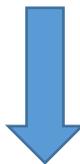


## Cisco CCNP Certification 300-135 Exam



- Vendor: Cisco
- Exam Code: 300-135
- Exam Name: Troubleshooting and Maintaining Cisco IP Networks  
(TSHOOT)

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**QUESTION 60**

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.

**QUESTION 61**

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

[http://www.cisco.com/en/US/tech/ABC389/ABC621/technologies\\_tech\\_note09186a00806cd87b.shtml](http://www.cisco.com/en/US/tech/ABC389/ABC621/technologies_tech_note09186a00806cd87b.shtml)

**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. 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

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 redistribution of EIGRP routing protocol, we need to change name of route-map to resolve the issue...

**QUESTION 62**

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.

**QUESTION 63**

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. 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: E**

**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.

**QUESTION 64**

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. Which is the solution to the fault condition?

- A. Under the EIGRP process, delete the redistribute ospf 1 route-map OSPF\_ to\_ EIGRP command and enter the redistribute ospf 1 route-map OSPF - > EIGRP command.
- B. Under the EIGRP process, delete the redistribute ospf 1 route-map OSPF\_ to\_ EIGRP command and enter the redistribute ospf 6 metric route-map OSPF - > EIGRP command.
- C. Under the OSPF process, delete the redistribute eigrp10 subnets route-map EIGRP - >OSPF command and enter the redistribute eigrp10 subnets route-map OSPF - > EIGRP command.
- D. Under the OSPF process, delete the redistribute eigrp10 subnets route-map EIGRP - >OSPF command and enter the redistribute eigrp10 subnets route-map EIGRP - > OSPF command.
- E. Under the EIGRP process, delete the redistribute ospf 1 route-map OSPF\_ to\_ EIGRP command and enter redistribute ospf 1 metric 100000 100 100 1 15000 route\_ map OSPF\_ to

\_EIGRP command

**Answer: A**

**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.

### **Ticket 9 : EIGRP AS number**

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

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
- From Client PC we can ping 10.2.1.254
- But IP 10.2.1.3 is not able to ping from R4, R3, R2, R1
- This clearly shows problem at R4 Kindly check routes in EIGRP there are no routes of eigrp.

- Check the neighborship of EIGRP on R4; there are no neighbor seen from DSW1 & DSW2 check the running config of EIGRP protocol it shows EIGRP AS 1 process.... Now check on DSW1 & DSW2

On DSW1 only one Eigrp neighbour is there with DSW2 but its not with R4...

```
DSW1#sh ip eigrp neighbors
EIGRP-IPv4 neighbors for process 10
H   Address                Interface      Hold Uptime   SRTT   RTD   Q   Seq
   (sec)                    (ms)
1   10.2.4.14                Po12          13 2w0d      2     200  0   73
DSW1#sh ip route
```

- From above snapshot & since R4 has EIGRP AS number 1 due to which neighbour is not happening.

- Change required: On R4, IPV4 EIGRP Routing, need to change the EIGRP AS number from 1 to 10 since DSW1 & DSW2 is having EIGRP AS number 10

**QUESTION 65**

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.

**QUESTION 66**

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. 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: D**

**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.

**QUESTION 67**

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.

**Ticket 10 : VLAN Access Map**

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

Client 1 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
- From Client PC we can ping 10.2.1.254....
- But IP 10.2.1.3 is not able to ping from R4, R3, R2, R1

```
DSW1
vlan access-map test1 10
  action drop
  match ip address 10
vlan access-map test1 20
  action drop
  match ip address 20
vlan access-map test1 30
  action forward
  match ip address 30
vlan access-map test1 40
  action forward
!
vlan filter test1 vlan-list 10
vlan internal allocation policy ascending
```

```
!
access-list 10 permit 10.2.1.3
access-list 20 permit 10.2.1.4
access-list 30 permit 10.2.1.0 0.0.0.255
```

Change required: 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

**QUESTION 68**

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

**QUESTION 69**

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

**Answer: J**

**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

**QUESTION 70**

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

### **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

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).

### **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

**QUESTION 71**

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

**QUESTION 72**

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

### QUESTION 73

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. What is the solution to fault condition?

- A. Under the interface Serial 0/0/0.23 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:/122 area 0 command.
- D. Under ipv6 router ospf 6 configuration enter no passive-interface default command.

**Answer: A**

**Explanation:**

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

### 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. 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

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 209.85.200.241. 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 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 0 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.

**QUESTION 74**

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.

**QUESTION 75**

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

**Answer: B**

**Explanation:**

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

**QUESTION 76**

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.

### **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. 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

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, FHRP services, and device security, a trouble ticket has been opened indicating that DSW1 will not become the active router for HSRP group 10.

**Solution:**

- 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 DHCP ip address is not allowed for network 10.2.1.0/24 which clearly shows the problem lies on R4 & the problem is of DHCP

**QUESTION 77**

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

**QUESTION 78**

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

**QUESTION 79**

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.

**Ticket 14 : EIGRP Passive Interface**

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

The neighborship between R4 and DSW1 wasn't established. Client 1 can't ping R4

The Configuration on R4

```
router eigrp 10
passive-interface default
redistribute ospf 1 route-map OSPF->EIGRP network 10.1.4.4 0.0.0.3
network 10.1.4.8 0.0.0.3
default-metric 10000 100 255 1 10000
no auto-summary
```

#### **QUESTION 80**

On Which device is the fault condition located?

- A. R1
- B. R2
- C. R3
- D. R4

**Answer: D**

#### **QUESTION 81**

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: D**

#### **QUESTION 82**

What is the solution to the fault condition?

- A. Remove "Passive interface" in Interface f0/1 and f0/0
- B. Pending
- C. Pending

D. Pending

**Answer: A**

**QUESTION 83**

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