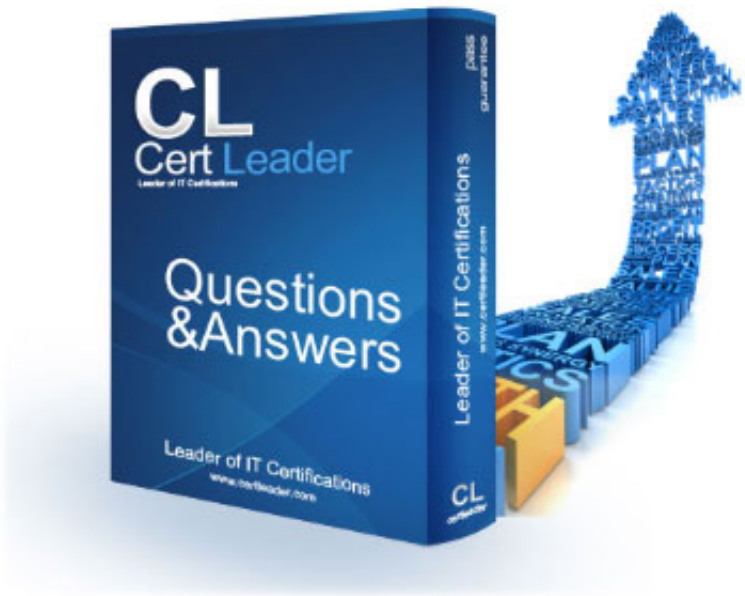
642-883 - SPROUTE Deploying Cisco Service Provider Network Routing (SPROUTE)

http://www.certleader.com/642-883-dumps.html



1. Which high-availability routing feature requires the neighbor router to support the graceful restart capability?

A. BFD

B. NSR

C. NSF

D. MTR

Answer: C

Explanation:

On Cisco IOS XR software, NSF minimizes the amount of time a network is unavailable to its users following a route processor (RP) failover. The main objective of NSF is to continue forwarding IP packets and perform a graceful restart following an RP failover.

When a router restarts, all routing peers of that device usually detect that the device went down and then came back up. This transition results in what is called a routing flap, which could spread across multiple routing domains. Routing flaps caused by routing restarts create routing instabilities, which are detrimental to the overall network performance. NSF helps to suppress routing flaps in NSF-aware devices, thus reducing network instability.

NSF allows for the forwarding of data packets to continue along known routes while the routing protocol information is being restored following an RP failover. When the NSF feature is configured, peer networking devices do not experience routing flaps. Data traffic is forwarded through intelligent line cards while the standby RP assumes control from the failed active RP during a failover. The ability of line cards to remain up through a failover

and to be kept current with the Forwarding Information Base (FIB) on the active RP is key to NSF operation.

When the Cisco IOS XR router running IS-IS routing performs an RP failover, the router must perform two tasks to resynchronize its link-state database with its IS-IS neighbors.

First, it must relearn the available IS-IS neighbors on the network without causing a reset of the neighbor relationship. Second, it must reacquire the contents of the link-state database for the network.

The IS-IS NSF feature offers two options when configuring NSF:

.IETF NSF

.Cisco NSF

If neighbor routers on a network segment are NSF aware, meaning that neighbor routers are running a software version that supports the IETF Internet draft for router restartability, they assist an IETF NSF router that is restarting. With IETF NSF, neighbor routers provide adjacency and link-state information to help rebuild the routing information following a failover. In Cisco IOS XR software, Cisco NSF checkpoints (stores persistently) all the state necessary to recover from a restart without requiring any special cooperation from neighboring routers. The state is recovered from the neighboring routers, but only using the standard features of the IS-IS routing protocol. This capability makes Cisco NSF suitable for use in networks in which other

routers have not used the IETF standard implementation of NSF

2. Under which two conditions does an enterprise require BGP peering with its upstream Internet provider? (Choose two.)

A. The enterprise has two exit points that are geographically separated and routing must be controlled so that delay variations are reduced.

B. The enterprise has one exit point and must announce the IP class it has been assigned from its ISP.

C. The enterprise has two Layer 2 links to the upstream ISP in the same location and wants to achieve redundancy.

D. The enterprise needs a simple and efficient way to ensure proper routing for its AP subnets on its single ISP link.

E. The enterprise is multihomed to two ISPs and has its own IP space AS number.

Answer: A,E

3. A Cisco IOS XR router is a member in OSPF 1 and EIGRP 100 domains, and needs to redistribute OSPF learned routes into EIGRP. Which configuration achieves this goal?

A. router eigrp 100 address-family ipv4 redistribute ospf 1.

B. router eigrp 100 redistribute ospf 1 route-policy OS_INTO_EIG route-policy OS_INTO_EIG set eigrp-metric 100 10 255 1 155

C. router eigrp 100 address-family ipv4 redistribute ospf 1 route-policy OS_INTO_EIG route-policy OS_INTO_EIG set eigrp-metric 100 10 255 1 155

D. router eigrp 100 default-metric 100 1 255 1 1500 redistribute ospf 1

Answer: C

4. When using the Cisco IOS XR route policy language to define a logical if-then-else condition, which logical operator has the highest precedence?

A. AND

B. OR

C. NOT

D. IS

E. IN

Answer: C

Explanation:

http://www.cisco.com/en/US/docs/ios_xr_sw/iosxr_r3.0/routing/configuration/guide/rc3rpl.ht ml

Boolean Operator Precedence

Boolean expressions are evaluated in order of operator precedence, from left to right. The highest precedence operator is not, followed by and, and then or. The following expression:

```
med eq 10 and not destination in (10.1.3.0/24) or community matches-any ([10..25]:35)
```

if fully parenthesized to display the order of evaluation would look like this:

```
(med eq 10 and (not destination in (10.1.3.0/24))) or community matches-any ([10..25]:35)
```

The inner not applies only to the destination test; the and combines the result of the not expression with the Multi Exit Discriminator (MED) test; and the or combines that result with the community test. If the order of operations are rearranged:

```
not med eq 10 and destination in (10.1.3.0/24) or community matches-any ([10..25]:35)
```

then the expression, fully parenthesized, would look like the following:

```
((not med eq 10) and destination in (10.1.3.0/24)) or community matches-any ([10..25]:35)
```

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5. Refer to the Cisco IOS route map configuration exhibit.

```
route-map test permit 10
match ip address prefix-list PL1 PL2
match as-path APACL1
set local-preference 200
set metric 1000
!
route-map test permit 100
```

Which two statements are correct? (Choose two.)

A. The match prefix-list condition is a logical OR: match prefix list PL1 OR PL2.

B. All match conditions are logical OR: match prefix list PL1 OR PL2 OR match the APACL1 AS path access list.

C. The three match conditions are logical AND. match prefix list PL1 AND PL2 AND match the APACL1 AS path access list.

D. The local preference AND the metric will be set to 100 IF the route matches the PL1 OR PL2 prefix list AND the route must also match the APACL1 AS path access list.

E. All routes that are not matched by the sequence 10 route map statement will be dropped.

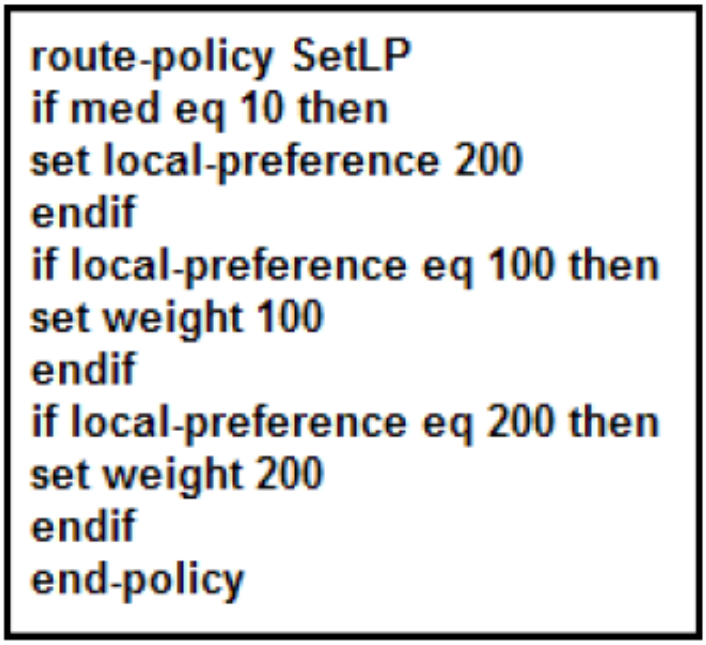
Answer: A,D

Explanation:

http://www.routeralley.com/ra/docs/route_maps.pdf

When match criteria is contained within a single line, a logical OR is applied.

6. Refer to the Cisco IOS XR route policy exhibit.



If the original incoming routing update has an MED of 10 and a local preference of 100, how will the routing update be modified?

A. The local preference will be set to 100, the MED will be set to 10, and the weight will be set to 100.

B. The local preference will be set to 100, the MED will be set to 10, and the weight will be set to 200.

C. The local preference will be set to 200, the MED will be set to 10, and the weight will be set to 100.

D. The local preference will be set to 200, the MED will be set to 10, and the weight will be set to 200.

Answer: C

7. Which two mandatory tasks must an IS-IS NSF-capable router perform for RP switchover? (Choose two.)

A. Relearn the available IS-IS neighbors.

B. Reacquire the contents of the LSD.

C. Reset peering with the available IS-IS neighbors.

D. Keep the existing contents of the LSD.

E. Rediscover DIS for each link segment.

Answer: A,B

8. Which option is a tool that is used to ensure that BGP AS does not become a transit AS?

A. as-path filter-list

B. local-preference

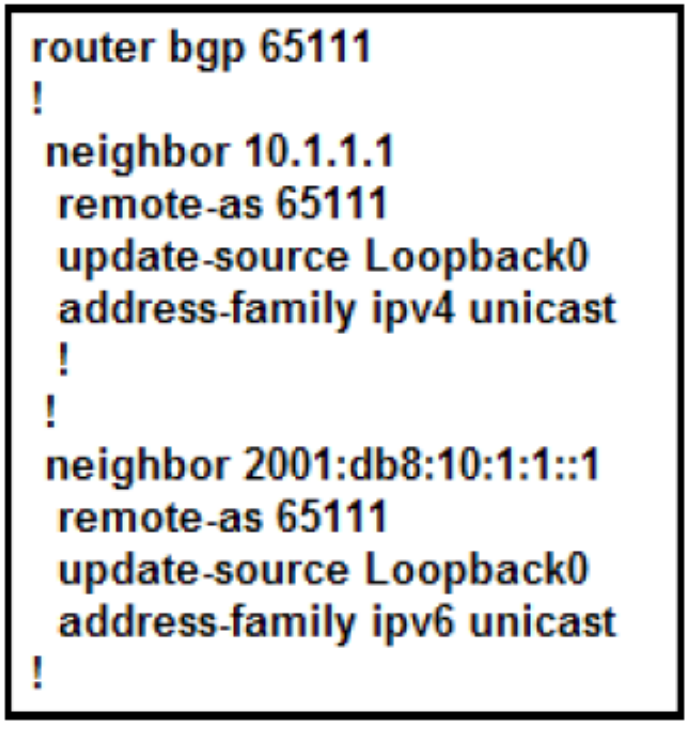
C. ttl-security

D. confederations

Answer: A

9. Referring to the partial Cisco IOS-XR BGP configuration exhibit, when trying to commit this configuration, the following error is displayed:

% Failed to commit one or more configuration items during a pseudo-atomic operation. All changes made have been reverted. Please issue 'show configuration failed' from this session to view the errors.



What is wrong with the configuration?

A. IPv6 unicast routing has not been enabled globally using the ipv6 unicast-routing command

B. The configuration is missing the required network command

C. The update-source loopback 0 commands must be configured under the respective neighbor address-family

D. The configuration is missing the address-family ipv4 unicast and address-family ipv6 unicast commands under router bgp 65111

Answer: D

10. A Cisco IOS XR router must be configured with BFD for OSPF. Which configuration is correct?

A. interface GigabitEthernet0/0/0/0 ip ospf bfd

B. router ospf 1 area 0 interface GigabitEthernet0/0/0/0 bfd fast-detect

C. router ospf 1 area 0 interface GigabitEthernet0/0/0/0 bfd fast-detect ipv4

D. router ospf 1 bfd all-interfaces

Answer: B

11. Refer to the show command output in the exhibit.

```
Router#show ip route
Codes: C - connected, S - static, I - IGRP, 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, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR

Gateway of last resort is not set

     4.0.0.0/24 is subnetted, 1 subnets
D       4.4.4.0 [90/409600] via 161.108.0.4, 00:49:24, Ethernet0/0
     5.0.0.0/24 is subnetted, 1 subnets
C       5.5.5.0 is directly connected, Loopback0
     162.108.0.0/16 is variably subnetted, 2 subnets, 2 masks
C       162.108.10.0/24 is directly connected, Serial1/0
C       162.108.4.0/22 is directly connected, Serial2/0
C    161.108.0.0/16 is directly connected, Ethernet0/0
Router#
Router#show ip bgp
BGP table version is 6, local router ID is 5.5.5.5
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete

   Network          Next Hop            Metric LocPrf Weight Path
* i1.1.1.0/24       132.108.10.1             0    100      0 1 i
* i131.108.0.0      132.108.10.1             0    100      0 1 i
*>i161.108.0.0      4.4.4.4                  0    100      0 i
Router#
```

For which reason will this router drop all traffic that is destined to the 1.1.1.0/24 network?

A. The 1.1.1.0/24 route is not synchronized.

B. The BGP next hop for reaching the 1.1.1.0/24 network is not reachable.

C. The metric of the 1.1.1.0/24 route is set to 0.

D. The weight of the 1.1.1.0/24 route is set to 0.

E. The 1.1.1.0/24 route is an incomplete route.

F. The IBGP split-horizon rule is preventing the router to use the IBGP route.

Answer: B

12. An engineer wants to use an address family to configure internal BGP peer 10.1.1.1 as a route reflector client for unicast and multicast prefixes. Which option accomplishes this configuration?

A. router bgp 140 address-family ipv4 unicast neighbor 10.1.1.1 remote-as 140 address-family ipv4 unicast route-reflector-client exit address-family ipv4 multicast route-reflector-client

B. router bgp 140 neighbor 10.1.1.1 address-family ipv4 unicast address-family ipv4 multicast remote-as 150 route-reflector-client exit

C. router bgp 140 address-family ipv4 unicast route-reflector-client address-family ipv4 multicast remote-as 140 neighbor 10.1.1.1

D. router bgp 140 address-family ipv4 unicast neighbor 10.1.1.1 remote-as 150 address-family ipv4 unicast route-reflector-client exit address-family ipv4 multicast route-reflector-client

Answer: A

13. Which series of commands configures area 1 as an OSPF totally stubby area on a Cisco IOS XR router?

A. router ospfv3 1 router-id 10.10.10.1 area 0 interface GigabitEthernet 0/0/0/1 area 1 stub no-summary interface GigabitEthernet 0/0/0/2

B. router ospfv3 1 router-id 10.10.10.1 default-information originate area 0 interface GigabitEthernet 0/0/0/1 area 1 stub interface GigabitEthernet 0/0/0/2

C. ipv6 prefix-list default permit ::0/0 router ospfv3 1 router-id 10.10.10.1 default-information originate area 0 interface GigabitEthernet 0/0/0/1 distribute-list prefix-list default in area 1 interface GigabitEthernet 0/0/0/2

D. router ospfv3 1 router-id 10.10.10.1 area 0 interface GigabitEthernet 0/0/0/1 area 1 interface GigabitEthernet 0/0/0/2 no-summary passive

E. router ospfv3 1 router-id 10.10.10.1 area 0 interface GigabitEthernet 0/0/0/1 area 1 stub interface GigabitEthernet 0/0/0/2 default-cost 20

Answer: A

14. Refer to the PE1 router routing table output exhibit.

```
RP/0/RSP0/CPU0:PE1#show route ipv4 isis

<output omitted>
i su 10.1.10.0/24 [115/30] via 0.0.0.0, 00:40:34, Null0
i L1 10.1.10.1/32 [115/30] via 192.168.101.11, 00:42:39, GigabitEthernet0/0/0/0
i L1 10.1.10.2/32 [115/24] via 192.168.112.21, 00:44:40, GigabitEthernet0/0/0/1
i L1 10.1.10.3/32  [115/32] via 192.168.113.22, 00:38:23, GigabitEthernet0/0/0/2
i L1 10.1.10.4/32  [115/22] via 192.168.114.23, 00:14:10, GigabitEthernet0/0/0/3
<output omitted>
```

What is causing the i su 10.1.10.0/24 [115/30] via 0.0.0.0, 00:40:34, Null0 entry on the PE1 router routing table?

A. The PE1 router is receiving the 10.1.10.0/24 summary route from the upstream L1/L2 IS-IS router.

B. The PE1 router has been configured to summarize the 10.1.10.x/32 IS-IS routes to 10.1.10.0/24.

C. The 10.1.10.0/24 has been suppressed because IS-IS auto-summary has been disabled on the PE1 router.

D. The 10.1.10.0/24 has been suppressed because of a route policy configuration on the PE1 router.

E. The 10.1.10.0/24 has been suppressed because the more specific 10.1.10.x/32 IS-IS routes have been configured to leak into the IS-IS non-backbone area.

Answer: B

Explanation:

```
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       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, E - EGP, i - ISIS, L1 - IS-IS level-1
       L2 - IS-IS level-2, ia - IS-IS inter area
       su - IS-IS summary null, * - candidate default
       U - per-user static route, o - ODR, L - local
```

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