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Exam : **642-661**

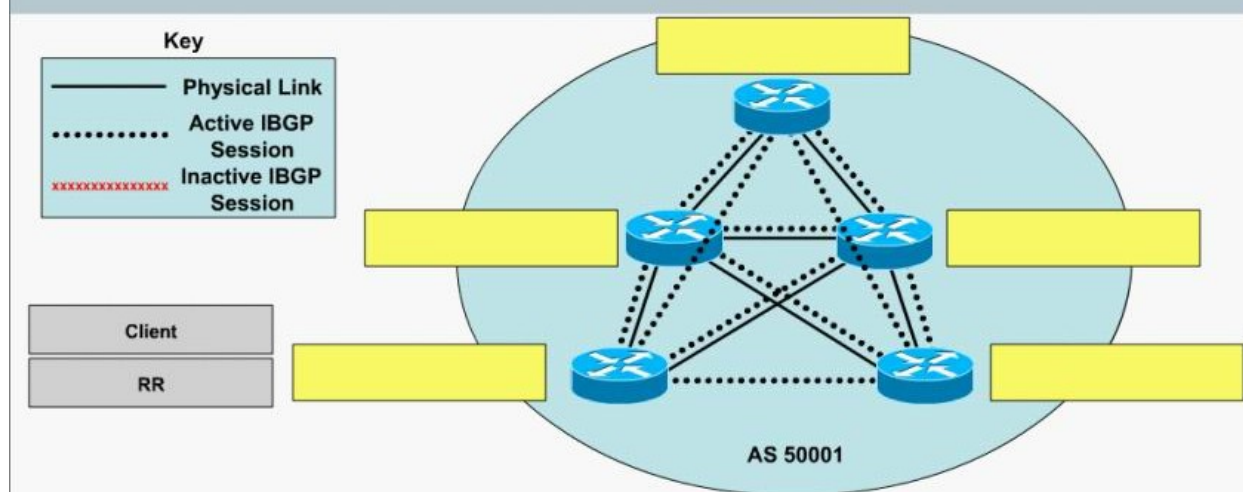
Title : CCIP Configuring BGP on
Cisco Routers (BGP)

Version : DEMO

1.Look at the picture.

Based on the physical topology of AS 50001, to reduce the IBGP full-mesh requirements, only two redundant route reflectors (RR) will be used in a single cluster. In this case, which two routers should be the RRs and which three routers should be the clients based on the recommended route reflector design rule?

Tasks: 1) Drag the matching text labels given on the left side of the topology to the correct targets on the right to identify these routers. **2)** Also, identify all the unnecessary IBGP sessions once the redundant RRs have been configured by clicking on the IBGP session links to disable them. You can re-enable the IBGP session link by clicking on it again.



Correct:

Green choice1---->Yellow Choice1

Green choice1---->Yellow Choice4

Green choice1---->Yellow Choice5

Green choice2---->Yellow Choice2

Green choice2---->Yellow Choice3

2.What are two purposes of the BGP scan-time command? (Choose two.)

- A.to tune the BGP process which walks the BGP table and confirms the reachability of next hops
- B.to allow faster detection of downed BGP peers
- C.to improve BGP convergence time
- D.to tune the BGP update interval
- E.to decrease the effects of unstable routes by increasing the route suppression time

Correct:A C

3.Which command is used to configure the external, confederation-wide AS number?

- A.router(config)#router bgp {as-number}
- B.router(config-router)#bgp confederation peers {as-number}
- C.router(config-router)#bgp confederation identifier {as-number}
- D.router(config-router)#bgp cluster-id {as-number}
- E.router(config-router)#neighbor {ip address} remote-as {as-number}

Correct:C

4.When creating iBGP multipaths which three criteria must be met by multiple paths to the same destination? (Choose three.)

- A.Router IDs must be the same on all routers.
- B.Each destination must have a different next-hop address.
- C.The destination AS-number must be different for each destination.
- D.Multi-exit discriminator attributes must be the same on all paths.

E.Interior Gateway Protocol distance must be identical on each path.

Correct: B D E

5.Lab

```
In the Transit AS 65001, router P1R3 has no BGP routes in its routing table and as a result has a problem reaching any networks external to AS 65001.
Unlike router P1R3, the other routers in AS 65001 (P1R1, P1R2 and P1R4) are not experiencing any network connectivity issues.
All BGP routes are properly inserted into the P1R4 routing table as shown below.
P1R4#sh ip route bgp
B 192.168.12.0/24 [200/0] via 10.200.200.12, 00:00:26
B 192.168.13.0/24 [200/0] via 10.200.200.12, 00:00:26
```

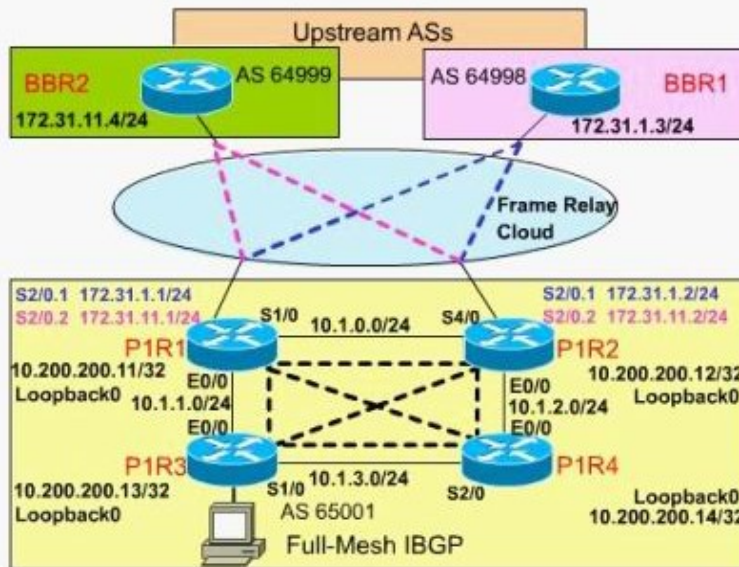
eSIM™ Professional
Scenario 1 Version 1.0

You will have to scroll this window, and the one above, to view all of the instructions to perform the task.

Configure the router using the terminal emulation screen that opens when you click on the host computer.

Use the **Show Topology** button to leave the terminal emulation

Hide Topology



Correct:

6.Look at the picture.

List the BGP route selection steps in the correct order

Prefer highest local preference (global within AS)	First
Prefer lowest MED	Second
Prefer routes that the router originated	Third
Prefer lowest origin code	Fourth
Prefer shorter AS paths (only length is compared)	Fifth
Prefer highest weight (local to router)	Sixth

Correct:

Green choice6---->Yellow Choice1

Green choice1---->Yellow Choice2

Green choice3---->Yellow Choice3

Green choice5---->Yellow Choice4

Green choice4---->Yellow Choice5

Green choice2---->Yellow Choice6

7.Which two of these statements about hierarchical route reflectors are correct? (Choose two.)

- A.A route reflector can be a client of another route reflector.
- B.Each cluster within the hierarchy can only contain one route reflector.
- C.The hierarchy can be as deep as needed.
- D.A route reflector can have clients in different clusters.
- E.Hierarchical route reflectors are set up using three levels (access, distribution, and core layers).

Correct:A C

8.What can cause a single sourced iBGP route not to be selected as the best route?

- A.The BGP MED is 0.
- B.The BGP next-hop is unreachable.
- C.The BGP origin is incomplete.
- D.The BGP weight is 0.
- E.The BGP local preference is 0.
- F.BGP synchronization is disabled.

Correct:B

9.Look at the picture.

Drag the method used to influence BGP path selection on the left to the traffic flow it influences on the right.

setting the weight	used to influence the outbound traffic flow
setting the MED	
setting the local preference	used to influence the inbound traffic flow
setting the admin distance	
using recursive route lookup	
using AS-path prepending	

Correct:

Green choice1---->Yellow Choice1

Green choice3---->Yellow Choice2

Green choice2---->Yellow Choice3

Green choice6---->Yellow Choice4

10.Which two of the following are true regarding the BGP Prefix-Based outbound route filtering feature? (Choose two.)

- A.IP multicast routes are not supported.
- B.Outbound route filtering is configured only on a per-address family basis.
- C.Outbound route filtering can be configured for either iBGP or eBGP sessions.
- D.The outbound route filter can be defined in a Prefix list, Distribute list or Access lists.
- E.Outbound route filtering is more effective when a distance vector IGP is used.

Correct:A B

11.Which configuration will enable the R1 router in the AS51003 sub-AS (member-AS) as a route reflector with neighbors 10.1.1.1 and 10.2.2.2 as its route-reflector clients?

A.! R1 router bgp 51003 bgp confederation identifier 55111 bgp confederation peers 51001 51002 neighbor 10.1.1.1 remote-as 51003 neighbor 10.2.2.2 remote-as 51003 neighbor 10.1.1.1 route-reflector-client neighbor 10.2.2.2 route-reflector-client

B.! R1 router bgp 51003 bgp confederation identifier 55111 bgp confederation peers 51001 51002 neighbor 10.1.1.1 remote-as 51001 neighbor 10.2.2.2 remote-as 51002 neighbor 10.1.1.1 route-reflector-client neighbor 10.2.2.2 route-reflector-client

C.! R1 router bgp 55111 bgp confederation identifier 51003 neighbor 10.1.1.1 remote-as 51003 neighbor 10.2.2.2 remote-as 51003 neighbor 10.1.1.1 route-reflector-client neighbor 10.2.2.2 route-reflector-client

D.! R1 router bgp 55111 bgp confederation identifier 51003 neighbor 10.1.1.1 remote-as 55111 neighbor 10.2.2.2 remote-as 55111 neighbor 10.1.1.1 route-reflector-client neighbor 10.2.2.2 route-reflector-client

Correct:A

12.Which BGP configuration option is designed to reduce router processing load caused by unstable routes?

A.neighbor {ip-address} maximum-prefix {number}

B.bgp dampening

C.no sync

D.bgp deterministic-med

E.sync

F.bgp scan-time

Correct:B

13.How can you prevent multihomed customers with connections to two service providers from acting as a transit AS?

A.Enable BGP synchronization on all the customer routers.

B.Use MED to influence the inbound traffic from the ISPs.

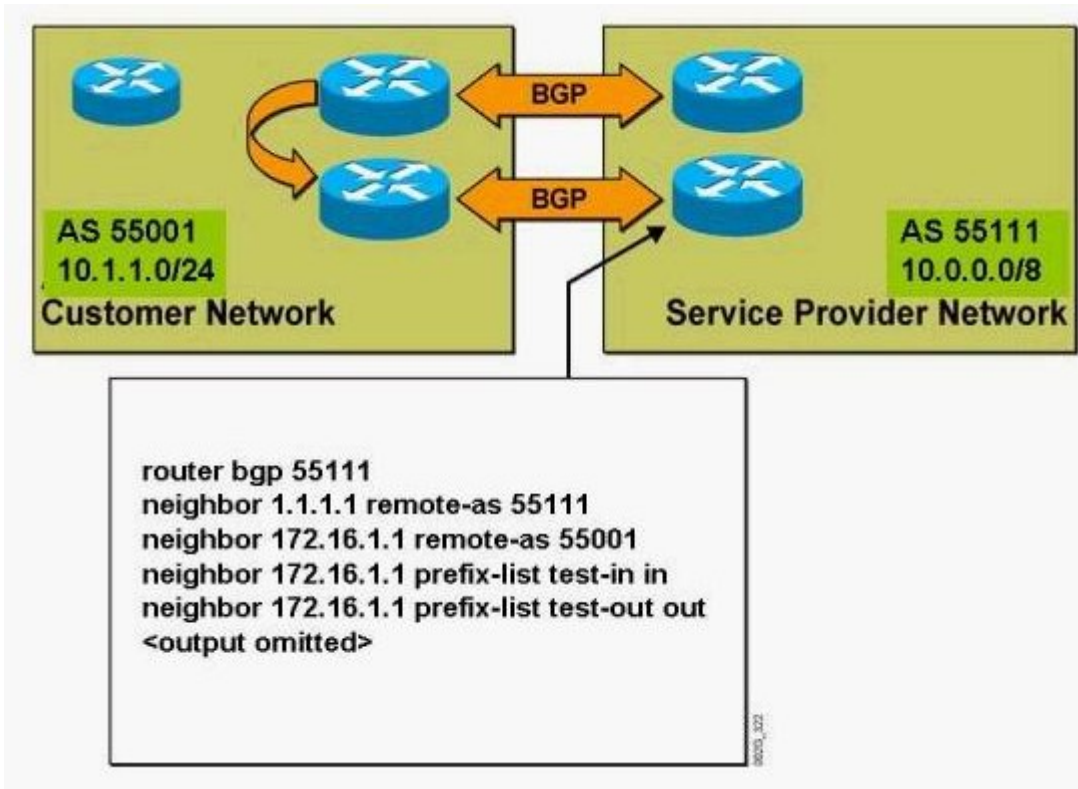
C.Use static routing to the ISPs.

D.Use an AS-path access-list to filter the BGP updates to the ISPs.

E.Use conditional advertisements when sending BGP updates to the ISPs.

Correct:D

14.In the diagram, the customer is using BGP to connect to a single ISP over two permanent links. In this scenario, which input and output prefix-list filtering is typically enabled on the ISP routers? (Choose two.)



- A. ip prefix-list test-in permit 10.1.1.0/24 le 32
- B. ip prefix-list test-in permit 10.0.0.0/8 le 32
- C. ip prefix-list test-in permit 0.0.0.0/0
- D. ip prefix-list test-out permit 10.1.1.0/24 le 32
- E. ip prefix-list test-out permit 10.0.0.0/8 le 32
- F. ip prefix-list test-out permit 0.0.0.0/0

Correct: A F

15. Based on the R1 router BGP configuration shown, which three statements are correct? (Choose three.)

```

hostname R1
!
router bgp 50001
  bgp confederation identifier 50101
  bgp confederation peers 50002 50003
  neighbor 10.1.1.1 remote-as 50001
  neighbor 10.2.2.2 remote-as 50001
  neighbor 10.3.3.3 remote-as 50001
  neighbor 10.1.1.1 route-reflector-client
  neighbor 10.2.2.2 route-reflector-client
  neighbor 10.3.3.3 route-reflector-client
  neighbor 10.4.4.4 remote-as 50002
  neighbor 10.5.5.5 remote-as 50003
  neighbor 192.168.100.1 remote-as 50102
  neighbor 192.168.100.1 route-map setlp in
  neighbor 192.168.100.1 route-map setmed out
no sync
!

```

- A.R1 is in AS 50101 according to the 192.168.100.1 neighbor.
- B.R1 is in AS 50101 according to the 10.1.1.1 neighbor.
- C.The 192.168.100.1 neighbor must be directly connected to R1.
- D.R1 is a route-reflector client.
- E.The 10.4.4.4 neighbor is an EBGP neighbor.
- F.BGP updates coming in from the 192.168.100.1 neighbor must be processed by the setlp route-map.

Correct:A C F

16. Based on the following show ip bgp neighbors 2.2.2.2 output, which two statements are true? (Choose two.)
R1#show ip bgp neighbors 2.2.2.2
 BGP neighbor is 2.2.2.2, remote AS 102, internal linkIndex 1, Offset 0, Mask 0x2
 BGP version 4, remote router ID 66.0.0.1
 BGP state=Established, table version=1, up for 00:14:52
 Last read 00:00:52, hold time is 180, keepalive interval is 60 seconds
 Minimum time between advertisement runs is 5 seconds
 Received 233 messages, 0 notifications, 0 in queue
 Sent 206 messages, 0 notifications, 0 in queue
 Prefix advertised 0, suppressed 0, withdrawn 0
 Connections established 17; dropped 16
 Last reset 00:15:02, due to User reset
 18 accepted prefixes consume 576 bytes, maximum limit 20
 Threshold for warning message 80%
 0 history paths consume 0 bytes

- A.R1 has accepted 20 prefixes from the 2.2.2.2 IBGP neighbor.
- B.R1 generated a warning message to the router's console after the 2.2.2.2 IBGP neighbor sent 16 prefixes to R1.
- C.R1 generated a warning message to the router's console after the 2.2.2.2 IBGP neighbor sent 15 prefixes to R1.
- D.R1 will drop its neighbor relationship to the 2.2.2.2 IBGP neighbor if 2.2.2.2 sends two more additional prefixes to R1.
- E.R1 will drop its neighbor relationship to the 2.2.2.2 IBGP neighbor if 2.2.2.2 sends three more additional

prefixes to R1.

Correct: B E

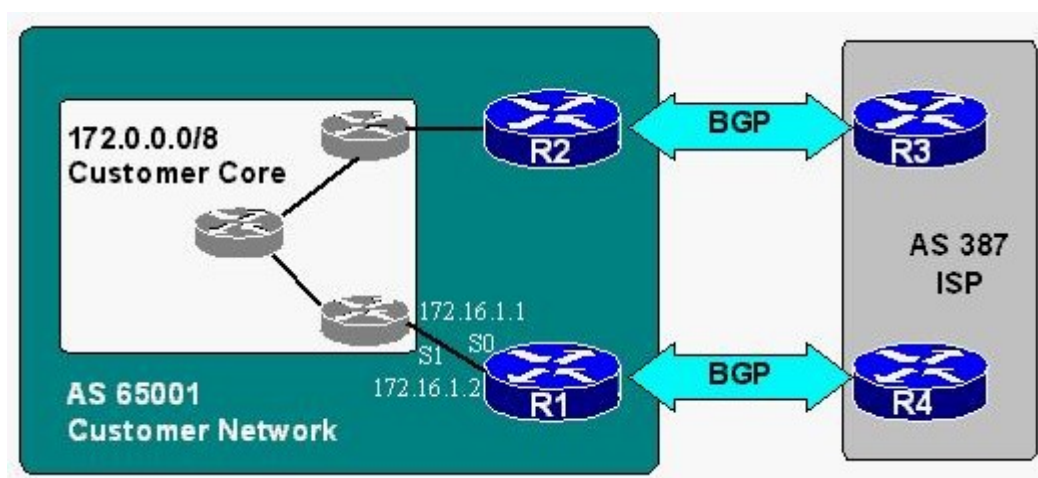
17. Which of these situations best describe when to use the AS number translation feature?

- A. All single-homed customers are using public AS numbers.
- B. All single-homed customers are using private AS numbers.
- C. All multihomed customers are using public AS numbers.
- D. All multihomed customers are assigned different AS numbers from different ISPs.

Correct: D

18. Which two configuration commands will complete the BGP configuration on R1 so it will conditionally announce the 172.0.0.0/8 prefix to R4 via BGP? (Choose two.) hostname R1!output omitted!1. _____!router bgp 65001neighbor 172.16.1.1 remote-as

65001neighbor 2.2.2.2 remote-as 65001neighbor 4.4.4.4 remote-as 387!2. _____!



- A.2. network 172.16.0.0 auto-summary
- B.2. network 172.0.0.0 mask 255.0.0.0
- C.1. ip route 172.0.0.0 255.0.0.0 null0
- D.1. ip route 172.0.0.0 255.0.0.0 null0 255
- E.1. ip route 172.0.0.0 255.0.0.0 172.16.1.1
- F.2. aggregate-address 172.0.0.0 mask 255.0.0.0

Correct: B E

19. The neighbor {ip-address} maximum-prefix {maximum number} command prevents which router condition?

- A. frequent BGP session resets
- B. routing instability
- C. asymmetric routing
- D. CPU and memory exhaustion
- E. route flaps

Correct: D

20. Refer to the exhibit. What effect will the route-map PEER-FILTER have on the route 24.11.62.0/24 with a community of 10:100 injected by the peer router in AS632?

```
router bgp 4224
neighbor 1.2.3.4 remote-as 632
neighbor 1.2.3.4 route-map PEER-FILTER in
!
route-map PEER-FILTER permit 10
match ip address 1
set weight 150
continue 40
!
route-map PEER-FILTER permit 20
match ip address 2
set weight 100
!
route-map PEER-FILTER permit 30
set weight 100
continue
!
route-map PEER-FILTER permit 40
match community 10:100
set local-preference 105
!
access-list 1 permit 67.4.0.0 0.0.255.255
access-list 2 permit 24.11.0.0 0.0.255.255
```

- A.weight will be set to 100
- B.weight will be set to 150
- C.local preference will be set to 105
- D.weight will be set to 100, local preference will be set to 105
- E.weight will be set to 150, local preference will be set to 105

Correct:A