Cisco

Exam 642-885

Deploying Cisco Service Provider Advanced Network Routing

Verson: Demo

[Total Questions: 10]

Question No : 1

Which IPv6 mechanism occurs between a provider edge router and the customer premises equipment router to allow an ISP to automate the process of assigning a block of IPv6 addresses to a customer for use within the customer network?

A. Router Advertisement
B. DHCPv6 Prefix Delegation
C. DHCPv6 Lite
D. Stateful DHCPv6

Answer: B

Explanation:

http://www.cisco.com/en/US/tech/tk872/technologies_configuration_example09186a0080b 8a116.shtml

Question No : 2

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

Answer: A

Question No : 3

Which two commands can be used to implement a valid Cisco IOS XE IPv6 static tunnel configuration? (Choose two.)

A. interface Tunnel100
ipv6 enable
ipv6 address 2001:DB8::1/128
tunnel destination 209.165.201.2
tunnel mode ipv6ip 6to4
B. interface Tunnel100
ipv6 enable
ipv6 address 2001:DB8::1/128
tunnel source Ethernet 0/1
tunnel destination 209.165.201.2
tunnel mode gre ip
C. interface Tunnel 100
ipv6 enable
ip address 209.165.201.2
tunnel source Loopback 0
tunnel mode ipv6ip 6to4
D. interface Tunnel100
ipv6 enable
ipv6 address 2001:DB8::1/128
tunnel source Ethernet 0/1
tunnel destination 209.165.201.2
tunnel mode isatap
E. interface Tunnel100
ipv6 enable
ipv6 address 2001:DB8::1/128
tunnel source Ethernet 0/1
tunnel destination 209.165.201.2
tunnel mode auto-tunnel
F. interface Tunnel100
ipv6 enable
ipv6 address 2001:DB8::1/128
tunnel source Ethernet 0/1
tunnel destination 209.165.201.2
tunnel mode ipv6ip

Answer: B,F

Question No : 4

Which statement is correct regarding MP-BGP?

A. MP-BGP can indicate whether an advertised prefix (NLRI) is to be used for unicast routing, multicast RPF checks or for both using different SAFIs.
B. MP-BGP uses a single BGP table to maintain all the unicast prefixes for unicast forwarding and all the unicast prefixes for RPF checks.
C. MP-BGP can be used to propagate multicast state information, which eliminates the need to use PIM for building the multicast distribution trees.
D. MP-BGP enables BGP to carry IP multicast routes used by MSDP to build the multicast distribution trees.

Answer: A

Explanation:

Protocol Independent Multicast

Protocol Independent Multicast (PIM) is a routing protocol designed to send and receive multicast routing updates. Proper operation of multicast depends on knowing the unicast paths towards a source or an RP. PIM relies on unicast routing protocols to derive this reverse-path forwarding (RPF) information. As the name PIM implies, it functions independently of the unicast protocols being used. PIM relies on the Routing Information Base (RIB) for RPF information. If the multicast subsequent address family identifier (SAFI) is configured for Border Gateway Protocol (BGP), or if multicast intact is configured, a separate multicast unicast RIB is created and populated with the BGP multicast SAFI routes, the intact information, and any IGP information in the unicast RIB. Otherwise, PIM gets information directly from the unicast SAFI RIB. Both multicast unicast and unicast databases are outside of the scope of PIM.
The Cisco IOS XR implementation of PIM is based on RFC 4601 Protocol Independent Multicast - Sparse
Mode (PIM-SM): Protocol Specification. For more information, see RFC 4601 and the Protocol Independent Multicast (PIM): Motivation and Architecture Internet Engineering Task Force (IETF) Internet draft

Question No : 5

Which two statements regarding Auto RP operations and implementations are correct? (Choose two.)

A. Candidate RPs send RP announcements to the 224.0.1.39 multicast group, and the mapping agents send RP discovery messages to the 224.0.1.40 multicast group
B. Every PIM-SM router must be configured with the RP mapping agent IP address
C. Candidate RPs learn the IP address of the mapping agents via periodic RP discovery

messages
D. Administrative scoping can be configured to limit the scope of the RP announcements
E. A Reverse Path Forwarding check is done on the RP discovery messages
F. RP discovery messages are flooded hop by hop throughout the network as multicast to the all PIM routers multicast group with a TTL of 1

Answer: A,D

Explanation:

Auto-RP

Automatic route processing (Auto-RP) is a feature that automates the distribution of group-to-RP mappings in a PIM network. This feature has these benefits:

It is easy to use multiple RPs within a network to serve different group ranges.

It allows load splitting among different RPs.

It facilitates the arrangement of RPs according to the location of group participants.

It avoids inconsistent, manual RP configurations that might cause connectivity problems. Multiple RPs can be used to serve different group ranges or to serve as hot backups for each other. To ensure that Auto-RP functions, configure routers as candidate RPs so that they can announce their interest in operating as an RP for certain group ranges. Additionally, a router must be designated as an RP-mapping agent that receives the RP-announcement messages from the candidate RPs, and arbitrates conflicts. The RPmapping agent sends the consistent group-to-RP mappings to all remaining routers. Thus, all routers automatically determine which RP to use for the groups they support auto-rp candidate-rp

To configure a router as a Protocol Independent Multicast (PIM) rendezvous point (RP) candidate that sends messages to the well-known CISCO-RP-ANNOUNCE multicast group (224.0.1.39), use the auto-rp candidaterp command in PIM configuration mode. To return to the default behavior, use the no form of this command. auto-rp candidate-rp type interface-path-id scope ttl-value [group-list access-listname] [interval seconds] [bidir] no auto-rp candidate-rp type interface-path-id scope ttl-value [group-list access-listname] [interval seconds] [bidir]

Question No : 6

After configuring the tunnel interface as shown in the exhibit, no IPv6 traffic is passed over the IPv4 network.

```
interface Tunnel0
ipv6 address 2001:db8:3::1/64
tunnel source GigabitEthernet0/0
tunnel destination 209.165.201.6
tunnel mode ipv6ip
```

Which additional configuration is required to pass the IPv6 traffic over the IPv4 network?

A. Configure an IPv4 address on the tunnel0 interface
B. Configure an IPv6 static route to send the required IPv6 traffic over the tunnel0 interface
C. The tunnel destination should be pointing to an IPv6 address instead of an IPv4 address
D. The tunnel0 interface IPv6 address must use the 2002::://16 prefix

Answer: B

Question No : 7

In Cisco IOS-XR, the ttl-security command is configured under which configuration mode?

A. RP/0/RSP0/CPU0:P2(config)#
B. RP/0/RSP0/CPU0:P2(config-bgp)#
C. RP/0/RSP0/CPU0:P2(config-bgp-nbr)#
D. RP/0/RSP0/CPU0:P2(config-bgp-af)#
E. RP/0/RSP0/CPU0:P2(config-bgp-nbr-af)#

Answer: C
Explanation:
http://packetlife.net/blog/2009/nov/23/understanding-bgp-ttl-security/

Question No : 8

Which two BGP mechanisms are used to prevent routing loops when using a design with redundant route reflectors? (Choose two.)

A. Cluster-list

B. AS-Path
C. Originator ID
D. Community
E. Origin

Answer: A,C

Explanation:

http://www.cisco.com/en/US/docs/ios_xr_sw/iosxr_r3.7/routing/configuration/guide/rc37bgp .html

As the iBGP learned routes are reflected, routing information may loop. The route reflector model has the following mechanisms to avoid routing loops:

•Originator ID is an optional, nontransitive BGP attribute. It is a 4-byte attributed created by a route reflector.

The attribute carries the router ID of the originator of the route in the local autonomous system. Therefore, if a misconfiguration causes routing information to come back to the originator, the information is ignored.

•Cluster-list is an optional, nontransitive BGP attribute. It is a sequence of cluster IDs that the route has passed. When a route reflector reflects a route from its clients to nonclient peers, and vice versa, it appends the local cluster ID to the cluster-list. If the cluster-list is empty, a new cluster-list is created. Using this attribute, a route reflector can identify if routing information is looped back to the same cluster due to misconfiguration. If the local cluster ID is found in the cluster-list, the advertisement is ignored.
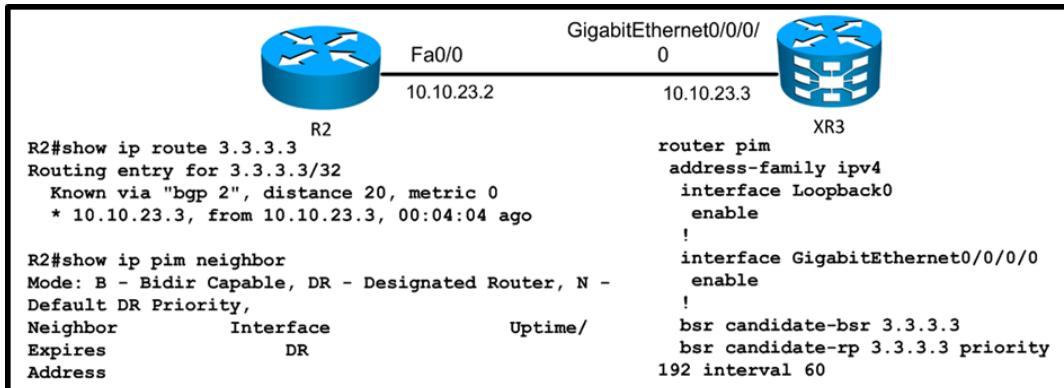
Question No : 9

Which Cisco IOS XR command setssuccessfully configure a value of 20 for the advertisement-interval?

A. RP/0/RSP0/CPU0:routerconfig)# router bgp 65512
RP/0/RSP0/CPU0:router(config-bgp)# session-group test
RP/0/RSP0/CPU0:router(config-bgp-sngrp)# advertisement-interval 20
RP/0/RSP0/CPU0:router(config-bgp-sngrp)# exit
RP/0/RSP0/CPU0:router(config-bgp)# neighbor-group test
RP/0/RSP0/CPU0:router(config-bgp-nbrgrp)# advertisement-interval 25
RP/0/RSP0/CPU0:router(config-bgp-nbrgrp)# exit

RP/0/RSP0/CPU0:router(config-bgp)# exit
RP/0/RSP0/CPU0:router(config-bgp)# neighbor 192.168.1.1
RP/0/RSP0/CPU0:router(config-bgp-nbr)# remote-as 65513
RP/0/RSP0/CPU0:router(config-bgp-nbr)# use session-group test
RP/0/RSP0/CPU0:router(config-bgp-nbr)# use neighbor-group test
B. RP/0/RSP0/CPU0:routerconfig)# router bgp 65512
RP/0/RSP0/CPU0:router(config-bgp)# session-group test
RP/0/RSP0/CPU0:router(config-bgp-sngrp)# ebgp-multihop 2
RP/0/RSP0/CPU0:router(config-bgp-sngrp)# exit
RP/0/RSP0/CPU0:router(config-bgp)# neighbor-group test
RP/0/RSP0/CPU0:router(config-bgp-nbrgrp)# advertisement-interval 20
RP/0/RSP0/CPU0:router(config-bgp-nbrgrp)# exit
RP/0/RSP0/CPU0:router(config-bgp)# exit
RP/0/RSP0/CPU0:router(config-bgp)# neighbor 192.168.1.1
RP/0/RSP0/CPU0:router(config-bgp-nbr)# remote-as 65513
RP/0/RSP0/CPU0:router(config-bgp-nbr)# use session-group test
RP/0/RSP0/CPU0:router(config-bgp-nbr)# use neighbor-group test
C. RP/0/RSP0/CPU0:routerconfig)# router bgp 65512
RP/0/RSP0/CPU0:router(config-bgp)# session-group test
RP/0/RSP0/CPU0:router(config-bgp-sngrp)# exit
RP/0/RSP0/CPU0:router(config-bgp)# neighbor-group test
RP/0/RSP0/CPU0:router(config-bgp-nbrgrp)# exit
RP/0/RSP0/CPU0:router(config-bgp)# exit
RP/0/RSP0/CPU0:router(config-bgp)# neighbor 192.168.1.1
RP/0/RSP0/CPU0:router(config-bgp-nbr)# remote-as 65513
RP/0/RSP0/CPU0:router(config-bgp-nbr)# use session-group test
RP/0/RSP0/CPU0:router(config-bgp-nbr)# use neighbor-group test
D. RP/0/RSP0/CPU0:routerconfig)# router bgp 65512
RP/0/RSP0/CPU0:router(config-bgp)# session-group test
RP/0/RSP0/CPU0:router(config-bgp-sngrp)# advertisement-interval 25
RP/0/RSP0/CPU0:router(config-bgp-sngrp)# exit
RP/0/RSP0/CPU0:router(config-bgp)# neighbor-group test
RP/0/RSP0/CPU0:router(config-bgp-nbrgrp)# advertisement-interval 20
RP/0/RSP0/CPU0:router(config-bgp-nbrgrp)# exit
RP/0/RSP0/CPU0:router(config-bgp)# exit
RP/0/RSP0/CPU0:router(config-bgp)# neighbor 192.168.1.1
RP/0/RSP0/CPU0:router(config-bgp-nbr)# remote-as 65513
RP/0/RSP0/CPU0:router(config-bgp-nbr)# use session-group test
RP/0/RSP0/CPU0:router(config-bgp-nbr)# use neighbor-group test

Answer: A

Question No : 10

Refer to the exhibit. R2cannot to learn RP information from XR3. Which issue is the source of the problem?


```
R2#show ip route 3.3.3.3
Routing entry for 3.3.3.3/32
  Known via "bgp 2", distance 20, metric 0
  * 10.10.23.3, from 10.10.23.3, 00:04:04 ago

R2#show ip pim neighbor
Mode: B - Bidir Capable, DR - Designated Router, N -
Default DR Priority,
Neighbor          Interface              Uptime/
Expires           DR
Address
```

```
router pim
 address-family ipv4
  interface Loopback0
   enable
  !
  interface GigabitEthernet0/0/0/0
   enable
  !
  bsr candidate-bsr 3.3.3.3
  bsr candidate-rp 3.3.3.3 priority
192 interval 60
```

A. XR3 is not the DR.
B. Multicast routing is not enabled on the XR3 Giga0/0/0/0 interface.
C. R2 is learning the RP address via non-IGP routing protocol.
D. Multicast routing is not enabled on the XR3 Loopback0 interface.
E. BGP IPv4 MDT address family is not enabled on XR3.

Answer: D