

Vendor:Cisco

Exam Code:642-885

Exam Name: Deploying Cisco Service Provider

Advanced Routing

Version: Demo

QUESTION 1

When implementing high-availability stateful switchover BGP routing, in which situation would Cisco NSR be required?

- A. On the PE routers connecting to the CE routers which are not NSF aware or are not NSF capable
- B. On the PE routers connecting to the CE routers which support graceful restart
- C. On the PE routers connecting to the CE routers which are incapable of performing stateful switchover operations because the CE routers are only NSF aware but not NSF capable
- D. On the PE routers connecting to the CE routers which are incapable of performing stateful switchover operations because the CE routers are only NSF capable but not NSF aware
- E. On the service provider core P routers which are also NSF aware
- F. On the service provider core P routers which are also NSF capable

Correct Answer: A

QUESTION 2

Instructions

X

Enter the proper CLI commands and analysis the outputs on the Cisco routers to answer the multiple-choice questions.

From the network topology diagram, click on each of the router icon to gain access to the console of each router.

No console or enable passwords are required.

There are four multiple-choice questions with this task. Be sure to answer all four questions before selecting the Next button.

Not all the CLI commands or commands options are supported or required for this simulation.

For example, the show running-config and the ping commands are **NOT** supported in this sim<mark>ulati</mark>on.

All the devices in this simulation have been pre-configured and you are not required to enter in any configurations.

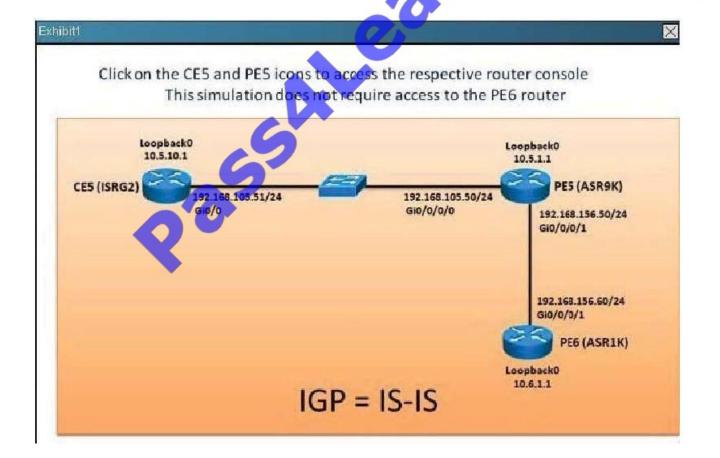
Scenario



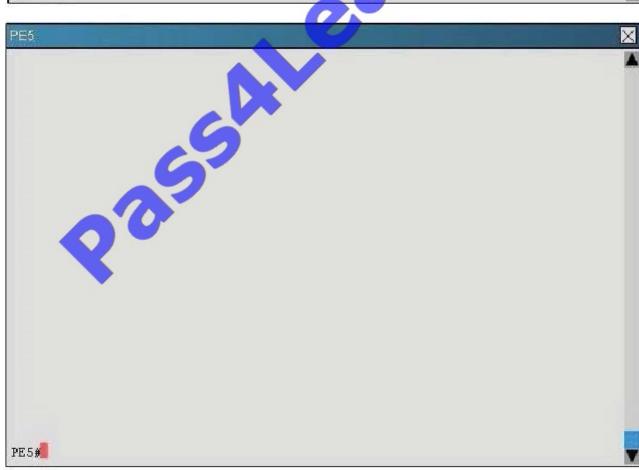
Referring to the network topology diagram shown in the exhibit, use the proper CLI commands on the CE5, PE5 and PE6 routers

and interpret the supported CLI commands outputs to answer the four multiple choice questions.

Note: The CE5 router is an IOS router, the PE5 router is an IOS-XR router, and the PE6 router is an IOS-XE router.







Which two statements are correct regarding the multicast operations on the router that is the RP? (Choose two.)

A. It is using IGMPv3

B. The IGMP query interval is set to 125 seconds

C. It is using the IPv4 unicast routing table to perform the RPF checks

D. Static multicast routes are configured on the RP

Correct Answer: ACD

#show ip mroute #show ip pim interface #show ip igmp group #show ip pim neighbor

QUESTION 3

When implementing source-based remote-triggered black hole filtering, which two configurations are required on the edge routers that are not the signaling router? (Choose two.)

A. A static route to a prefix that is not used in the network with a next hop set to the Null0 interface

B. A static route pointing to the IP address of the attacker

C. uRPF on all external facing interfaces at the edge routers

D. Redistribution into BGP of the static route that points to the IP address of the attacker

E. A route policy to set the redistributed static routes with the no-export BGP community

Correct Answer: AC

Source-Based RTBH Filtering

With destination-based black holing, all traffic to a specific destination is dropped after the black hole has been activated, regardless of where it is coming from.

Obviously, this could include legitimate traffic destined for the target. Source-based black holes provide the ability to drop traffic at the network edge based on a

specific source address or range of source addresses.

If the source address (or range of addresses) of the attack can be identified (spoofed or not), it would be better to drop all traffic at the edge based on the source

address, regardless of the destination address. This would permit legitimate traffic from other sources to reach the target. Implementation of source-based black

hole filtering depends on Unicast Reverse Path Forwarding (uRPF), most often loose mode uRPF.

Loose mode uRPF checks the packet and forwards it if there is a route entry for the source IP of the incoming packet in the router forwarding information base

(FIB). If the router does not have an FIB entry for the source IP address, or if the entry points to a null interface, the Reverse Path Forwarding (RPF) check fails

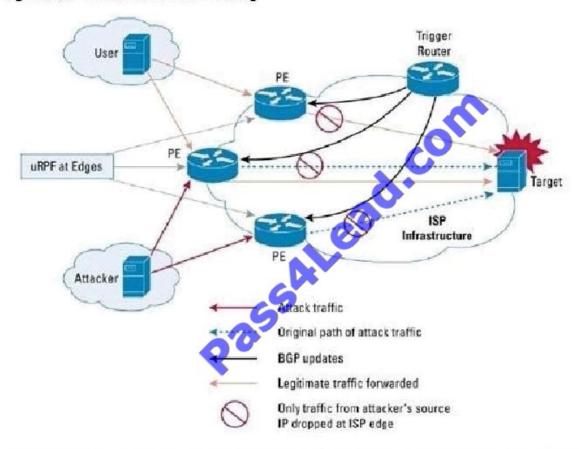
and the packet is dropped, as shown in Figure 2. Because uRPF validates a source IP address against its FIB entry, dropping traffic from specific source

addresses is accomplished by configuring loose mode uRPF on the external interface and ensuring the RPF check fails by inserting a route to the source with a

next hop of Null0. This can be done by using a trigger device to send IBGP updates. These updates set the next hop for the source IP to an unused IP address

that has a static entry at the edge, setting it to null as shown in Figure 2.

Figure 2. Source-Based Black Hole Filtering



In this way, traffic that is entering the edge network sourced from a host that has a route pointing to null will result in a uRPF drop.

QUESTION 4

A network engineer must deploy an iBGP-based cloud region configuration by means of templates to reduce the overall BGP CLI required. Which three commands represent a basic configuration for a BGP peer session template on a regular Cisco IOS instance? (Choose three.)

A. template peer-session session-template-name

B. remote-as as-number

C. neighbor-family config template

D. peer-family config template

E. as-override

F. timers keepalive-interval hold-time

Correct Answer: ABF

QUESTION 5

Which configuration would an engineer use to exchange IPv6 multicast routes via BGP with a neighbor that does not support the corresponding Multicast SAFI on Cisco IOS XE?

A. router bgp 100 bgp router-id 209.165.201.10 no bgp default ipv4-unicast neighbor 2001:DB8::10 remote-as 201 neighbor 2001:DB8::10 update-source GigabitEthernet 0/10 address-family ipv6 multicast neighbor 2001:DB8::10 activate network 2001:DB8:CDCD:1::/64 exit-address-family

B. router bgp 100 bgp router-id 209.165.201.10 no bgp default ipv4-unicast neighbor 2001:DB8::10 remote-as 201 neighbor 2001:DB8::10 update-source GigabitEthernet 0/10 address-family ipv6 neighbor 2001:DB8::10 translate-update ipv6 multicast unicast neighbor 2001:DB8::10 activate no synchronization exit address-family ipv6 multicast neighbor 2001:DB8::10 activate network 2001:DB8:CDCD:1::/64 exit-address-family

C. router bgp 100 bgp router-id 209.165.201.10 no bgp default ipv4-unicast neighbor 2001:DB8::10 remote-as 201 neighbor 2001:DB8::10 update-source GigabitEthernet 0/10 address-family ipv6 neighbor 2001:DB8::10 activate address-family ipv6 multicast neighbor 2001:DB8::10 activate network 2001:DB8:CDCD:1::/64 exit-address-family

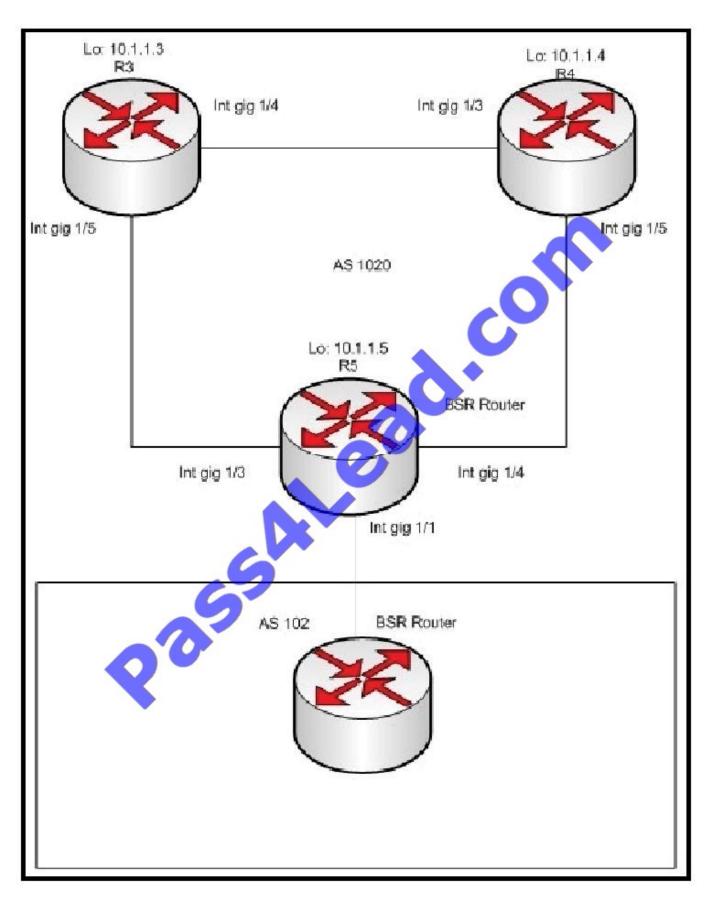
D. router bgp 100 bgp router-id 209.165.201.10 no bgp default ipv4-unicast neighbor 2001:DB8::10 remote-as 201 neighbor 2001:DB8::10 update-source GigabitEthernet 0/10 address-family ipv6 neighbor 2001:DB8::10 translate-update ipv6 multicast unicast no synchronization exit address-family address-family ipv6 multicast neighbor 2001:DB8::10 activate network 2001:DB8:CDCD:1::/64 exit-address-family

E. router bgp 100 bgp router-id 209.165.201.10 no bgp default ipv4-unicast neighbor 2001:DB8::10 remote-as 201 neighbor 2001:DB8::10 update-source GigabitEthernet 0/10 address-family ipv6 neighbor 2001:DB8::10 send-label neighbor 2001:DB8::10 override-capability-neg neighbor 2001:DB8::10 activate no synchronization exit address-family address-family ipv6 multicast network 2001:DB8:CDCD:1::/64 exit-address-family

Correct Answer: B

QUESTION 6

Refer to the exhibit.



R5 is configured as the RP for the PIM-SM domain for AS 1020. If R3 and R4 are correctly configured, which Cisco IOS-XE configuration should be done on R5 to configure it as a PIMv3 BSR router?

- A. ip pim send-rp-announce loopback 0 scope 16 int gi1/3, gi 1/4 ip pim sparse-mode int gi 1/1 ip pim bsr-border
- B. ip pim rp-candidate loopback 0 int gi1/3, gi 1/4 ip pim sparse-mode int gi 1/1 ip pim bsr-border
- C. ip pim rp-candidate loopback 0 int gi1/3, gi 1/4 ip pim sparse-mode ip pim bsr-border
- D. ip pim send-rp-announce loopback 0 scope 16 int gi1/3, gi 1/4 ip pim sparse-mode ip pim bsr-border

Correct Answer: B

QUESTION 7

Instructions

Enter the proper CLI commands and analysis the outputs on the Cisco routers to answer the multiple-choice questions.

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There are four multiple-choice questions with this task. Be sure to answer all four questions before selecting the Next button.

Not all the CLI commands or commands options are supported or required for this simulation. If a certain command or command option is not supported, please try to use a different command that is supported.

For example, the show running-config and the ping commands are NOT supported in this simulation.

All the devices in this simulation have been pre-configured and you are not required to enter in any configurations.

Scenarii

Referring to the network topology diagram shown in the exhibit, use the proper CLI commands on the CE5 and PE5 routers

and interpret the supported CLI commands outputs to answer the four multiple choice questions.

Note: The CE5 router is an IOS router and the PE5 router is an IOS-XR router.



Which three statements regarding the BGP operations are correct? (Choose three)

- A. PE5 will set the local preferences 200 on all the prefixes sent to CE5
- B. PE5 will set the local preference to 200 on all the prefixes learned from CE5
- C. CE5 has received 5 prefixes from the PE5 EBGP peer
- D. CE5 has the BGP scan interval set to 30 seconds
- E. CE5 is announcing the 192.168.55.0/24 prefix via EBGP to the PE5 EBGP peer
- F. The AS-Path to reach the 209.165.202.128/27 prefix from CE5 is: 64500 64497 64498

Correct Answer: CEF

sh ip bgp | be Network #sh ip bgp # show ip bgp neighbors

QUESTION 8

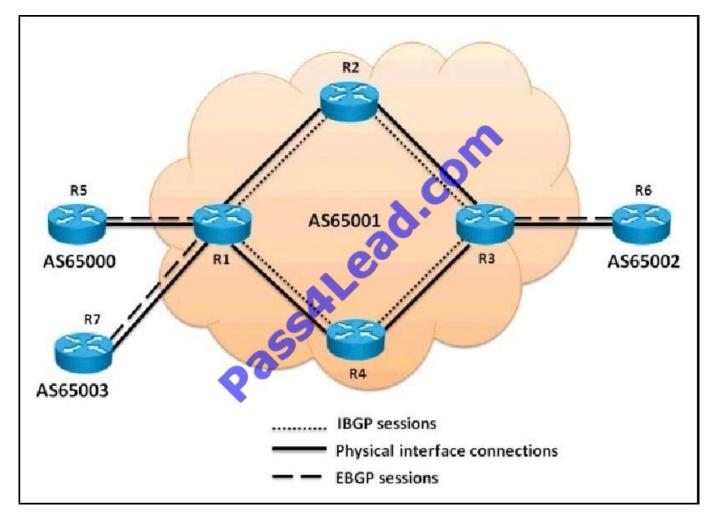
Which multicast implementation is preferred for traffic that is required by a small number of receivers across a large distributed network?

- A. DVMRP
- B. PIM-DM
- C. PIM-SM
- D. IGMP

Correct Answer: C

QUESTION 9

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 10

Which four statements are correct regarding MSDP configurations and operations? (Choose four.)

- A. The MSDP peers are also typically the RPs in respective routing domains.
- B. SA messages are flooded to all other MSDP peers without any restrictions

- C. On Cisco IOS, IOS-XE, and IOS-XR, the router can be configured to cache the SA messages to reduce the join latency
- D. SA messages are used to advertise active sources in a domain
- E. MSDP establishes neighbor relationships with other MSDP peers using TCP port 639
- F. MSDP peerings on Cisco IOS, IOS-XE, and IOS-XR support MD5 or SHA1 authentication

Correct Answer: ACDE

http://www.cisco.com/en/US/docs/ios/ipmulti/configuration/guide/imc_msdp_im_pim_sm.html When MSDP is enabled, an RP in a PIM-SM domain maintains MSDP peering relationships with MSDPenabled routers in other domains. This peering relationship occurs over a TCP connection, where primarily a list of sources sending to multicast groups is exchanged. MSDP uses TCP (port 639) for its peering connections. As with BGP, using point-to-point TCP peering means that each peer must be explicitly configured. The TCP connections between RPs, moreover, are achieved by the underlying routing system. The receiving RP uses the source lists to establish a source path. If the multicast sources are of interest to a domain that has receivers, multicast data is delivered over the normal, source-tree building mechanism provided by PIM- SM. MSDP is also used to announce sources sending to a group. These announcements must originate at the RP of the domain.

QUESTION 11

Which two attributes does BGP select before MED? (Choose two.)

- A. local preference
- B. weight
- C. lowest router ID
- D. lowest neighbor IP
- E. oldest route

Correct Answer: AB

QUESTION 12

With PIM-SM operations, which four pieces of information are maintained in the multicast routing table for each (*,G) or (S,G) entry? (Choose four.)

- A. RPF Neighbor
- B. RP Set
- C. Incoming Interface
- D. OIL
- E. DF priority
- F. PIM SM state flags

Correct Answer: ACDF

The following is sample output from the show ip mroute command for a router operating in sparse mode:

show ip mroute IP Multicast Routing Table Flags: D - Dense, S - Sparse, C - Connected, L - Local, P - Pruned R - RP-bit set, F - Register flag, T - SPT-bit set Timers: Uptime/Expires Interface state: Interface, Next-Hop, State/Mode (*, 224.0.255.3), uptime 5:29:15, RP is 198.92.37.2, flags: SC Incoming interface: Tunnel0, RPF neighbor 10.3.35.1, Dvmrp Outgoing interface list: Ethernet0, Forward/Sparse, 5:29:15/0:02:57 (198.92.46.0/24, 224.0.255.3), uptime 5:29:15, expires 0:02:59, flags: C Incoming interface: Tunnel0, RPF neighbor 10.3.35.1 Outgoing interface list: Ethernet0, Forward/Sparse, 5:29:15/0:02:57

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