642-902^{Q&As}

Implementing cisco ip routing

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QUESTION 1

Examine the exhibit carefully.

```
R1# show ip eigrp topology
<output omitted>
P 10.1.2.0/24, 1 successors, FD is 281600
        via Connected, FastEthernet0/0
A 10.6.1.0/24, 0 successors, FD is 3385160704, Q
    1 replies, active 00:00:41, query-origin: Local origin
    Remaining replies:
        via 10.1.2.1, r. FastEtherent0/0
```

EIGRP is configured on all routers in the network. What conclusion can be derived from the show ip eigrp topology output provided?

A. Router R1 is waiting for a reply from the neighbor 10.1.2.1 to the hello message sent out inquiring for a second successor to network 10.6.1.0/24.

B. Router R1 can send traffic destined for network 10.6.1.0/24 out of interface FastEthernet0/0.

C. Router R1 is waiting for a reply from the neighbor 10.1.2.1 to the hello message sent out before it declares the neighbor unreachable.

D. Router R1 is waiting for a reply from the neighbor 10.1.2.1 in response to the query sent out about network 10.6.1.0/24.

Correct Answer: D

The "show ip eigrp topology" command lists all routes that EIGRP is aware of and shows whether EIGRP is actively processing information on that route. Under most normal conditions, the routes should all be in a passive state and no EIGRP

process are running for that route. If the routes are active, this could indicate the dreaded stuck in active, or SIA, state.

The fields to note in this output are as follows:

P-- Passive; no EIGRP computation is being performed. This is the ideal state. A-- Active; EIGRP computations are "actively" being performed for this destination. Routes constantly appearing in an active state indicate a neighbor or query

problem.

Both are symptoms of the SIA problem.

U-- Update; an update packet was sent to this destination. Q-- Query; a query packet was sent to this destination. R-- Reply; a reply packet was sent to this destination. Route information-- IP address of the route or network, its subnet mask,

and the successor, or next hop to that network, or the feasible successor.

QUESTION 2

Refer to the exhibit. Router B and router C are performing mutual redistribution between OSPF and EIGRP, and their default metrics are configured the same. Router D has equal cost paths to networks where both paths are not really equal cost. For example, network 172.16.54.0 shows equal cost through both router B and router C, though in reality the cost is greater using router C. Other routers, though not shown, are connected to the 172.16.54.0 and 172.16.55.0 networks, and the same issues exist to those routers and the networks connected to them. What can be done so that data will be routed along the most optimal path in the network?

A. Redistribute connected interfaces on router B and router C.

B. Set the maximum number of equal cost paths to 1 in all routers.

C. When redistributing EIGRP into OSPF, set the external metric type to type E1.

D. Adjust the default metrics in router B and router C so that the values are different in each router.

E. None of these solutions will fix the problem. Migrate to a single dynamic routing protocol.

Correct Answer: E

From the output, we learn that all the External OSPF routes have metrics of 100 (the second parameters in [110/100]). This is not the default metric of OSPF Type 2 External route (the default value is 20) so the metrics of redistributed routes

have been modified. Maybe when redistributing into OSPF, the "metric" in the "redistribute" command or the "default-metric" command was used on router B and C to assign the metric of these routes. Something like this:

router ospf 1

redistribute eigrp 1 metric 100 subnets

or

router ospf 1

.....

default-metric 100

Therefore even if we use the metric type E1 the problem still exists because the link B-D and C-D seems to have the same metric -> the total metrics remains the same .

We can use route-map and set different metrics for each networks but some unshown networks will have the same issues

QUESTION 3

A network administrator is managing a hub-and-spoke network with EIGRP routing that has been enabled. The hub router is trying to query a remote router. However, delays are occurring that are caused by certain paths being stuck in active (SIA). How should the administrator configure EIGRP in order to limit the scope of the query range and prevent SIA from occurring?

A. Configure the hub router with a scope limit of 1.

B. Configure the remote router with a scope limit of 1.

C. Configure the hub to indicate that the remote router is a stub router.

D. Configure the hub and remote router as stub routers.

E. Configure the remote router as a stub router.

F. Disable the SIA feature of EIGRP on the remote router.

Correct Answer: E

Configuring a router as a stub also helps the rest of the network. Queries are responded to much quicker and convergence happens much faster. Sometimes a query can cause delays that result in the path being SIA. If the stub configuration is applied, the router responds to queries as inaccessible, thus limiting the scope of the query range and preventing SIA from occurring.

QUESTION 4

Refer to the exhibit.
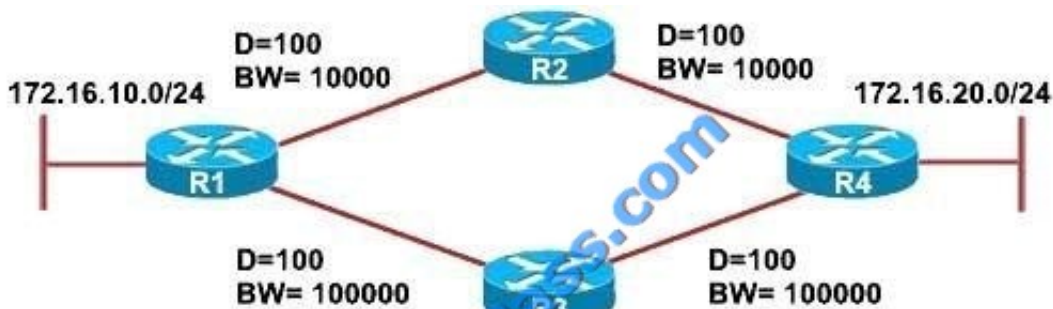
ROUTE.com is planning to implement load balancing for traffic between hosts on the 172.16.10.0/24 and 172.16.20./24 networks. You have been asked to review the implementation plan for this project. Which statement about the plan is true?

A. It is complete as written.

B. It should include a task to configure EIGRP multipath equal to 2 on R1 and R4.

C. It should include a task to implement OSPF because it handles unequal cost load balancing most efficiently using variance.

D. It should include a task that establishes a baseline before and after the configuration has been changed.

Correct Answer: A

QUESTION 5

Refer to the exhibit.
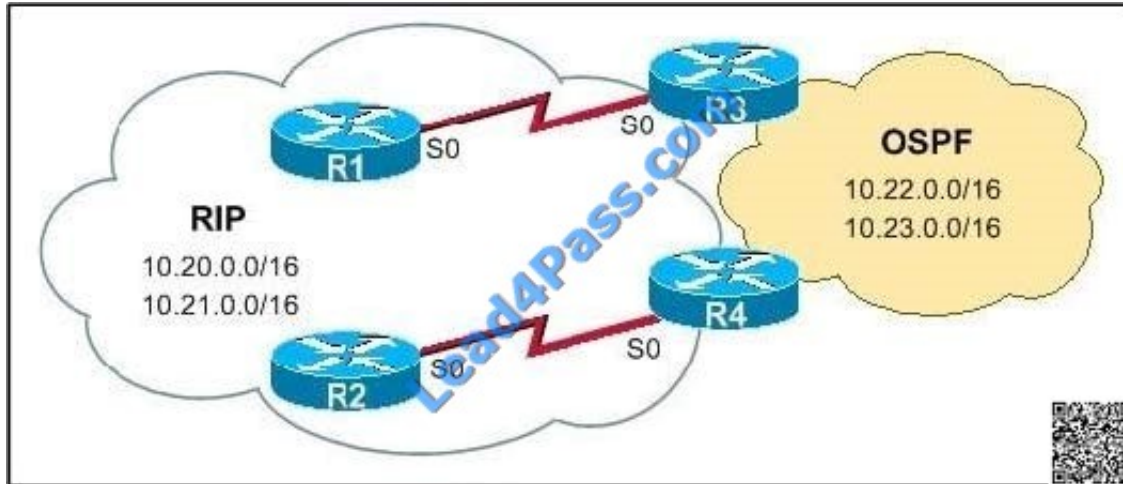
R1 and R2 belong to the RIP routing domain that includes the networks 10.20.0.0/16 and 10.21.0.0/16. R3 and R4 are performing two-way route redistribution between OSPF and RIP. A network administrator has discovered that R2 is

receiving OSPF routes for the networks 10.20.0.0/16 and 10.21.0.0/16 and a routing loop has occurred.

Which action will correct this problem?

A. Apply an inbound ACL to the R2 serial interface.

B. Change the RIP administrative distance on R3 to 110.

C. Configure distribute-lists on R3 and R4.

D. Set the OSPF default metric to 20.

E. Change the OSPF administrative distance on R3 to 110.

Correct Answer: C

Distribute List is Like an access-list, use to deny or permit the routing update to pass through a router/interface. Distribute List allow you apply an access list to a routing updates.

It can be apply on in or out bond of an interface under a routing process. e.g in fig. R1 want to send a routing update to it neighbor, this update will go through from interface S0/0, router will check, is there some Distribute List apply to this interface. If there is a Distribute List which would contain the allow route to pass through this interface.

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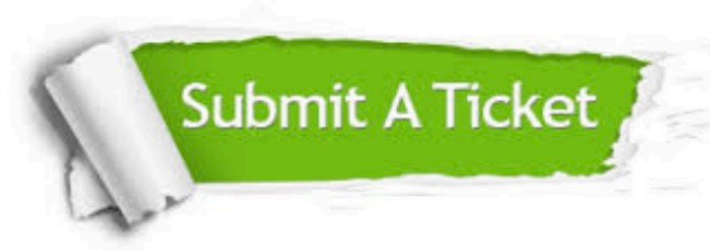
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