300-101 Q&As

Implementing Cisco IP Routing

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QUESTION 1

When an IPv6 enabled host boots, it sends a router solicitation (RS) message. An IPv6 router responds with a router advertisement (RA). Which two items are contained in the RA? (Choose two.)

A. IPv6 address for the host

B. lifetime of the prefix

C. prefixes for the link

D. keepalive timers

E. request for the local host IP address

F. any route advertisements it has received

Correct Answer: BC

QUESTION 2

Refer to the following output:

Router#show ip nhrp detail

10.1.1.2/8 via 10.2.1.2,

Tunnel1 created 00:00:12, expire 01:59:47

Type. dynamic, Flags: authoritative unique nat registered used NBMA address: 10.12.1.2 What does the authoritative flag mean in regards to the NHRP information?

A. It was obtained directly from the next-hop server.

B. Data packets are process switches for this mapping entry.

C. NHRP mapping is for networks that are local to this router.

D. The mapping entry was created in response to an NHRP registration request.

E. The NHRP mapping entry cannot be overwritten.

Correct Answer: A

Show NHRP: Examples The following is sample output from the show ip nhrp command: Router# show ip nhrp

10.0.0.2 255.255.255.255, tunnel 100 created 0:00:43 expire 1:59:16 Type: dynamic Flags: authoritative

NBMA address: 10.1111.1111.1111.1111.1111.1111.1111.1111.1111.11 10.0.0.1 255.255.255.255, Tunnel0 created 0:10:03 expire 1:49:56 Type: static Flags: authoritative NBMA address: 10.1.1.2

The fields in the sample display are as follows:

The IP address and its network mask in the IP-to-NBMA address cache. The mask is always 255.255.255.255 because Cisco does not support aggregation of NBMA information through NHRP. The interface type and number and how long

ago it was created (hours:minutes:seconds). The time in which the positive and negative authoritative NBMA address will expire (hours:minutes:seconds). This value is based on the ip nhrp holdtime command.

Type of interface:

dynamic -- NBMA address was obtained from the NHRP Request packet.

static -- NBMA address was statically configured.

Flags:

authoritative -- Indicates that the NHRP information was obtained from the Next Hop Server or router that maintains the NBMA-to-IP address mapping for a particular destination. Reference: http://www.cisco.com/c/en/us/td/docs/ios/12_4/

ip_addr/configuration/guide/hadnhrp.html

QUESTION 3

Technologies used in preparing Service Provider IPv6? (Choose Two)

A. 6ND

B. 6RD

C. 6VPE

D. VRF-Lite

E. DS-Lite

F. Dual-stackA

Correct Answer: BE

QUESTION 4

To configure 6to4 on a dual-stack edge router. Which three of the following are valid in 6to4 Tunneling configuration? (Choose three)

A. IPv4 Tunnel IP address

B. Tunnel mode (6to4)

C. Tunnel Keepalives

D. IPv4 Tunnel Destination

E. IPv4 Tunnel Source.

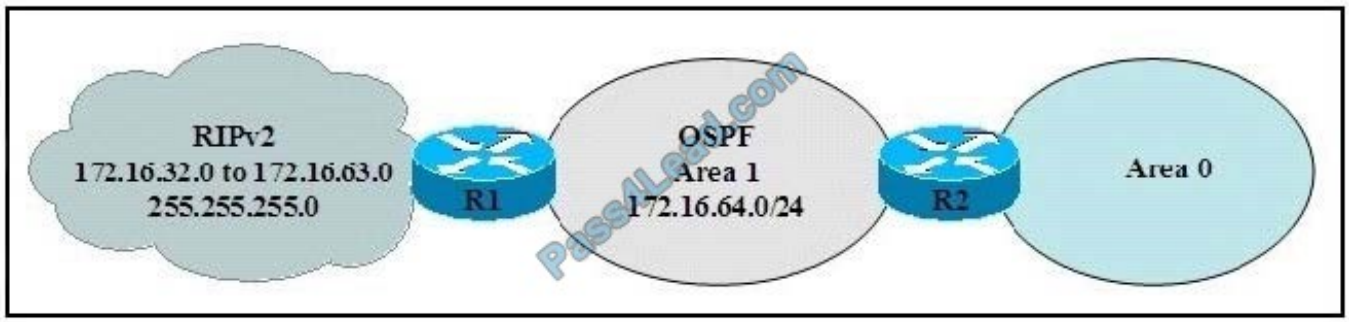
F. 6to4 IPv6 address (within 2002::/16)

Correct Answer: BEF

QUESTION 5

A network administrator recently redistributed RIP routes into an OSPF domain.

However, the administrator wants to configure the network so that instead of 32 external type-5 LSAs flooding into the OSPF network, there is only one.



What must the administrator do to accomplish this?

A. Configure summarization on R1 with area 1 range 172.16.32.0 255.255.224.0

B. Configure summarization on R1 with summary-address 172.16.32.0 255.255.224.0

C. Configure area 1 as a stub area with area 1 stub

D. Configure area 1 as a NSSA area with area 1 stub nssa

Correct Answer: B

In many cases, the router doesn\\'t even need specific routes to each and every subnet (for example, 172.16.1.0/24).

It would be just as happy if it knew how to get to the major network (for example, 172.16.0.0/16) and let another router take it from there. In our telephone network example, the local telephone switch should only need to know to route a phone

call to the switch for the called area code. Similarly, a router\\'s ability to take a group of subnetworks and summarize them as one network (in other words, one advertisement) is called route summarization. Besides reducing the number of

routing entries that a router must keep track of, route summarization can also help protect an external router from making multiple changes to its routing table due to instability within a particular subnet.

For example, let\\'s say that we were working on a router that connected to 172.16.2.0/24. As we were working on the router, we rebooted it several times. If we were not summarizing our routes, an external router would see each time

172.16.2.0/24 went away and came back. Each time, it would have to modify its own routing table. However, if our external router were receiving only a summary route (i.e., 172.16.0.0/16), then it wouldn\\'t have to be concerned with our work

on one particular subnet. This is especially a problem for EIGRP, which can create stuck in active (SIA) routes that can lead to a network melt-down.

Summarization Example We have the following networks that we want to advertise as a single summary route:

* 172.16.100.0/24 * 172.16.101.0/24 * 172.16.102.0/24 * 172.16.103.0/24 * 172.16.104.0/24 * 172.16.105.0/24 * 172.16.106.0/24