

300-510^{Q&As}

Implementing Cisco Service Provider Advanced Routing Solutions
(SPRI)

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QUESTION 1

Refer to the exhibit.

```
R1#  
interface LoopBack0  
  no ip address  
  ipv6 address 2000:1::1/96  
interface Loopback2  
  no ip address  
  ipv6 address 2000:1::1/86  
  ipv6 router isis area1  
  
R2#show isis ipv6 unicast rib  
IS-IS IPv6 process area1, local RIB  
* 2000:1::/96  
  via FE80::C801:4CFF:FE54:8/FastEthernet0/0, type L1 metric 10 tag 0 LSP [5/6]  
  via FE80::C801:4CFF:FE54:8/FastEthernet0/0, type L2 metric 10 tag 0 LSP [4/6]  
2001:688:1001:1000::2/128  
  via FE80::C801:4CFF:FE54:8/FastEthernet0/0, type L2 metric 20 tag 0 LSP [4/6]
```

After configuring IS-IS on routers R1 and R2, an engineer notices that only the loopback interface at 2000:1::1 /96 is known to router R2. Which change must be made so that only Loopback2 is advertised from R1 to R2?

- A. Configure the router isis area1 command under the Loopback0 interface on R1.
- B. Remove the advertise passive-only command under the IS-IS address family ipv6 configuration
- C. Remove the ipv6 router isis area1 command under the Loopback2 interface on R1.
- D. Remove the passive-interface Loopback0 command under the router isis area1 configuration.

Correct Answer: C

QUESTION 2

What is the difference between a source tree and a shared tree in a multicast environment?

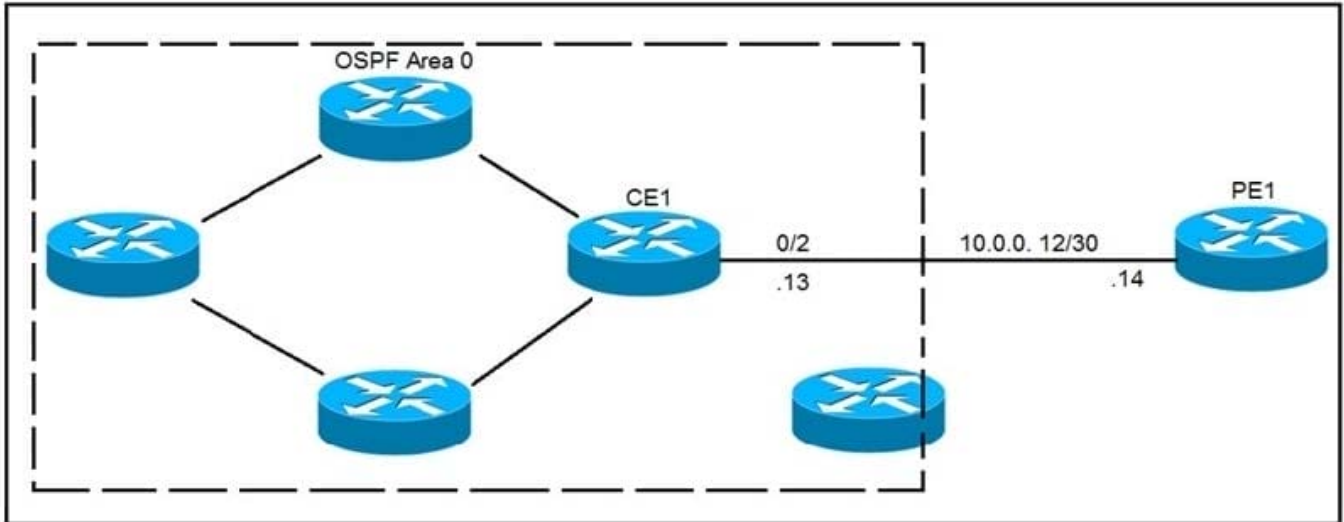
- A. To route traffic from source to receiver a source tree uses a link-state routing protocol and a shared tree uses a distance-vector routing protocol.
- B. A source tree has its root at the source, and a shared tree has its root at a designated rendezvous point.
- C. To stream multicast from source to receiver, a source tree uses PIM-SM and a shared tree uses PIM-DM.
- D. Source trees are the default type for bidirectional PIM, and PIM-DM uses shared trees by default.

Correct Answer: B

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipmulti_pim/configuration/xe-16-5/imc-pim-xe-16-5-book/imc-tech-oview.html

QUESTION 3

Refer to the exhibit.



CE1 is the gateway router into the provider network via PE1. A network operator must inject a default route into OSPF area 0. All devices inside area 0 must be able to reach PE1. Which configuration achieves this goal?

- A. #CE1
router ospf 1
default-information originate always
- B. #CE1
ip route 0.0.0.0 0.0.0.0 GigabitEthernet0/2 10.0.0.14
!
router ospf 1
redistribute static
- C. #CE1
ip route 0.0.0.0 0.0.0.0 GigabitEthernet0/2 10.0.0.14
!
router ospf 1
default-information originate
- D. #CE1
ip route 0.0.0.0 0.0.0.0 GigabitEthernet0/2 10.0.0.14
!
router ospf 1
redistribute static subnets

A. Option A

B. Option B

C. Option C

D. Option D

Correct Answer: C

Reference: <https://www.cisco.com/c/en/us/support/docs/ip/open-shortest-path-first-ospf/47868-ospfdb9.html>

QUESTION 4

Refer to the exhibit.

```
Router 1:  
router bgp 65515  
  address-family ipv4 unicast  
    bgp additional-paths receive  
    bgp additional-paths select group-best  
  neighbor 192.168.1.1 activate  
  neighbor 192.168.1.1 additional-paths send receive  
  neighbor 192.168.1.1 advertise additional-paths group-best
```

An engineer working for a private telecommunication company with an employee id: 1234:09:567 implemented this configuration on Router1, what is the effect of it?

- A. Router 1 receives only one best path from neighbor 192.168.1.1
- B. Router 1 sends only one best path to neighbor 192.168.1.1
- C. Router 1 sends up to three paths to neighbor 192.168.1.1 for all routes
- D. Router 1 sends and receives multiple best paths from neighbor 192.168.1.1

Correct Answer: D

QUESTION 5

Refer to the exhibit.

```
show ip route ospf  
  
O    192.168.1.0/24 [110/11] via 172.16.14.1, 01:17:30, Ethernet0/0  
O IA 192.168.2.0/24 [110/21] via 172.16.14.1, 00:49:23, Ethernet0/0  
O IA 192.168.3.0/24 [110/21] via 172.16.14.1, 00:47:37, Ethernet0/0  
O IA 192.168.20.0/24 [110/21] via 172.16.14.1, 00:49:08, Ethernet0/0  
O IA 192.168.21.0/24 [110/21] via 172.16.14.1, 01:11:23, Ethernet0/0  
O IA 192.168.22.0/24 [110/21] via 172.16.14.1, 01:11:13, Ethernet0/0  
O IA 192.168.23.0/24 [110/21] via 172.16.14.1, 01:11:03, Ethernet0/0  
O IA 192.168.32.0/24 [110/21] via 172.16.14.1, 00:47:50, Ethernet0/0  
O IA 192.168.33.0/24 [110/21] via 172.16.14.1, 01:04:37, Ethernet0/0  
O IA 192.168.34.0/24 [110/21] via 172.16.14.1, 00:02:26, Ethernet0/0  
O IA 192.168.35.0/24 [110/21] via 172.16.14.1, 00:02:16, Ethernet0/0  
O IA 192.168.36.0/24 [110/21] via 172.16.14.1, 00:02:06, Ethernet0/0  
O IA 192.168.37.0/24 [110/21] via 172.16.14.1, 00:01:56, Ethernet0/0  
O IA 192.168.38.0/24 [110/21] via 172.16.14.1, 00:01:43, Ethernet0/0  
O IA 192.168.39.0/24 [110/21] via 172.16.14.1, 00:01:28, Ethernet0/0
```

An engineer applied the summarization configuration on R1 for four networks (192.168.20.0/24 to 192.168.23.0/24) in area 1 and eight networks (192.168.32.0/24 to 192.168.39.0/24) in area 2 to stop the flooding of all the customer routes. While checking the routing table of R2, the engineer noticed that R1 is still sending only specific routes to R2. Which

configuration should the engineer apply on R1 to summarize routes?

- A. R1(config)# **router ospf 1**
R1(config-router)# **area 1 range 192.168.20.0 255.255.248.0**
R1(config-router)# **area 2 range 192.168.32.0 255.255.240.0**
- B. R1(config)# **router ospf 1**
R1(config-router)# **area 1 range 192.168.20.0 255.255.252.0**
R1(config-router)# **area 2 range 192.168.32.0 255.255.240.0**
- C. R1(config)# **router ospf 1**
R1(config-router)# **area 1 range 192.168.20.0 255.255.252.0**
R1(config-router)# **area 2 range 192.168.32.0 255.255.253.0**
- D. R1(config)# **router ospf 1**
R1(config-router)# **area 1 range 192.168.20.0 255.255.252.0**
R1(config-router)# **area 2 range 192.168.32.0 255.255.248.0**

A. Option A

B. Option B

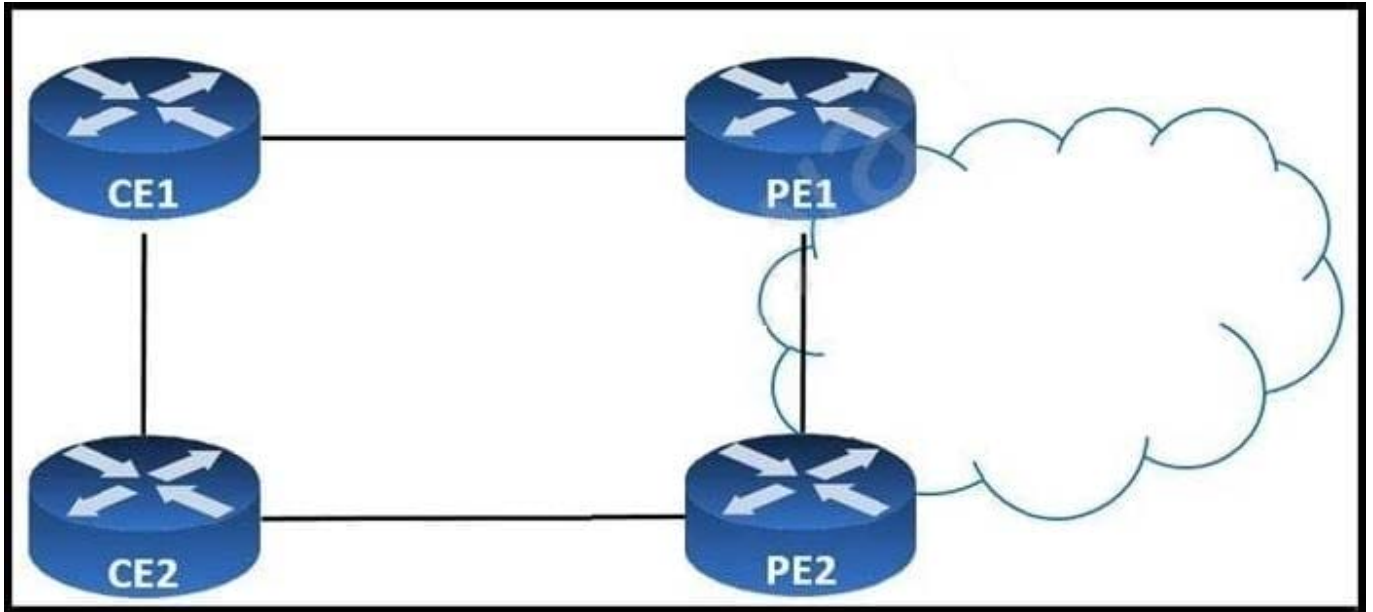
C. Option C

D. Option D

Correct Answer: D

QUESTION 6

Refer to the exhibit.



CE1 and CE2 are iBGP neighbors in AS 65516. All traffic that exits AS 65516 must use the link from CE1 to PE1. CE1 is advertising a higher local preference to CE2, but traffic from CE2 still prefers the PE2 link. Which action corrects the problem?

- A. Add the lower local-preference value on PE2 towards CE2.
- B. Configure CE1 to send routes to CE2 with a higher MED.
- C. Configure CE1 to send routes to CE2 with a higher weight.
- D. Add the next-hop self command to the CE1 neighbor statement for CE2.

Correct Answer: A

Reference: <https://www.cisco.com/c/en/us/support/docs/ip/border-gateway-protocol-bgp/13753-25.html>

QUESTION 7

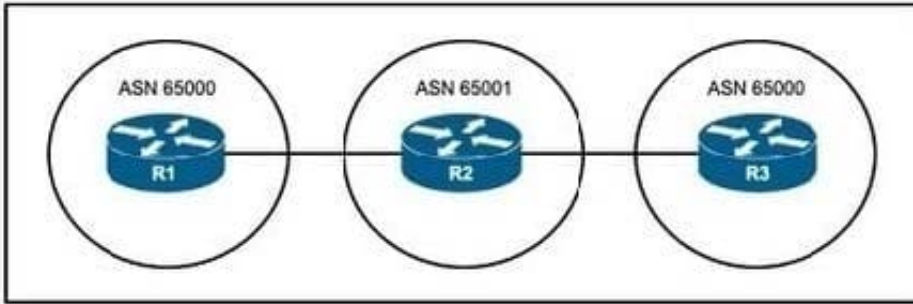
For which reason can two BGP peers fail to establish a neighbor relationship?

- A. Their BGP send-community strings are misconfigured
- B. Their BGP timers are mismatched
- C. Their remote-as numbers are misconfigured
- D. They are both activated under an IPv4 address family

Correct Answer: C

QUESTION 8

Refer to the exhibit.



An engineer is troubleshooting an issue with this network and notices that prefixes from R3 are missing on the R1 routing table. Due to repeated ASN when the 10.0.0.0/8 prefix from R3 arrives at R1, BGP automatically rejects it. There is no prefix-list on R1 which blocks the traffic from R3. What should the engineer do to fix the problem so that BGP allows that prefix on R1?

- A. Configure R2 as a route reflector client of R1.
- B. Configure the allow-as-in command on R1.
- C. Configure the next-hop-self command on R2.
- D. Configure identical confederation ASNs on R1 and R2.

Correct Answer: B

QUESTION 9

Refer to the exhibit.

```
Router 1:  
  
interface tunnel-te12  
  ipv4 unnumbered loopback0  
  autoroute announce  
  destination 192.168.1.2  
  path-option 12 dynamic segment-routing  
  path-protection
```

Router 1 has established an SR-TE tunnel with router 2. Which statement describes this configuration?

- A. Router 1 has a list of labels used to explicitly lay out a path to router 2.
- B. Router 1 and router 2 have a bidirectional tunnel set up with dynamic path selection.
- C. Router 1 is the head-end tunnel and has dynamically chosen a path to router 2.
- D. Router 2 is the head-end tunnel and has explicitly set a path to router 1.

Correct Answer: C

QUESTION 10

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>

QUESTION 11

After an engineer configures BGP in R1, it starts receiving this message Jun 29 13:30:50.122: %BGP-5-ADJCHANGE: neighbor 192.168.10.1 Down User reset Jun 29 13:30:52.341: %BGP-3-NOTIFICATION: sent to neighbor 192.168.10.1 2/6 (unacceptable hold time) 0 bytes Which action makes the peering come back up again?

- A. Make a soft reset to the peer.
- B. Set up a minimum hold-down timer higher.
- C. Set up a hello timer higher.
- D. Set up a hold-down timer higher.

Correct Answer: B

QUESTION 12

Refer to the exhibit.

<pre>PE-A vrf definition Customer-A rd 65000:1111 route-target export 65000:1111 route-target import 65000:1111 ! address-family ipv4 mdt default 233.0.0.1 mdt data 233.0.0.2 0.0.0.0 threshold 100 exit-address-family</pre>	<pre>PE-B vrf definition Customer-A rd 65000:1111 route-target export 65000:1111 route-target import 65000:1111 ! address-family ipv4 mdt default 233.0.0.1 mdt data 233.0.0.3 0.0.0.0 threshold 100 exit-address-family</pre>
--	--

Which tree does multicast traffic follow?

- A. shared tree
- B. MDT default
- C. source tree
- D. MDT voice

Correct Answer: B

QUESTION 13

Refer to the exhibit.

```
RP/0/0/CPU0:XR1#show run

route-policy AGGRO
  if destination in (10.0.0.0/8 ge 8 le 25) then
    set community (10:825)
  endif
  if destination in (10.2.0.0/24) then
    drop
  endif
  if destination in (10.1.0.0/24) then
    suppress-route
  endif
end-policy
!
!
router bgp 1
  bgp router-id 192.168.0.7
  address-family ipv4 unicast
    aggregate-address 10.0.0.0/8 route-policy AGGRO

RP/0/0/CPU0:XR1#
```

A network operator is working to filter routes from being advertised that are covered under an aggregate announcement. The receiving router of the aggregate announcement block is still getting some of the more specific routes plus the aggregate.

Which configuration change ensures that only the aggregate is announced now and in the future if other networks are to be added?

- A. Configure the summary-only keyword on the aggregate command
- B. Set each specific route in the AGGRO policy to drop instead of suppress-route
- C. Filter the routes on the receiving router
- D. Set each specific route in the AGGRO policy to remove instead of suppress-route

Correct Answer: A

QUESTION 14

You have configured MSDP peering between two autonomous systems that pass traffic between two sites, but the

peering has failed to come up. Which task do you perform to begin troubleshooting the problem?

- A. Verify that multicast has been disabled globally
- B. Verify that PIM-DM is configured on the source interface
- C. Verify that both source interfaces are reachable from both peers
- D. Verify that the two MSDP peers allow asymmetric routing

Correct Answer: C

QUESTION 15

CORRECT TEXT

Guidelines

This is a lab item in which tasks will be performed on virtual devices.

Refer to the Tasks tab to view the tasks for this lab item.

Refer to the Topology tab to access the device console(s) and perform the tasks.

Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.

All necessary preconfigurations have been applied.

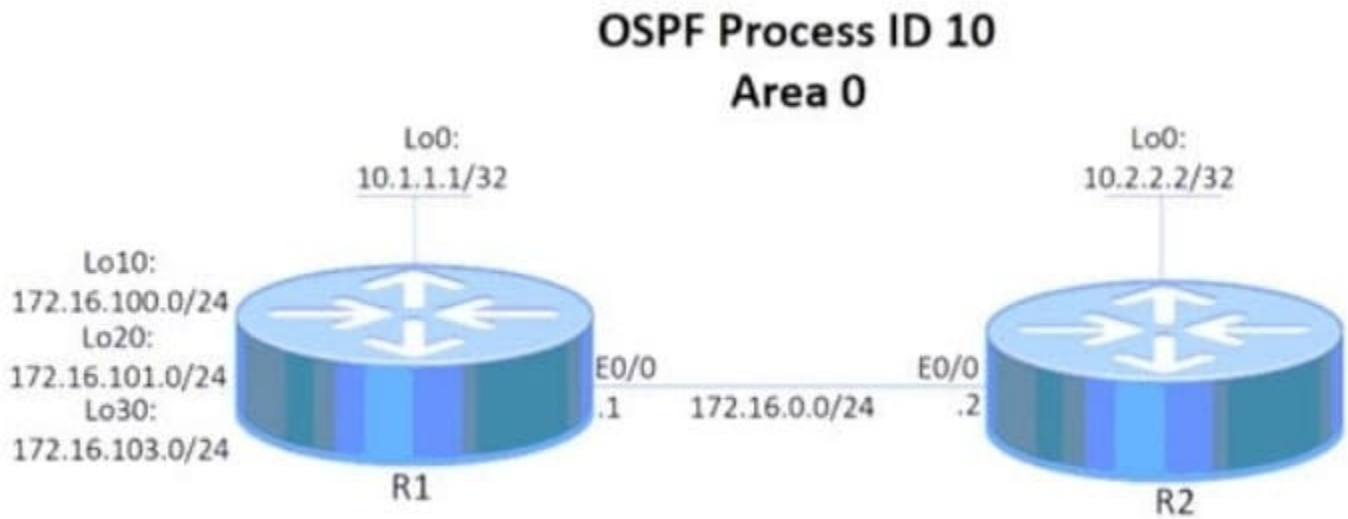
Do not change the enable password or hostname for any device.

Save your configurations to NVRAM before moving to the next item.

Click Next at the bottom of the screen to submit this lab and move to the next question.

When Next is clicked, the lab doses and cannot be reopened.

Topology



Tasks

Configure and verify an OSPF neighbor adjacency between R1 and R2 in OSPF area 0 according to the topology to achieve these goals:

1.

R1 pings the Loopback0 interface of R2. Use interface-level configuration to complete this task.

2.

R2 pings the Loopback0 interface of R1. Use interface-level configuration to complete this task.

A. Check the answer in the explanation

B. Placeholder

C. Placeholder

D. Placeholder

Correct Answer: A

R1

R2

```
R2>
R2>
R2>en
R2#config t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#int lo
R2(config)#int lo0
R2(config-if)#ip ospf 10 area 0
R2(config-if)#^Z
R2#
R2#
R2#c
*Aug 26 11:44:48.122: %SYS-5-CONFIG_I: Configured from console by
console
R2#copy run start
R2#copy run startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
R2#
R2#sh ip route ospf
Codes: L - local, 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 ty
pe 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, H - NHRP, l
- LISP
a - application route
+ - replicated route, % - next hop override, p - overrides
from PfR

Gateway of last resort is not set
```

3.

R2 receives a single summary route 172.16.100.0/22 for networks 172.16.100.0/24, 172.16.101.0/24, and 172.16.103.0/24.

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