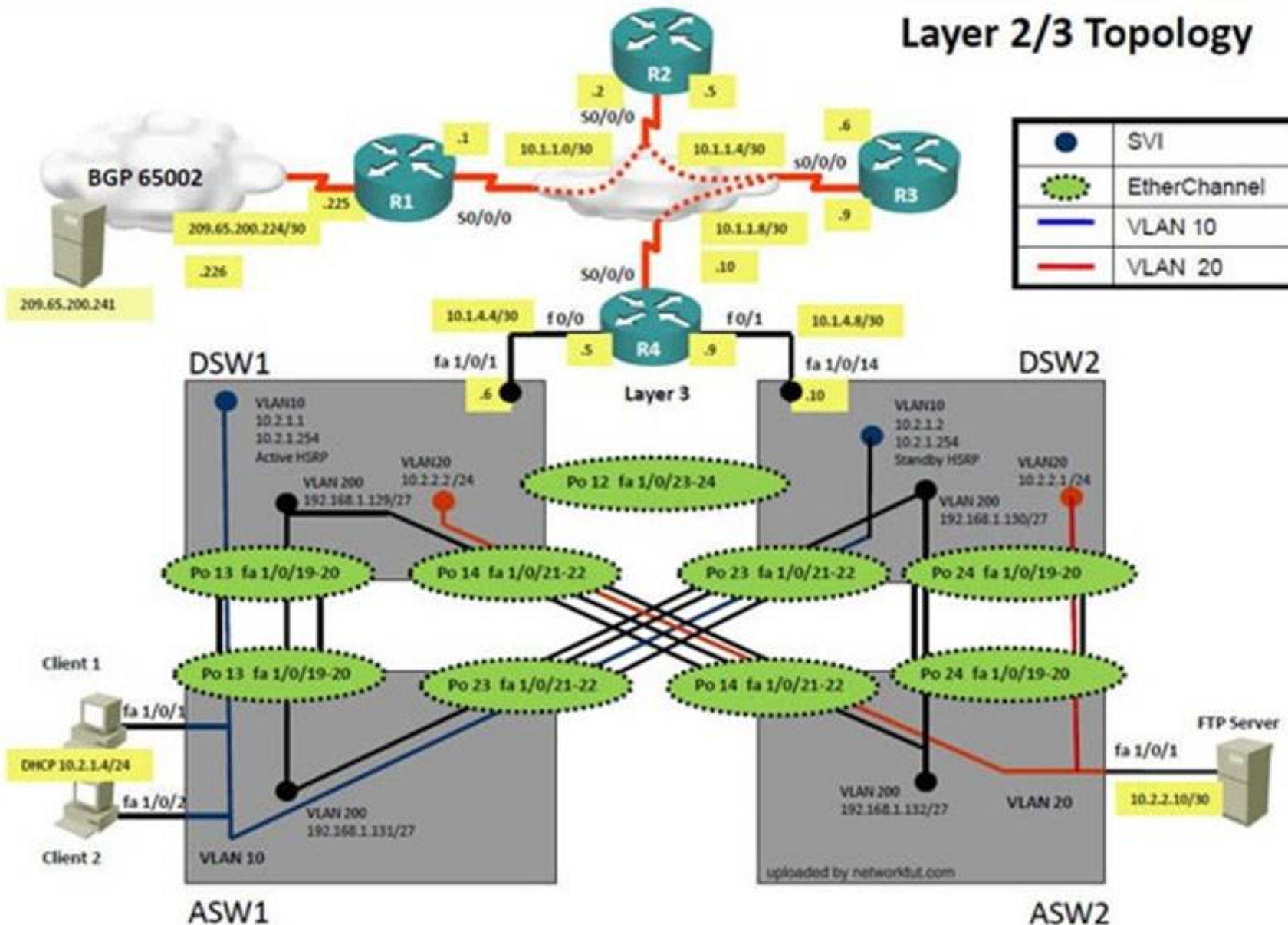
Question-3 What exact problem is seen & what needs to be done for solution

=====

IPv4 Layer 3 Topology



Layer 2/3 Topology



The implementation group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing schemes, DHCP services, NTP services, layer 2 connectivity, HSRP services, and, device security, a trouble ticket has been opened indicating DSW1 will not become the active router for HSRP group 10.

Solution

Steps need to follow as below:-

When we check on client 1 & Client 2 desktop we are not receiving DHCP address from R4 ipconfig ----- Client will be receiving Private IP address 169.254.X.X
From ASW1 we can ping 10.2.1.254....

On ASW1 VLAN10 is allowed in trunk & access command will is enabled on interface but DHCP IP address is not recd.

On R4 the DHCP IP address is not allowed for network 10.2.1.0/24 which clearly shows the problem lies on R4 & the problem is with DHCP

NEW QUESTION 146

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing schemes, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address. Use the supported commands to isolate the cause of this fault and answer the following question. On which device is the fault condition located?

- A. R1
- B. R2
- C. R3
- D. R4
- E. DSW1
- F. DSW2
- G. ASW1
- H. ASW2

Answer: D

Explanation: On R4 the DHCP IP address is not allowed for network 10.2.1.0/24 which clearly shows the problem lies on R4 & the problem is with DHCP

NEW QUESTION 150

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing schemes, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address. Use the supported commands to isolate the cause of this fault and answer the following question. The fault condition is related to which technology?

- A. NTP
- B. IP DHCP Server
- C. Ipv4 OSPF Routing
- D. Ipv4 EIGRP Routing.
- E. Ipv4 Route Redistribution.
- F. Ipv6 RIP Routing
- G. Ipv6 OSPF Routing
- H. Ipv4 and Ipv6 Interoperability
- I. Ipv4 layer 3 security.

Answer: B

Explanation: On R4 the DHCP IP address is not allowed for network 10.2.1.0/24 which clearly shows the problem lies on R4 & the problem is with DHCP

NEW QUESTION 152

The implementations group has been using the test bed to do a 'proof-of-concept' that requires both Client 1 and Client 2 to access the WEB Server at 209.65.200.241. After several changes to the network addressing, routing schemes, DHCP services, NTP services, layer 2 connectivity, FHRP services, and device security, a trouble ticket has been opened indicating that Client 1 cannot ping the 209.65.200.241 address. Use the supported commands to isolate the cause of this fault and answer the following question. What is the solution to the fault condition?

- A. Under the global configuration, delete the no ip dhcp use vrf connected command.
- B. Under the IP DHCP pool configuration, delete the default -router 10.2.1.254 command and enter the default-router 10.1.4.5 command.
- C. Under the IP DHCP pool configuration, delete the network 10.2.1.0 255.255.255.0 command and enter the network 10.1.4.0 255.255.255.0 command.
- D. Under the IP DHCP pool configuration, issue the no ip dhcp excluded-address 10.2.1.1 10.2.1.253 command and enter the ip dhcp excluded-address 10.2.1.1 10.2.1.2 command.

Answer: D

Explanation: On R4 the DHCP IP address is not allowed for network 10.2.1.0/24 which clearly shows the problem lies on R4 & the problem is with DHCP

Topic 19, Ticket 14: IPv6 Routing Issue 1

Topology Overview (Actual Troubleshooting lab design is for below network design)

Client Should have IP 10.2.1.3

EIGRP 100 is running between switch DSW1 & DSW2

OSPF (Process ID 1) is running between R1, R2, R3, R4

Network of OSPF is redistributed in EIGRP

BGP 65001 is configured on R1 with Webserver cloud AS 65002

HSRP is running between DSW1 & DSW2 Switches

The company has created the test bed shown in the layer 2 and layer 3 topology exhibits. This network consists of four routers, two layer 3 switches and two layer 2 switches.

In the IPv4 layer 3 topology, R1, R2, R3, and R4 are running OSPF with an OSPF process number 1. DSW1, DSW2 and R4 are running EIGRP with an AS of 10. Redistribution is enabled where necessary.

R1 is running a BGP AS with a number of 65001. This AS has an eBGP connection to AS 65002 in the ISP's network. Because the company's address space is in the private range.

R1 is also providing NAT translations between the inside (10.1.0.0/16 & 10.2.0.0/16) networks and outside (209.65.0.0/24) network.

ASW1 and ASW2 are layer 2 switches.

NTP is enabled on all devices with 209.65.200.226 serving as the master clock source.

The client workstations receive their IP address and default gateway via R4's DHCP server.

The default gateway address of 10.2.1.254 is the IP address of HSRP group 10 which is running on DSW1 and DSW2.

In the IPv6 layer 3 topology R1, R2, and R3 are running OSPFv3 with an OSPF process number 6. DSW1, DSW2 and R4 are running RIPng process name RIP_ZONE.

The two IPv6 routing domains, OSPF 6 and RIPng are connected via GRE tunnel running over the underlying IPv4 OSPF domain. Redistribution is enabled where necessary.

Recently the implementation group has been using the test bed to do a 'proof-of-concept' on several implementations. This involved changing the configuration on one or more of the devices. You will be

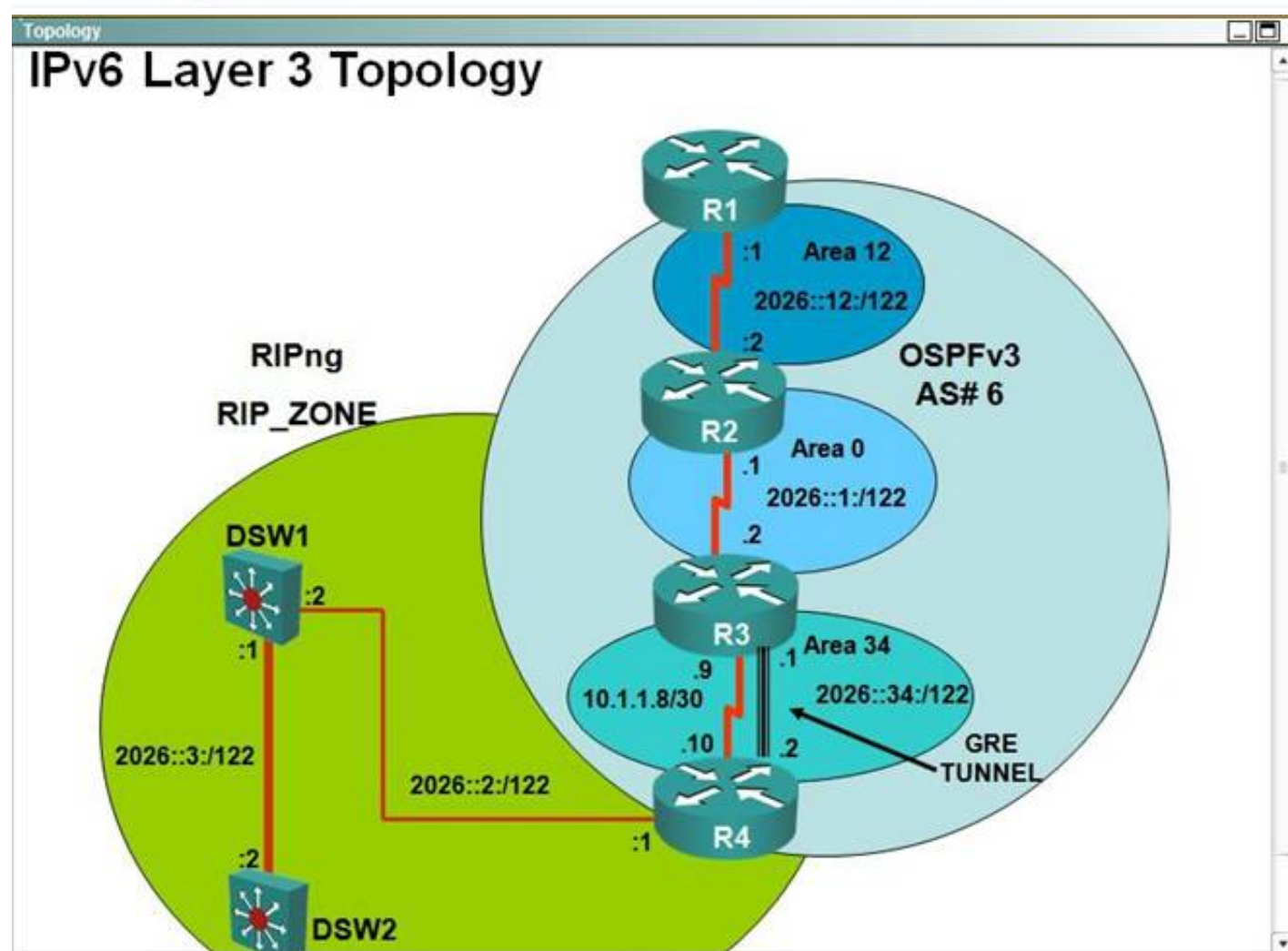
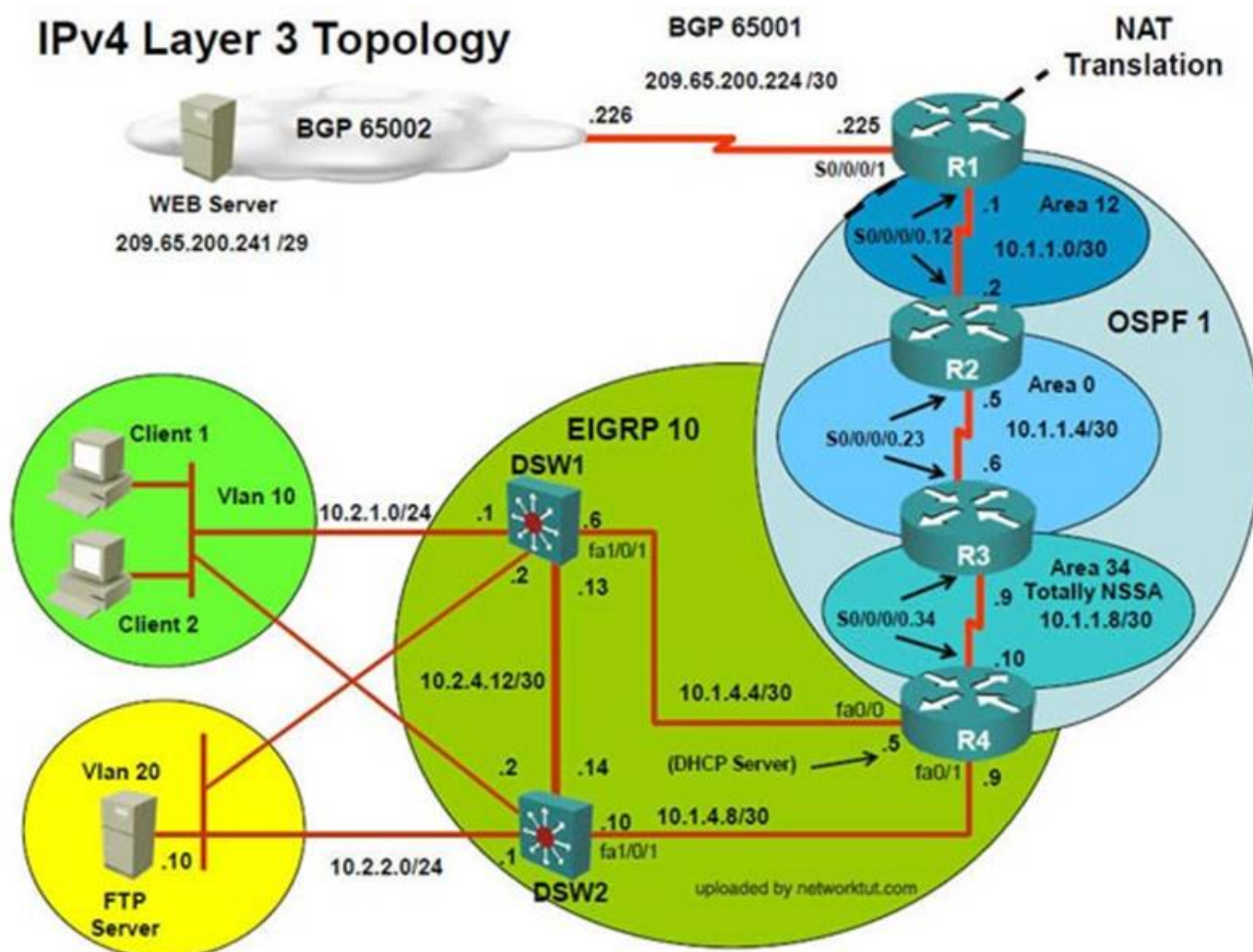
presented with a series of trouble tickets related to issues introduced during these configurations.

Note: Although trouble tickets have many similar fault indications, each ticket has its own issue and solution.

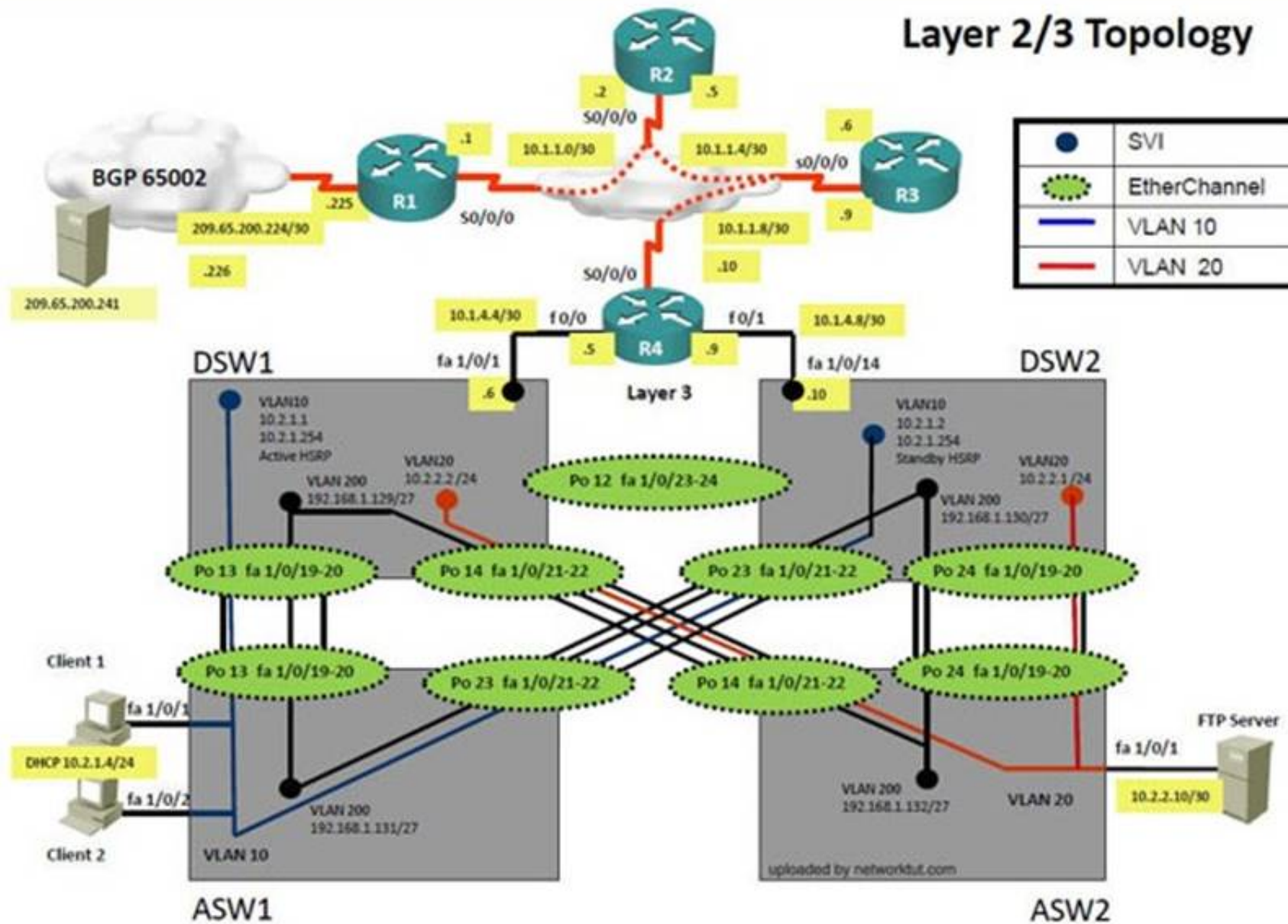
Each ticket has 3 sub questions that need to be answered & topology remains same. Question-1 Fault is found on which device,

Question-2 Fault condition is related to,

Question-3 What exact problem is seen & what needs to be done for solution



Layer 2/3 Topology



Questions

The implementation group has been using the test bed to do an IPv6 'proof-of-concept'. After several changes to the network addressing and routing schemes, a trouble ticket has been opened indicating that the loopback address on R1 (2026::111:1) is not able to ping the loopback address on DSW2 (2026::102:1).

Using the supported commands to isolate the cause of this fault and answer the following questions.

NEW QUESTION 154

The implementation group has been using the test bed to do an IPv6 'proof-of-concept'. After several changes to the network addressing and routing schemes, a trouble ticket has been opened indicating that the loopback address on R1 (2026::111:1) is not able to ping the loopback address on DSW2 (2026::102:1). Use the supported commands to isolate the cause of this fault and answer the following question. On which device is the fault condition located?

- A. R1
- B. R2
- C. R3
- D. R4
- E. DSW1
- F. DSW2
- G. ASW1
- H. ASW2

Answer: B

Explanation: Start to troubleshoot this by pinging the loopback IPv6 address of DSW2 (2026::102:1). This can be pinged from DSW1, R4, and R3, which leads us to believe that the issue is with R2. Going further, we can see that R2 only has an IPV6 OSPF neighbor of R1, not R3:

Screen Shot 2015-03-11 at 10

```
R2>show ipv6 ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Interface ID	Interface
10.1.10.1	1	FULL/ -	00:00:32	6	Serial0/0/0.12

```
R2>
```

We can then see that OSPFv3 has not been enabled on the interface to R3: Screen Shot 2015-03-11 at 10


```
!  
interface Serial0/0/0.12 point-to-point  
description Link to R1  
ip address 10.1.1.2 255.255.255.252  
ip ospf authentication message-digest  
ip ospf message-digest-key 1 md5 TSHOOT  
ipv6 address 2026::12:2/122  
ipv6 address FE80::2 link-local  
ipv6 ospf 6 area 12  
frame-relay interface-dlci 304  
!  
interface Serial0/0/0.23 point-to-point  
description Link to R3  
ip address 10.1.1.5 255.255.255.252  
ipv6 address 2026::1:1/123  
frame-relay interface-dlci 302  
!  
interface Serial0/0/1
```

So the problem is with R2, related to IPV6 Routing, and the fix is to enable the "ipv6 ospf 6 area 0" command under the serial 0/0/0.23 interface.

NEW QUESTION 156

The implementation group has been using the test bed to do an IPv6 'proof-of-concept'. After several changes to the network addressing and routing schemes, a trouble ticket has been opened indicating that the loopback address on R1 (2026::111:1) is not able to ping the loopback address on DSW2 (2026::102:1). Use the supported commands to isolate the cause of this fault and answer the following question. What is the solution to the fault condition?

- A. Under the interface Serial0/0/0.23 configuration enter the ipv6 ospf 6 area 0 command.
- B. Under the interface Serial0/0/0.12 configuration enter the ipv6 ospf 6 area 12 command.
- C. Under ipv6 router ospf 6 configuration enter the network 2026::1:1/122 area 0 command.
- D. Under ipv6 router ospf 6 configuration enter the no passive-interface default command

Answer: A

Explanation: As explained in question one of this ticket, we can then see that OSPFv3 has not been enabled on the interface to R3:
Screen Shot 2015-03-11 at 10

```
!
interface Serial0/0/0.12 point-to-point
description Link to R1
ip address 10.1.1.2 255.255.255.252
ip ospf authentication message-digest
ip ospf message-digest-key 1 md5 TSHOOT
ipv6 address 2026::12:2/122
ipv6 address FE80::2 link-local
ipv6 ospf 6 area 12
frame-relay interface-dlci 304
!
interface Serial0/0/0.23 point-to-point
description Link to R3
ip address 10.1.1.5 255.255.255.252
ipv6 address 2026::1:1/123
frame-relay interface-dlci 302
!
interface Serial0/0/1
```

So the problem is with R2, related to IPV6 Routing, and the fix is to enable the “ipv6 ospf 6 area 0” command under the serial 0/0/0.23 interface. We need to enable this interface for area 0 according to the topology diagram.

Topic 20, Ticket 15: IPv6 Routing Issue 2

Topology Overview (Actual Troubleshooting lab design is for below network design)

Client Should have IP 10.2.1.3

EIGRP 100 is running between switch DSW1 & DSW2

OSPF (Process ID 1) is running between R1, R2, R3, R4

Network of OSPF is redistributed in EIGRP

BGP 65001 is configured on R1 with Webserver cloud AS 65002

HSRP is running between DSW1 & DSW2 Switches

The company has created the test bed shown in the layer 2 and layer 3 topology exhibits. This network consists of four routers, two layer 3 switches and two layer 2 switches.

In the IPv4 layer 3 topology, R1, R2, R3, and R4 are running OSPF with an OSPF process number 1. DSW1, DSW2 and R4 are running EIGRP with an AS of 10. Redistribution is enabled where necessary.

R1 is running a BGP AS with a number of 65001. This AS has an eBGP connection to AS 65002 in the ISP's network. Because the company's address space is in the private range.

R1 is also providing NAT translations between the inside (10.1.0.0/16 & 10.2.0.0/16) networks and outside (209.65.0.0/24) network.

ASW1 and ASW2 are layer 2 switches.

NTP is enabled on all devices with 209.65.200.226 serving as the master clock source.

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In the IPv6 layer 3 topology R1, R2, and R3 are running OSPFv3 with an OSPF process number 6. DSW1, DSW2 and R4 are running RIPng process name RIP_ZONE.

The two IPv6 routing domains, OSPF 6 and RIPng are connected via GRE tunnel running over the underlying IPv4 OSPF domain. Redistribution is enabled where necessary.

Recently the implementation group has been using the test bed to do a 'proof-of-concept' on several implementations. This involved changing the configuration on one or more of the devices. You will be

presented with a series of trouble tickets related to issues introduced during these configurations.

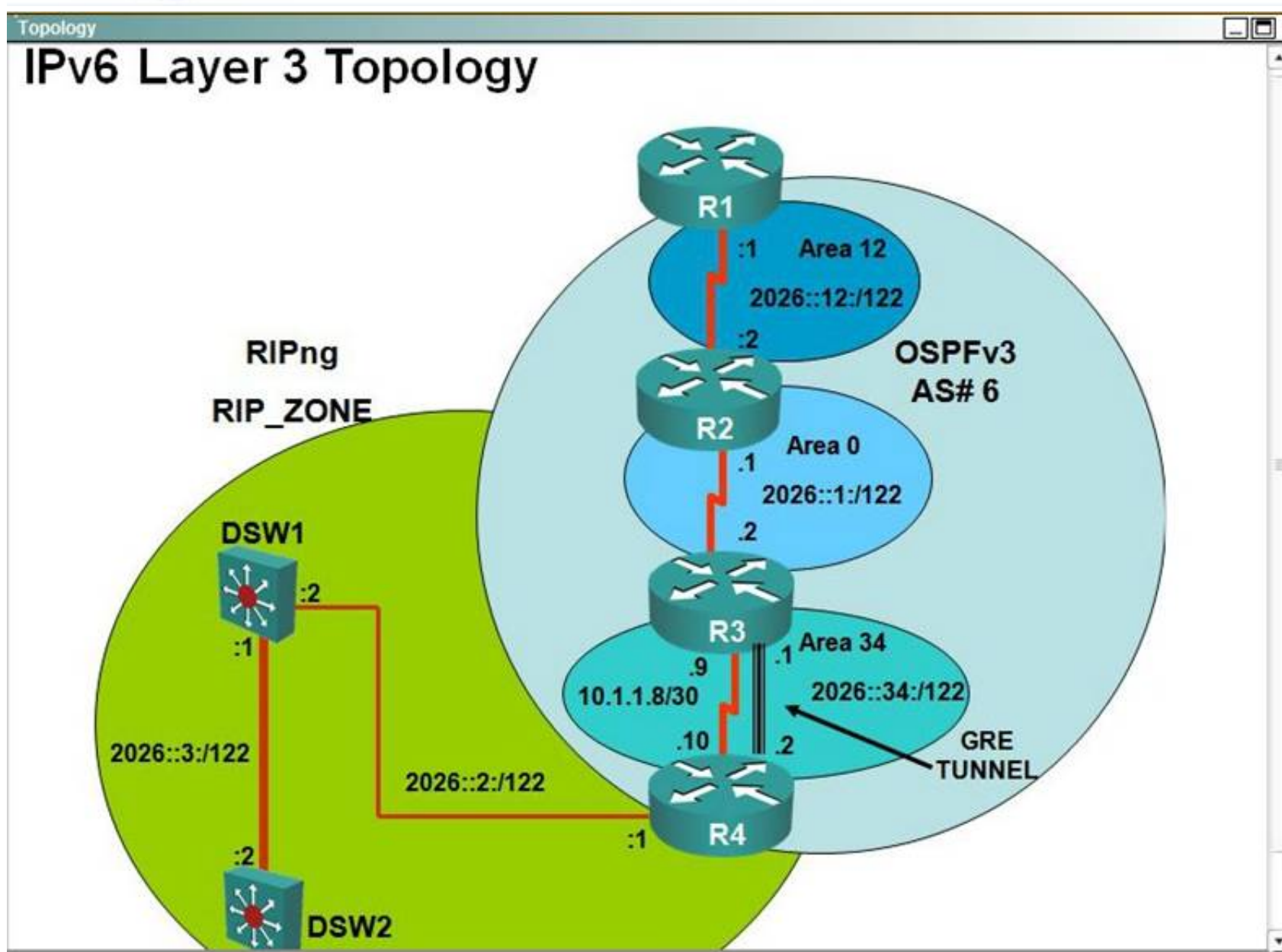
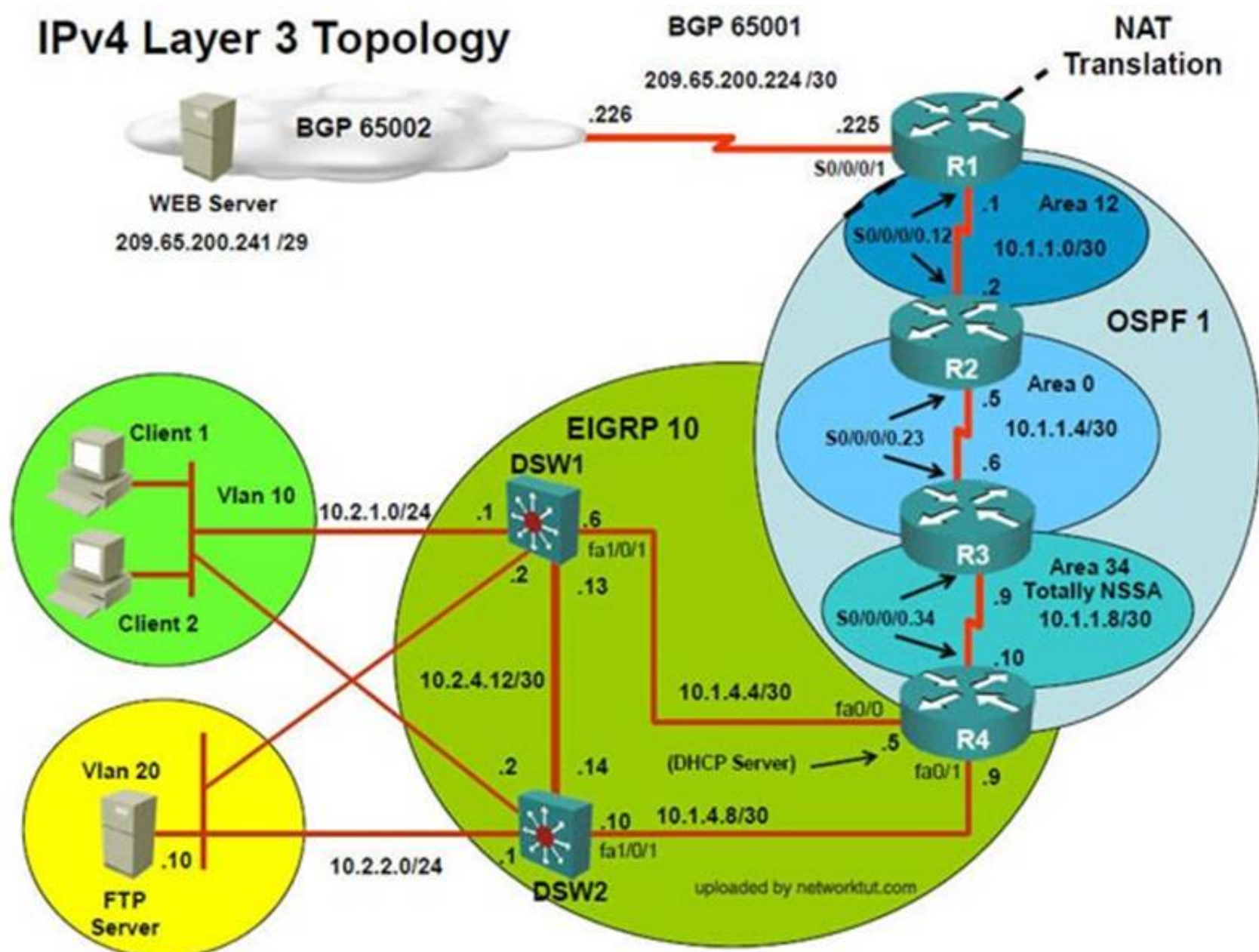
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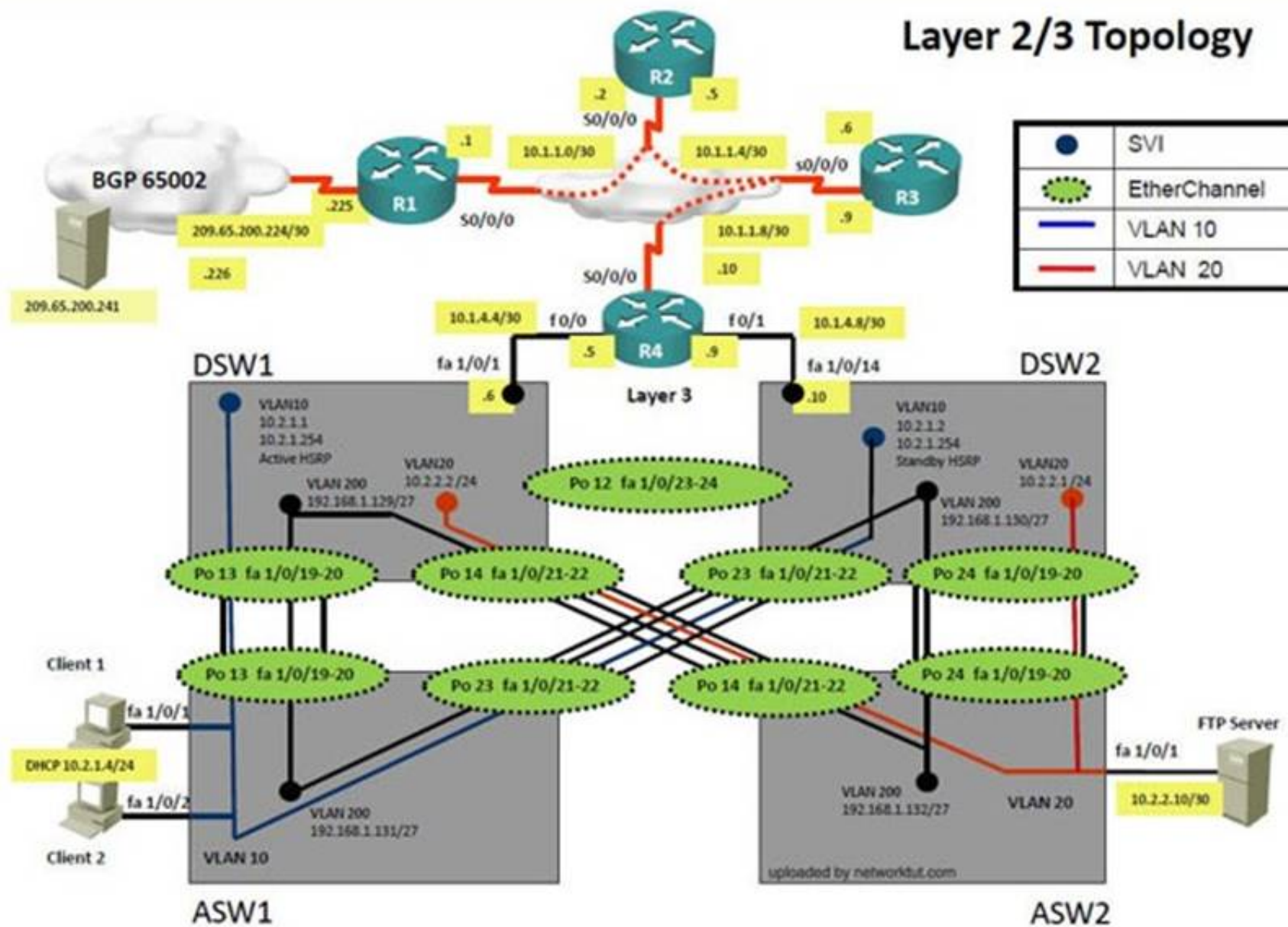
Question-2 Fault condition is related to,

Question-3 What exact problem is seen & what needs to be done for solution

=====



Layer 2/3 Topology



Questions

The implementation group has been using the test bed to do an IPv6 'proof-of-concept'. After several changes to the network addressing and routing schemes, a trouble ticket has been opened indicating that the loopback address on R1 (2026::111:1) is not able to ping the loopback address on DSW2 (2026::102:1).

Using the supported commands to isolate the cause of this fault and answer the following questions.

NEW QUESTION 161

Drag and drop the extended traceroute options from the left onto the troubleshooting they perform on the right.

max ttl	limits the number of hops a packet travels.
port number	limits the number of traceroute packets sent to a single destination.
probe count	troubleshoots connections generated from a specific interface.
source address	troubleshoots QoS issues
type of service	troubleshoots TCP and UDP port states

Answer:

Explanation: Max TTL → limits the number of hops a packet travel

Port number → troubleshoot connections generated from specific interface Probe count → limits the number of traceroute

Source address → troubleshoot TCP and UDP port

Type of service → troubleshoot QoS issues

NEW QUESTION 165

Drag the properties from the left onto their corresponding Unicast Reverse Path Forwarding mode on the right. Not all properties are used.

Source address must appear in routing table	Strict Mode <div>1</div> <div>2</div>
Source packet must be received on the interface that will forward the return traffic	
Configured on layer-2 switches	Loose Mode <div>1</div> <div>2</div> <div>3</div>
Configured on internet router outside interfaces	
Default route can be used in the source verification process	
Configured on internet router inside interface	

Answer:

Explanation:

Source address must appear in routing table	Strict Mode <div>Source packet must be received on the interface that will forward the return traffic</div> <div>Configured on internet router inside interface</div>
Source packet must be received on the interface that will forward the return traffic	
Configured on layer-2 switches	Loose Mode <div>Source address must appear in routing table</div> <div>Configured on internet router outside interfaces</div> <div>Default route can be used in the source verification process</div>
Configured on internet router outside interfaces	
Default route can be used in the source verification process	
Configured on internet router inside interface	

NEW QUESTION 169

Drag and drop the required GRE tunnel as below.

TCP MSS

Tunnel Destination Address

Tunnel IP Address

Tunnel Key

Tunnel Mode

Tunnel Source Address

Required Component

Optional Component

Answer:

Explanation:

TCP MSS

Tunnel Destination Address

Tunnel IP Address

Tunnel Key

Tunnel Mode

Tunnel Source Address

Required Component

Tunnel Destination Address

Tunnel IP Address

Tunnel Source Address

Optional Component

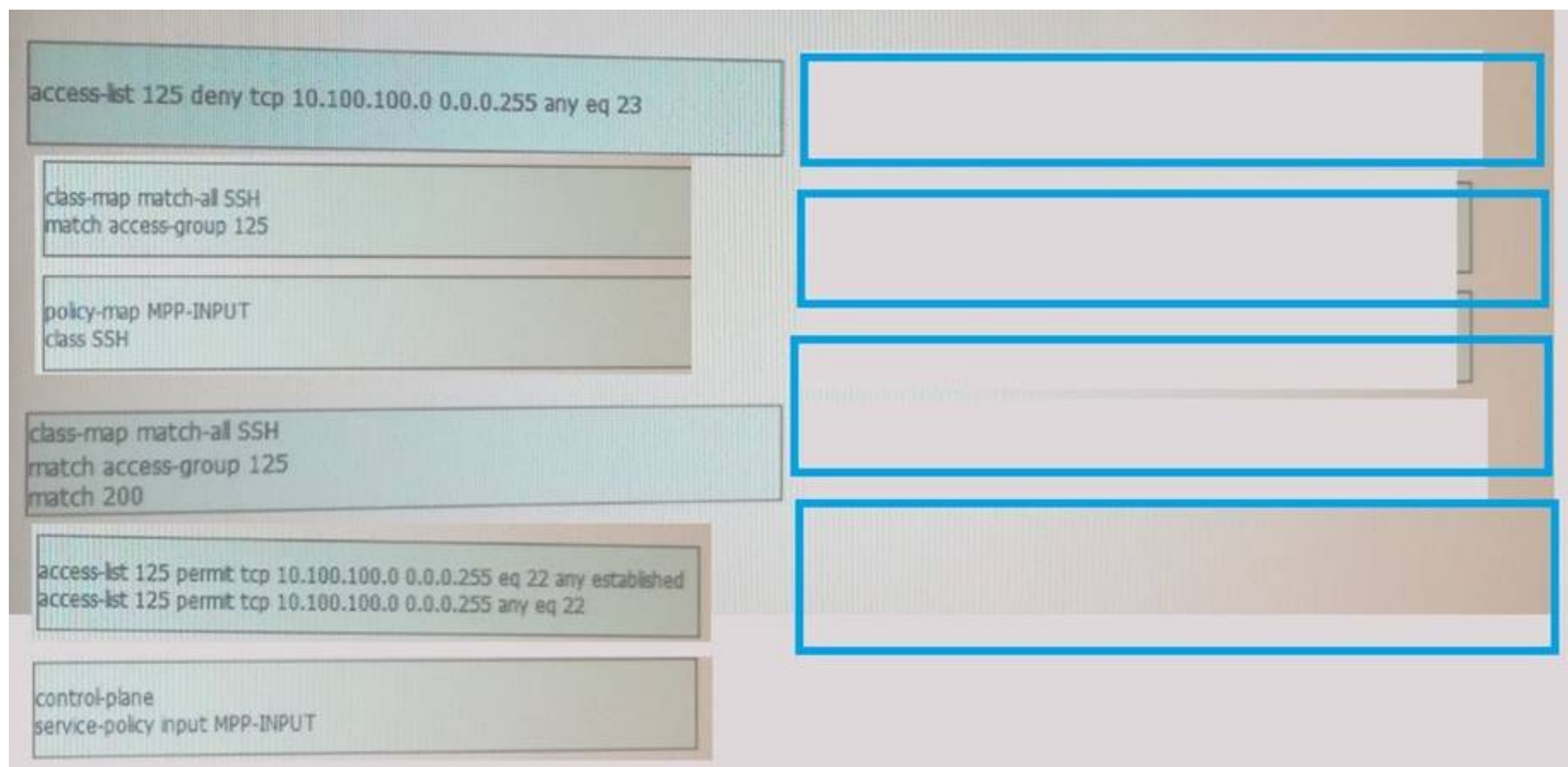
TCP MSS

Tunnel Key

Tunnel Mode

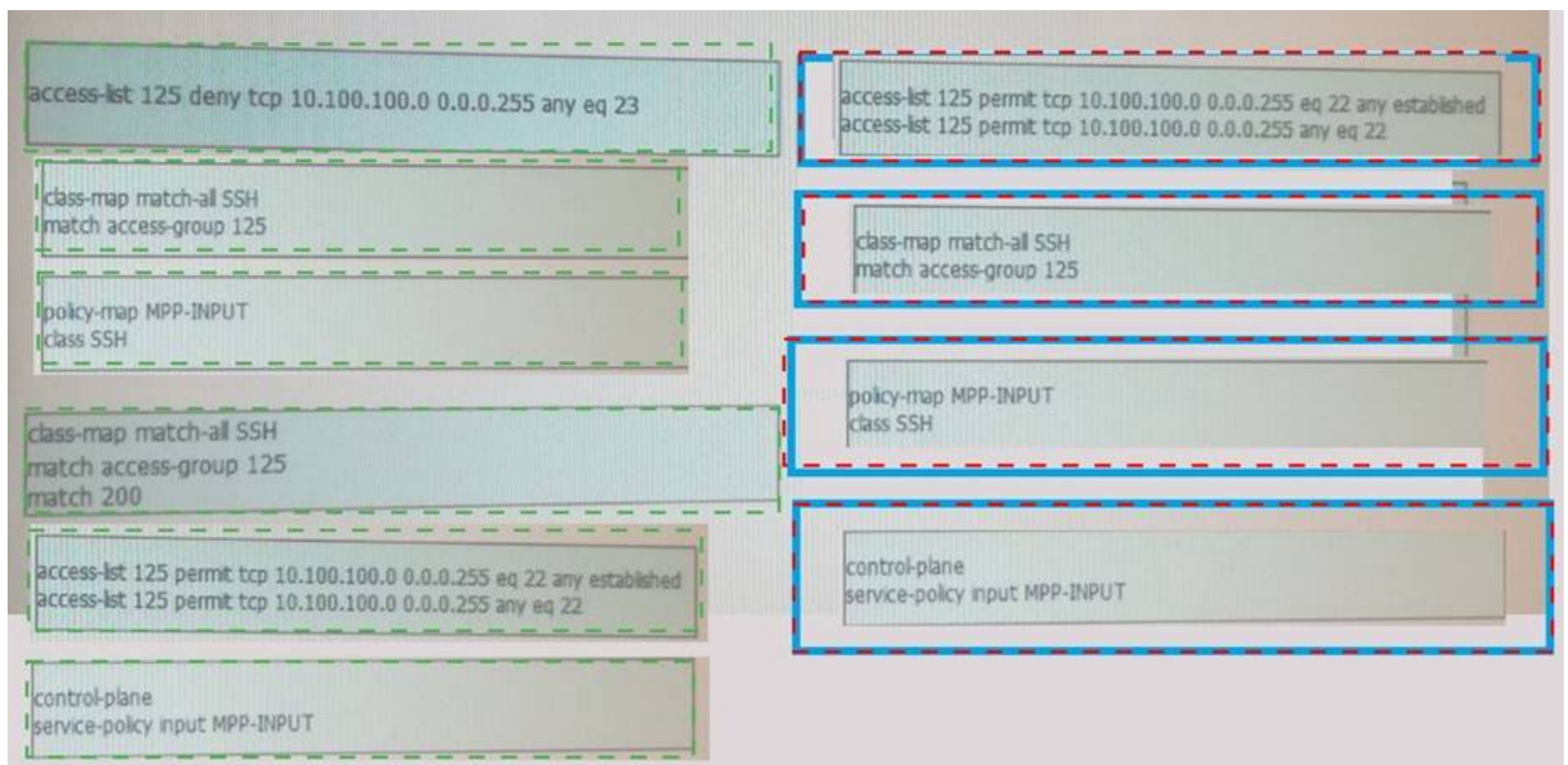
NEW QUESTION 170

You are configuring Management Plane Protection on R1, which connects to the 10.100.100.0/24 network using SSH. Drag and drop the required commands or command sequences from the left into the correct sequence on the right.



Answer:

Explanation:



NEW QUESTION 171

The implementation group has been using the test bed to do an IPv6 'proof-of-concept'. After several changes to the network addressing and routing schemes, a trouble ticket has been opened indicating that the loopback address on R1 (2026::111:1) is not able to ping the loopback address on DSW2 (2026::102:1). Use the supported commands to isolate the cause of this fault and answer the following question. What is the solution to the fault condition?

- A. Under the interface Tunnel34 configuration enter the `ipv6 ospf 6 area 34` command.
- B. Under the interface Loopback6 configuration enter the `ipv6 ospf 6 area 34` command.
- C. Under the interface Serial0/0/0.34 configuration enter the `ipv6 ospf 6 area 34` command.
- D. Under `ipv6 router ospf 6` configuration enter the `redistribute rip RIP_ZONE include-connected` command.

Answer: D

Explanation: As explained earlier, the problem is with route redistribution on R4 of not redistributing RIP routes into OSPF for IPV6.

NEW QUESTION 175

Drag and drop the mandatory and optional fields for GRE header on the right.

checksum
key
protocol type
reserved0
sequence number
version

Mandatory
Optional

Answer:

Explanation: Mandatory Reserved 0
Version Protocol Optional Checksum Key
Sequence number

NEW QUESTION 179

The implementation group has been using the test bed to do an IPv6 'proof-of-concept1. After several changes to the network addressing and routing schemes, a trouble ticket has been opened indicating that the loopback address on R1 (2026::111:1) is not able to ping the loopback address on DSW2 (2026::102:1). The fault condition is related to which technology?

- A. NTP
- B. IP DHCP Server
- C. IPv4 OSPF Routing
- D. IPv4 EIGRP Routing
- E. IPv4 Route Redistribution
- F. IPv6 RIP Routing
- G. IPv6 OSPF Routing
- H. IPV4 and IPV6 Interoperability
- I. IPv4 layer 3 security

Answer: G

Explanation: As explained earlier, the problem is with route redistribution on R4 of not redistributing RIP routes into OSPF for IPV6.

NEW QUESTION 182

The implementation group has been using the test bed to do an IPv6 'proof-of-concept1. After several changes to the network addressing and routing schemes, a trouble ticket has been opened indicating that the loopback address on R1 (2026::111:1) is not able to ping the loopback address on DSW2 (2026::102:1). Use the supported commands to isolate the cause of this fault and answer the following question. What is the solution to the fault condition?

- A. Under the interface Tunnel34 configuration delete the tunnel mode ipv6 command.
- B. Under the interface Serial0/0/0.34 configuration enter the ipv6 address 2026::34:1/122 command.
- C. Under the interface Tunnel34 configuration enter the ip address unnumbered Serial0/0/0.34 command.
- D. Under the interface Tunnel34 configuration delete the tunnel source Serial0/0/0.34 command and enter the tunnel source 2026::34:1/122 command.

Answer: A

Explanation: As explained earlier, the problem is with route misconfigured tunnel modes on R3. R3 is using tunnel mode ipv6, while R4 is using the default of GRE. We need to remove the "tunnel mode ipv6" command under interface Tunnel34

NEW QUESTION 183

You work as Network Engineer for RADO network Ltd company. You colleague has setup POC simulating customer network to study about the behavior of BGP protocol when routes are exchanged between two different autonomous systems. Review the topology. You need to identify and fix IBGP and EBGP issues on R1 router.

Topology Details: AS64520

* R1, R2 and R3 are three routers on AS 64520 and OSPF is IGP routing protocol configured between them.

* IBGP configured between R1, R2, and R3 routers using peer group.

* Loopback0 address is used for IBGP peering, Loopback0 address configured on R1, R2 and R3 are advertised into BGP domain on AS64520.

AS64525

* RA and RB are two routers on AS64525 and EIGRP is IGP routing protocol configured between them.

* Loopback0 address is used for IBGP peering, Loopback0 address configured on RA and RB advertised into BGP domain on AS64525.

* R1 and RRA from EBGP neighbor relationship using physical interface address.

* R2 and RB from EBGP neighbor relationship using physical interface address. Simulation requirements:

* Identify and fix EBGP neighbor relationship between R1 and R1 routers.

* Identify and fix IBGP neighbor relationship issue between R1 and R2, R1 and R3.

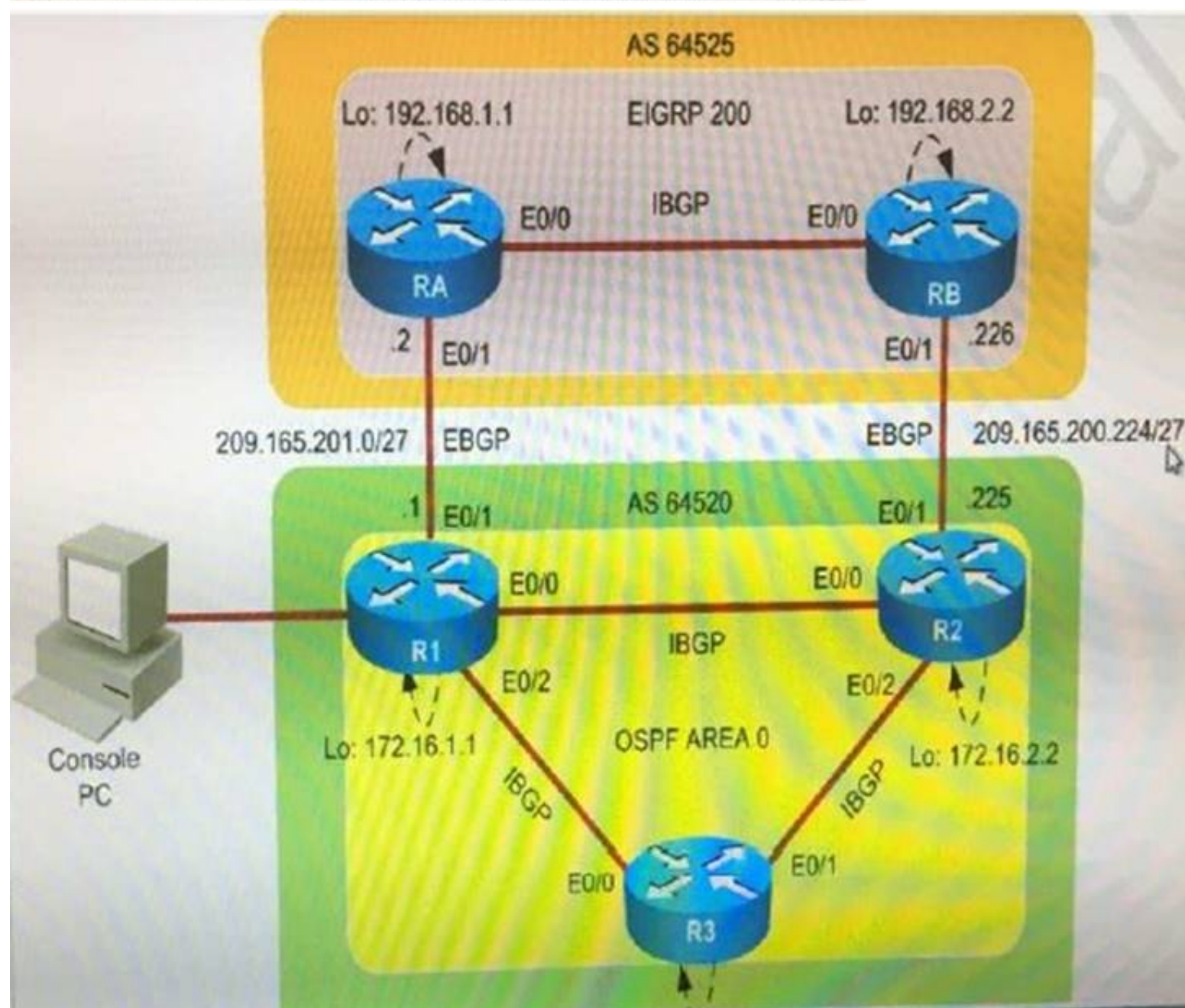
* You are allowed to remove any misconfiguration or incorrect configuration to only fix the issue and other initial configuration that not impacting the issues should not be changed.

* The Final BGP table, after fixing two issues on R1 router should display as shown below

R1#show ip bgp

Network	Next Hop	Metric	LocPrf	Weight	Path
*> 172.16.1.1/32	0.0.0.0	0		32768	i
*> 172.16.2.2/32	172.16.2.2	0	100	0	i
*> 172.16.3.3/32	172.16.3.3	0	100	0	i
*> 192.168.1.1/32	209.165.201.2	0		0	64525 i
*> 192.168.2.2/32	172.16.2.2	0	100	0	64525 i
*> 192.168.2.2/32	209.165.201.2	0		0	64525 i
*> 192.168.2.2/32	172.16.2.2	0	100	0	64525 i

Special Note: To gain the maximum number of points you must fix IBGP and EBGP neighbor issues on router R1



Answer:

Explanation: for EBGP and IBGP lab you have to make correction to the configuration in a router R1.

You have only access to Router R1.

R1 and RA should be neighbors through EBGP.

in R1 you will find this command:

(config-router)#Neighbor 209.165.277.2 remote-as 64525 The ip address here is wrong , delete this command using : (config-router)#No Neighbor 209.165.277.2 remote-as 64525

And replace it with new command with right ip of RAE0/1 interface by typing this command:

(config-router)#Neighbor 209.165.201.2 remote-as 64525

R1 and R2 and R3 are neighbors through IBGP, and R1 use the peer-group IBGP to form neighborhood between R1 and R2, and between R1 and R3, but actually there is issue with the IBGP peer-group commands in R1 You will find in R1 these following commands:

(config-router)#neighbor IBGP peer-group (config-router)#neighbor IBGP remote-as 64550 (config-router)#neighbor IBGP next-hop-self

(config-router)#neighbor IBGP update-source loopback 0

You must correct the Remote-AS for the Peer-Group IBGP to 64520 to form the neighborhood correctly.

Watch Out! If you delete the config with “no neighbor IBGP remote-as 64550” you also will delete the following lines:

(config-router)#neighbor IBGP peer-group (config-router)#neighbor IBGP next-hop-self

(config-router)#neighbor IBGP update-source loopback 0

So don't delete the line regarding the “remote-as”.

Just replace it with:

(config-router)#neighbor IBGP remote-as 64520

In the Scenario regarding the Lab, they tell you how the routing-table should look if you have done everything right!

So if your routing-table on R1 looks like the one they posted in the scenario you have done everything right and can go on to the next topic.

You have to use the command “show ip bgp ” to show bgp routing table , don't use “show ip route”

command

Topic 23, Mix Questions Set 2

NEW QUESTION 185

What level of logging is enabled on a Router where the following logs are seen?

%LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

- A. alerts
- B. critical
- C. errors
- D. notifications

Answer: D

Explanation: Cisco routers, switches, PIX and ASA firewalls prioritize log messages into 8 levels (0-7), as shown below:

Level	Level Name	Description
0	Emergencies	System is unusable
1	Alerts	Immediate action needed
2	Critical	Critical conditions
3	Errors	Error conditions
4	Warnings	Warning conditions
5	Notifications	Informational messages
6	Informational	Normal but significant conditions
7	Debugging	Debugging messages

When you enable logging for a specific level, all logs of that severity and greater (numerically less) will be logged. In this case we can see that logging level of 3 (as seen by the 3 in “LINK-3-UPDOWN”) and level 5 (as seen by the 5 in “LINEPROTO-5-UPDOWN”) are shown, which means that logging level 5 must have been configured. As shown by the table, logging level 5 is Notifications.

NEW QUESTION 186

Which of the following commands will display a router's crypto map IPsec security association settings?

- A. show crypto map ipsec sa
- B. show crypto map
- C. show crypto engine connections active
- D. show ipsec crypto map
- E. show crypto map sa
- F. show ipsec crypto map sa

Answer: A

NEW QUESTION 191


FCAPS is a network maintenance model defined by ISO. It stands for which of the following?

- A. Fault Management
- B. Action Management
- C. Configuration Management
- D. Protocol Management
- E. Security Management

Answer: ACE

Explanation: The FCAPS maintenance model consists of the following:

FCAPS Maintenance Tasks:

Fault – collect info from routers and switches, email at threshold limits, respond to trouble tickets  Configuration – log changes to network h/w or s/w. alert relevant folks of planned changes

Accounting – invoice users

Performance – monitor network performance and deploy QoS

Security – deploy firewall, VPN, IPS, create security policy, use AAA to validate credentials, etc.

NEW QUESTION 195

Which of the following statements concerning IGMP are correct? (Choose all that apply.)

- A. With IGMPv1, queries are sent to a specific group.
- B. Hosts issuing IGMPv1 requests will be correctly interpreted by IGMPv2 hosts due to backward compatibility.
- C. An IGMPv2 router will ignore IGMPv2 leave messages when IGMFV1 hosts are present.
- D. With IGMFV2, a leave message is supported.
- E. An IGMPv2 host will send an IGMFV1 report on an IGMFV1 router.

F. An IGMPv2 router can only allow IGMPv2 hosts to execute a join request.

Answer: CDE

NEW QUESTION 196

Which of the following commands provides data plane information required to forward a packet to a specific ip address?

- A. sh ip route
- B. sh ip cef <ip_address>
- C. sh adjacency <ip_address>
- D. sh ip route <ip_addres\$>
- E. sh ip adjacency </p_address>
- F. sh ip cef <mac_addrQss> <ip_address>

Answer: B

NEW QUESTION 201

Which of the following commands will restore a previously archived configuration by replacing the running configuration with the archived configuration?

- A. configure archive running-config
- B. configure replace
- C. copy archive running config
- D. copy startup-config running-config
- E. copy tftp running-config
- F. configure tftp running-config

Answer: B

NEW QUESTION 203

Which of the following are byproducts of a structured maintenance plan? (Choose all that apply.)

- A. Predictable security vulnerabilities
- B. Economies of scale
- C. Improved expenditure forecasts
- D. Increased downtime
- E. Predictable equipment obsolescence
- F. Consumption of fewer resources

Answer: ABCEF

NEW QUESTION 208

Which of the following are correct statements?

- A. EIGRP advertises the best routes to its neighbor.
- B. EIGRP uses "cost" to determine best path.
- C. EIGRP allows unequal cost load balancing.
- D. OSPF requires neighbor adjacencies before updates are sent.
- E. EIGRP advertises all routes to its neighbor.
- F. OSPF allows unequal cost load balancing.

Answer: ACD

NEW QUESTION 209

Given the multicast IP address of 224.193.5.10, what would the corresponding multicast MAC address be?

- A. 00-00-0c-c0-05-0a
- B. 00-00-0c-cl-05-0a
- C. 01-00-5e-00-00-0c
- D. 01-00-5e-41-05-0a
- E. 00-00-0c-01-00-5e
- F. 01-00-5e-cl-05-0a

Answer: F

Explanation: First three octets are 01-00-05e for every single multicast address. Las three octets are the hexadecimal version of the las three octets of the IP address, in this case 193.5.10 is translated to c1-05-0a.

Reference:

NEW QUESTION 211

Which of the following is an accurate description of the command copy startup-config ftp://kevin:cisco@192.168.1.74?

- A. The configuration on the FTP server is copied to RAM.
- B. The command is not valid on a Cisco router.
- C. The configuration file in RAM is copied to an FTP server.
- D. The configuration file in NVRAM is copied to an FTP server.

- E. The configuration on the FTP server is copied to NVRAM.
- F. The configuration will be copied from NVRAM to an FTP server with a filename of Kevin.

Answer: D

NEW QUESTION 214

Which of the following statements regarding documentation would not be considered a helpful step in the troubleshooting process?

- A. Use the Cisco Auto Configuration tool.
- B. Use the Cisco Rollback feature.
- C. Automate documentation.
- D. Schedule documentation checks.
- E. Use the Cisco Configuration Archive tool.
- F. Require documentation prior to a ticket being closed out.

Answer: A

NEW QUESTION 215

The following commands are issued on a Cisco Router: Router(configuration)#access-list 199 permit tcp host 10.1.1.1 host 172.16.1.1
Router(configuration)#access-list 199 permit tcp host 172.16.1.1 host 10.1.1.1 Router(configuration)#exit
Router#debug ip packet 199
What will the debug output on the console show?

- A. All IP packets passing through the router
- B. Only IP packets with the source address of 10.1.1.1
- C. All IP packets from 10.1.1.1 to 172.16.1.1
- D. All IP Packets between 10.1.1.1 and 172.16.1.1

Answer: D

Explanation: In this example, the “debug ip packet” command is tied to access list 199, specifying which IP packets should be debugged. Access list 199 contains two lines, one going from the host with IP address 10.1.1.1 to 172.16.1.1 and the other specifying all TCP packets from host 172.16.1.1 to 10.1.1.1.

NEW QUESTION 220

Which of the following are not BGRP data structures? (Choose all that apply.)

- A. EIGRP database table
- B. EIGRP CEF table
- C. EIGRP neighbor table
- D. EIGRP adjacency table
- E. EIGRP interface table
- F. EIGRP topology table

Answer: ABD

NEW QUESTION 224

Which of the following topology situations would be a good candidate for configuring DMVPN?

- A. Extranet VPN
- B. Managed overlay VPN topology
- C. Hub-and-spoke VPN topology
- D. Central-site VPN topology
- E. Full mesh VPN topology
- F. Remote-access VPN topology

Answer: E

NEW QUESTION 227

You enabled CDP on two Cisco Routers which are connected to each other. The Line and Protocol status for the interfaces on both routers show as UP but the routers do not see each other as CDP neighbors. Which layer of the OSI model does the problem most likely exist?

- A. Physical
- B. Session
- C. Application
- D. Data-Link
- E. Network

Answer: D

Explanation: CDP is a protocol that runs over Layer 2 (the data link layer) on all Cisco routers, bridges, access servers, and switches. CDP allows network management applications to discover Cisco devices that are neighbors of already known devices, in particular, neighbors running lower-layer, transparent protocols. With CDP, network management applications can learn the device type and the SNMP agent address of neighboring devices. This feature enables applications to send SNMP queries to neighboring devices. In this case, the line protocol is up which means that the physical layer is operational (layer 1) but the data link layer is not.

Reference: “Configuring CDP”

<http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/ios/12.1E/native/configuration/guide/cdp.html>

NEW QUESTION 232

Which of the following is not an essential prerequisite for AutoQoS to be correctly applied to an interface? (Choose all that apply.)

- A. The interface must be configured as a Multilink PPP interface.
- B. The correct bandwidth should be configured on the interface.
- C. A QoS policy must not be currently attached to the interface.
- D. CEF must be enabled.
- E. AutoQoS must be enabled globally before it can be enabled on the interface.
- F. An IP address must be configured on the interface if its speed is equal to or less than 768 kbps.

Answer: AE

NEW QUESTION 233

Which of the following options represents the correct sequence of DHCP messages after a client initially boots?

- A. DHCPREQUEST, DHCPOFFER, DHCPDISCOVER, DHCPACK
- B. DHCPDISCOVER, DHCP OFFER, DHCPREQUEST, DHCPACK
- C. DHCP OFFER, DHCPACK, DHCPREQUEST, DHCPDISCOVER
- D. DHCPDISCOVER, DHCPREQUEST, DHCP OFFER, DHCPACK
- E. DHCPREQUEST, DHCPDISCOVER, DHCP OFFER, DHCPACK
- F. DHCPDISCOVER, DHCPACK, DHCPREQUEST, DHCP OFFER

Answer: B

NEW QUESTION 238

Which of the following pieces of information will the command show interface provide? (Choose all that apply.)

- A. Layer 1 status
- B. Output queue drops
- C. Interface CPU utilization
- D. Cable type connected to interface
- E. Layer 2 status
- F. Input queue drops

Answer: ABEF

NEW QUESTION 240

Which of the following is not a characteristic of fast switching?

- A. Fast switching reduces a routers CPU utilization, compared to process switching.
- B. All packets of a flow, except for the first packet, use the information in the fast cache.
- C. It can be enabled with the interface command ip route-cache.
- D. Fast switching uses a fast cache maintained in a router's control plane.
- E. The fast cache contains information about how traffic from different data flows should be forwarded.
- F. Even though the fast switching is enabled, the first packet of a flow is still process switched.

Answer: D

NEW QUESTION 242

Which of the following are common issues that should be considered when establishing or troubleshooting site-to-site VPNs? (Choose all that apply.)

- A. User authentication
- B. Overlapping IP address space
- C. GRE or IPsec configuration
- D. MTU size
- E. VPN client software
- F. Authentication server configured ly

Answer: BCD

NEW QUESTION 244

Which two of the following options are categories of Network Maintenance tasks?

- A. Firefighting
- B. Interrupt-driven
- C. Policy-based
- D. Structured
- E. Foundational

Answer: BD

Explanation: Proactive Versus Reactive Network Maintenance:

Network maintenance tasks can be categorized as one of the following: Structured tasks: Performed as a predefined plan.

Interrupt-driven tasks: Involve resolving issues as they are reported.

Reference: CCNP TSHOOT Official Certification Guide, Kevin Wallace, Chapter 1, p.7

NEW QUESTION 245

Which of the following are valid modes of packet switching on most routers? (Choose all that apply.)

- A. Cisco Express Forwarding
- B. FIB switching
- C. Cache switching
- D. Optimized switching
- E. Process switching
- F. Fast switching

Answer: AEF

NEW QUESTION 248

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