



# 300-510<sup>Q&As</sup>

Implementing Cisco Service Provider Advanced Routing Solutions  
(SPRI)

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**QUESTION 1**

Refer to the exhibit.

```
R1
interface gigabitethernet0/0
  ip address 192.168.2.1 255.255.255.0
  ip router isis
router isis
  net 49.0022.1111.1111.1111.00
  is-type level-1

R2
interface gigabitethernet0/1
  ip address 192.168.1.2 255.255.255.0
  ip router isis
router isis
  net 49.0021.1111.1111.1112.00
  is-type level-1
```

Routers R1 and R2 cannot form a neighbor relationship, but the network is otherwise configured correctly and operating normally. Which two statements describe the problem? (Choose two.)

- A. The two routers are in the same area
- B. The two routers are in different subnets
- C. The two routers have password mismatch issues
- D. The two routers have the same network ID
- E. The two routers are in different areas

Correct Answer: BE

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**QUESTION 2**

What are two differences between OSPF and IS-IS? (Choose two.)

- A. OSPF is a link-state routing protocol, and IS-IS is a distance-vector routing protocol.

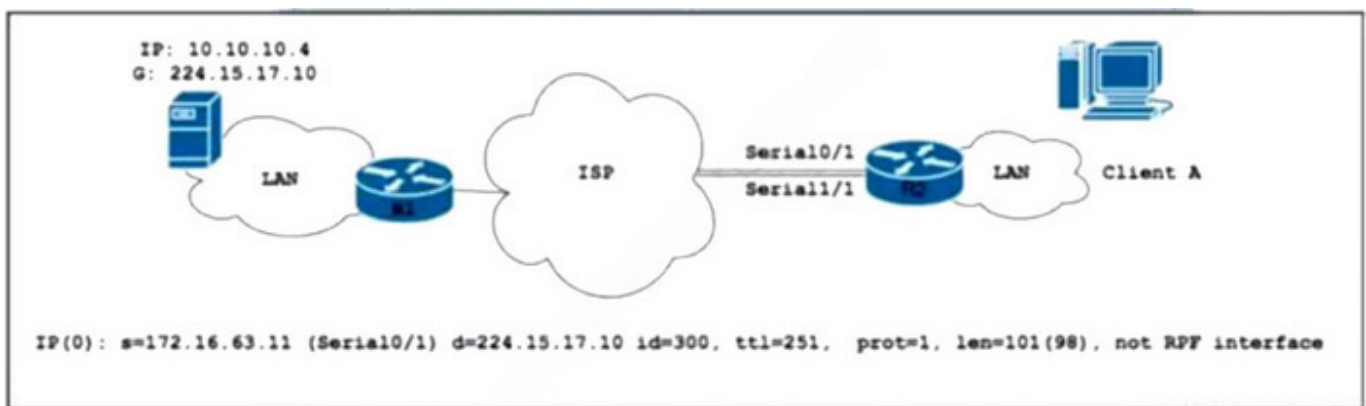


- B. OSPF uses a router ID to identify a router, and IS-IS uses a system ID.
- C. OSPF elects a DR and a BDR, and IS-IS elects a DIS.
- D. Unlike OSPF, IS-IS supports virtual links.
- E. Unlike IS-IS routers, an OSPF router belongs to only one area in addition to the backbone area.

Correct Answer: BC

### QUESTION 3

Refer to the exhibit.



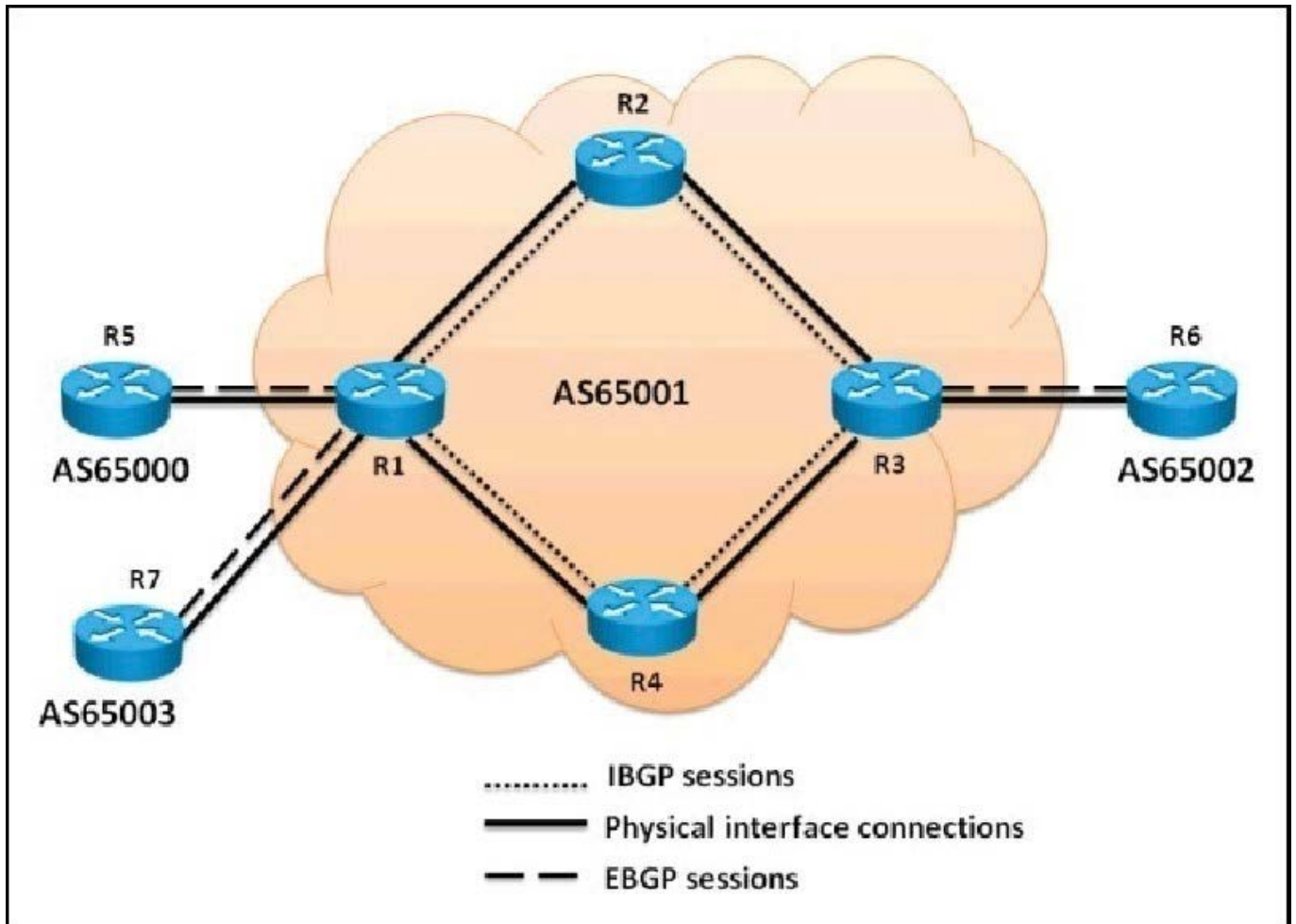
Mid-sized company Z connected two branch offices via a multicast-enabled ISP using the BGP routing protocol. PIM was implemented to support multicast streaming between the branches via MSDP. Client A cannot connect to the multicast stream source of company Z. The network engineer ran a debug on the edge of the network as shown. Which action resolves the issue?

- A. Enable the BGP routing protocol and advertise the 10.10.10.0/24 subnet on R1.
- B. Deploy BSR on routers R1 and R2 and enable multicast on both LAN segments.
- C. Configure the PIM protocol on the Serial1/1 interface and enable Auto-RP.
- D. Implement MBGP and enable a multicast address family on R2.

Correct Answer: D

### QUESTION 4

Referring to the topology diagram show in the exhibit, which three statements are correct regarding the BGP routing updates? (Choose three.)



- A. The EBGP routing updates received by R1 from R5 will be propagated to the R2, R4, and R7 routers
- B. The EBGP routing updates received by R3 from R6 will be propagated to the R2 and R4 routers
- C. The EBGP routing updates received by R1 from R5 will be propagated to the R2 and R4 routers
- D. The IBGP routing updates received by R3 from R2 will be propagated to the R6 router
- E. The IBGP routing updates received by R2 from R1 will be propagated to the R3 router
- F. The IBGP routing updates received by R1 from R4 will be propagated to the R5, R7, and R2 routers

Correct Answer: ABD

#### QUESTION 5

Which feature is used in multicast routing to prevent loops?

- A. STP
- B. inverse ARP



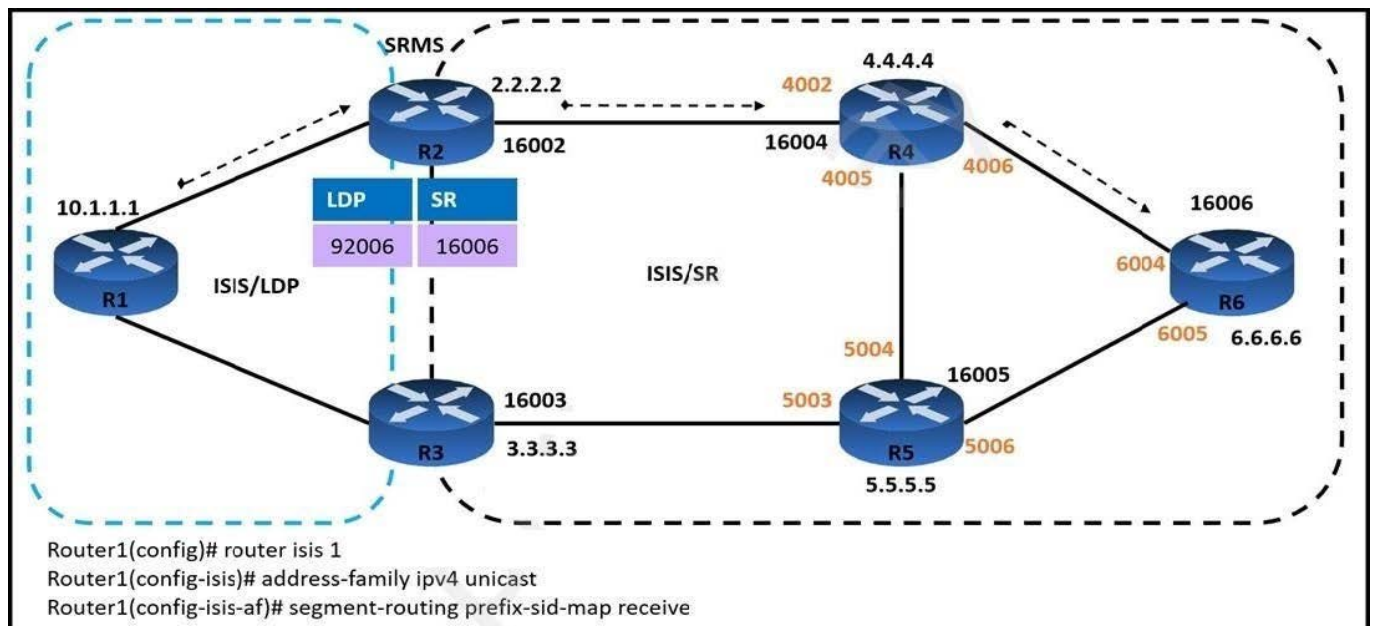
C. RPF

D. split horizon

Correct Answer: C

### QUESTION 6

Refer to the exhibit



An engineer is configuring service traffic from router R1 to R6 as shown. Which additional configuration must the engineer implement so that the LDP and SR domains will participate and interwork with each other?

- A. Router2(config)# segment-routing Router2(config-sr)# ldp mapping-server Router2(config-sr-ms)# prefix-sid-map Router2(config-sr-ms-map)# Router2(config-sr-ms-map-af)# 2.2.2.2/32 500 range 4
- B. Router2(config)# segment-routing Router2(config-sr)# sr mapping-server Router2(config-sr-ms)# ldp-sid-map Router2(config-sr-ms-map)# address-family ipv4 Router2(config-sr-ms-map-af)# 10.1.1.1/32 500 range 50
- C. Router2(config)# segment-routing Router2(config-sr)# mapping-server Router2(config-sr-ms)# prefix-sid-map Router2(config-sr-ms-map)# address-family ipv4 Router2(config-sr-ms-map-af)# 10.1.1.1/32 500 range 50
- D. Router2(config)# segment-routing Router2(config-sr)# ldp mapping-server Router2(config-sr-ms)# prefix-sid-map Router2(config-sr-ms-map)# address-family ipv4 Router2(config-sr-ms-map-af)# 2.2.2.2/32 500 range 40

Correct Answer: C

Reference: [https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/segment-routing/configuration/guide/b-seg-routing-cg-asr9k/b-seg-routing-cg-asr9k\\_chapter\\_01001.html](https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/segment-routing/configuration/guide/b-seg-routing-cg-asr9k/b-seg-routing-cg-asr9k_chapter_01001.html)

### QUESTION 7



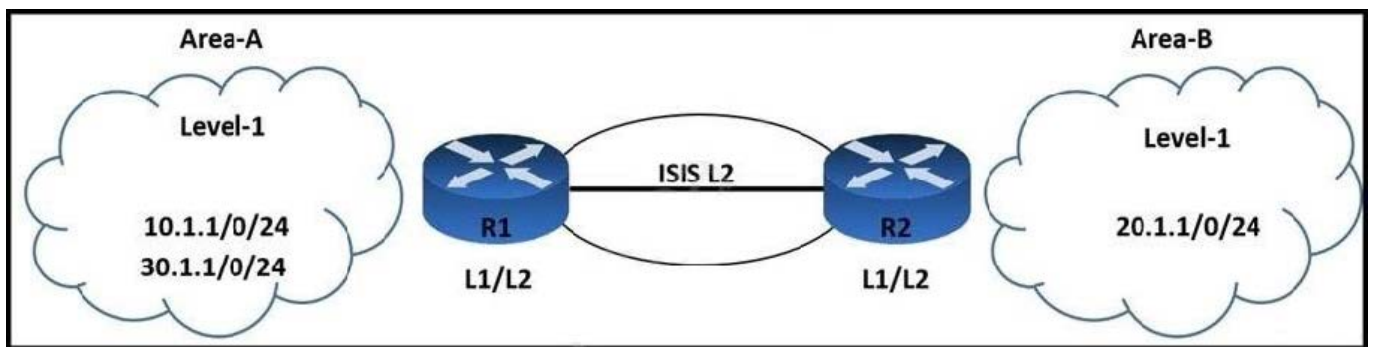
Which task is performed when troubleshooting LDP?

- A. Execute the ping utility to generate information about the MAC addresses used along the path
- B. Verify that MPLS is disabled globally and enabled on the necessary interfaces in a per-interface basis
- C. Execute the traceroute utility to generate information about the labels used along the path
- D. Verify that Cisco Express Forwarding has been disabled on the network

Correct Answer: C

### QUESTION 8

Refer to the exhibit.



An engineer is troubleshooting IS-IS configuration between two areas. IS-IS Area-A network 30.1.1.0/24 is leaked into IS-IS Area-B. R2 is failing to filter the route updates from network 10.1.1.0/24. Which configuration must the engineer apply to resolve the issue?

- A. R2(config)# ip prefix-list List2 seq 5 deny 10.1.1.0/24 R2(config)# interface fastethernet 0/0 R2(config-if)# ip router isis 100 R2(config-if)# router isis 100 R2(config-router)# distribute-list gateway List2 in
- B. R2(config)# ip prefix-list List1 seq 3 deny 10.1.1.0/24 R2(config)# ip prefix-list List1 seq 5 permit 30.1.1.0/24 ge 25 1e R2(config)# ip prefix-list List1 seq 10 permit 0.0.0.0/le 32 R2(config)# interface fastethernet 0/0 R2(config-if)# ip router isis 122 R2(config-if)# router isis 122 R2(config-router)# distribute-list prefix List1 in
- C. R1(config)# ip prefix-list List2 seq 5 deny 10.1.1.0/24 R1(config)# interface fastethernet 0/0 R1(config-if)# ip router isis 100 R1(config-if)# router isis 100 R1(config-router)# distribute-list gateway List2 in R (config-if)# router isis 150 R1(config-router)# distribute-list route-map Map1 in
- D. R2(config)# access-list 101 deny ip any 10.1.1.0 0.0.0.127 R2(config)# access-list 101 permit ip any 30.1.1.0 0.0.0.63 R2(config)# access-list 101 deny ip any 0.0.0.0 0.0.0.0 R2(config)# interface fastethernet 0/0 R2(config-if)# ip router isis 121 R2(config-if)# router isis 121 R2(config-router)# distribute-list 101 in

Correct Answer: C

Reference: [https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/iproute\\_isis/configuration/15-mt/irs-15-mt-book/isis-inbound-filtering.html](https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/iproute_isis/configuration/15-mt/irs-15-mt-book/isis-inbound-filtering.html)

### QUESTION 9





### DRAG DROP

Drag the IPv6 tunneling mechanisms on the left to match the correct manual or automatic tunneling category on the right.

Select and Place:

IPv6-in-IPv4

6to4

6RD

GRE

Manually configured tunnel

Target

Target

Automatic tunnel

Target

Target

Correct Answer:

Manually configured tunnel

IPv6-in-IPv4

GRE

Automatic tunnel

6RD

6to4

### QUESTION 10

What are three requirements for a static IPv6-in-IPv4 tunnel? (Choose three.)

- A. A static IPv6 address must be configured.
- B. A dynamic IPv6 address must be configured.
- C. Cisco Express Forwarding must be enabled.
- D. Each tunnel endpoint must support IPv4 and IPv6.
- E. A static IPv4 address must be configured.
- F. A dynamic IPv4 address must be configured.

Correct Answer: ADF

**QUESTION 11**

Refer to the exhibit.

```
router bgp 65515
  neighbor 192.168.1.1 route-map ciscotest in
  neighbor 192.168.1.1 remote-as 65516

ip as-path access-list 1 permit _65517_

route-map ciscotest permit 10
  match as-path 1
  set local-preference 150
```

After troubleshooting BGP traffic steering issue, which action did the network operator take to achieve the correct effect of this configuration?

- A. Routes that have passed through AS 65517 have the local preference set to 150.
- B. Routes that have originated through AS 65517 have the local preference set to 150.
- C. Routes directly attached to AS 65517 have the local preference set to 150.
- D. Routes that have passed through AS 65517 have the local preference set to 150 and the traffic is denied.

Correct Answer: A

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**QUESTION 12**

Which keyword is used with the match route-type command to redistribute the external BGP and IGP routes using route map?

- A. match route-type type-1
- B. match route-type nssa-external
- C. match route-type type-2
- D. match route-type external

Correct Answer: D

Reference: <https://www.cisco.com/c/en/us/support/docs/ip/border-gateway-protocol-bgp/49111-route-map-bestp.html>

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**QUESTION 13**

Refer to the exhibit.

```
R1

ip as-path access-list 10 permit ^65516$

router bgp 65515
  neighbor 192.168.1.2 remote-as 65516
  neighbor 192.168.1.2 route-map ciscotest in

route-map ciscotest permit 10
  match as-path 10
```

R1 is expected to receive routes originating from AS 65516 and from any ASs that are directly attached to it. However, R1 is receiving routes only from AS 65516. Which action corrects the configuration?

- A. Change the regular expression in the AS-path permit filter to .\*.
- B. Change the regular expression in the AS-path permit filter to ^65516\_[0-9]\*\$.
- C. Add the regular expression ^\$. in the AS-path filter to permit the traffic from R2.
- D. Change the regular expression in the AS-path permit filter to \_65516\_.

Correct Answer: B

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