Practice exam questions for the Nokia SRA Composite Exam (exam number 4A0-C02)

The following questions will test your knowledge and prepare you for the Nokia SRA Composite Exam. Compare your responses with the Answer Key at the end of the document.

VPLS

1.1 How does an Ethernet switch dynamically build its forwarding table?

a. Reads the Dst MAC address and associates it to the port from which it was forwarded.
b. Reads the Dst IP address and associates it to the port from which it was forwarded.
c. Reads the Src MAC address and associates it to the port on which it was received.
d. Reads the Src IP address and associates it to the port on which it was received.

1.2 Which of the following statements is TRUE for the use of MP-BGP signaling?

a. Used to signal the transport labels for VPLS.
b. Used to signal the service labels for VPWS.
c. Used to signal the service labels for VPLS.
d. Used to signal the service labels for IES.

1.3 Which of the following is a characteristic of a BGP-VPLS?

a. Uses a single service label.
b. Requires a full mesh of signaling.
c. Uses t-ldp for signaling service labels.
d. Uses a VE-ID.

1.4 PE20 (VE-ID 20) receives an update with a label base of 131117, and a VBO of 8. What is the value of the service label?

a. 131129
b. 131105
c. 131145
d. 131089

1.5 In an LDP VPLS with BGP auto-discovery enabled, which of the following parameters is typically used to define the VSI-ID?

a. <AS>:<System-Address>
b. <AS>:<Service-ID>
c. <System-Address>:<Service-ID>
d. <System-Address>:<VPLS-ID>

1.6 An Ethernet frame arrives with an outer tag of 300 and an inner tag of 100. Which service will the frame be forwarded to?

```
vpls 100 customer 1
  sap 1/1/1:*
vpls 200 customer 1
  sap 1/1/1:100
vpls 300 customer 1
  sap 1/1/1:300
vpls 400 customer 1
  sap 1/1/1:400
```

a. VPLS 100
b. VPLS 200
c. VPLS 300
d. VPLS 400
e. None, frame will be discarded.

1.7 A 2000 byte Ethernet frame plus q-in-q encapsulation arrives at a VPLS service with a default SAP. What is the minimum service MTU required to pass the frame?

a. 1992 bytes
b. 2000 bytes
c. 2004 bytes
d. 2008 bytes

1.8 A VPLS has just learned its 20th MAC address, and the FDB size is set to 20. Which statement describes the action(s) to be taken when the next frame arrives with a new source MAC address?

a. The frame will be forwarded, and the FDB size will automatically increase to allow space for the new MAC address to be added to the FDB.
b. The frame will be forwarded, the oldest entry in the FDB will be removed and the new MAC address will be added to the FDB.
c. The frame will be forwarded, but the new MAC address will not be added to the FDB.
d. The frame will be discarded.

1.9 An FDB occupancy alarm has been raised. Based on the configuration, what Is the minimum number of MAC addresses that would cause the FDB alarm?

```
A:VPLSv3_PE1>config>service>vpls# info
----------------------------------------------
                fdb-table-size 20
                fdb-table-low-wmark 40
                fdb-table-high-wmark 60
                stp
                    shutdown
                exit
                sap lag-1:100 create
                exit
                mesh-sdp 2:100 create
                    no shutdown
                exit
                mesh-sdp 3:100 create
                    no shutdown
                exit
                no shutdown
```

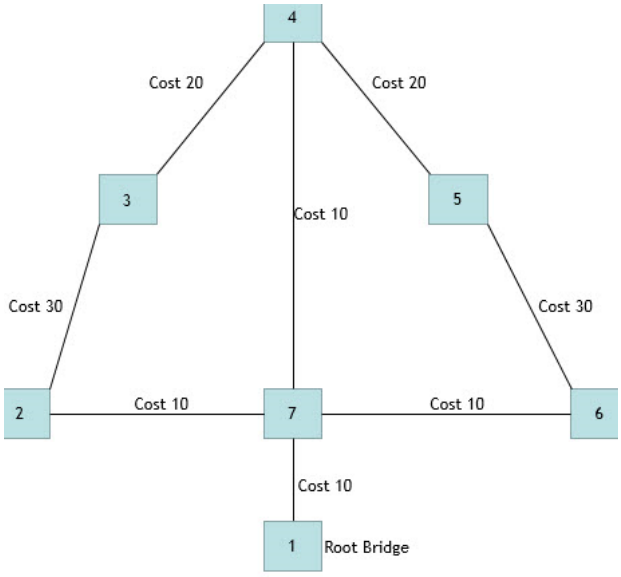
a. 6 MAC entries.
b. 8 MAC entries.
c. 4 MAC entries.
d. 12 MAC entries.

1.10 Based on the exhibit, which of the following statements is TRUE?

```
config service vpls 10 info
    sap 1/1/1 create
    exit
    sap 1/1/2 create
    exit
    sap 1/1/3 create
    exit
    spoke-sdp 2 create
    exit
    mac-move move-frequency 2
    mac-move secondary ports cumulative-factor 2
    mac-move primary ports cumulative-factor 3
    mac-move secondary-ports
        sap 1/1/2
        spoke-sdp 2
    exit
    mac-move primary-ports
        sap 1/1/3
    exit
```

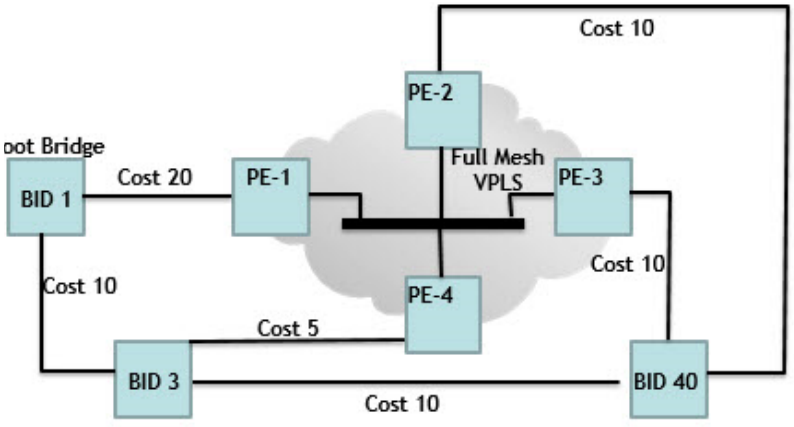
a. SAP 1/1/3 will be blocked after 10 or more relearns in a 5 second interval.
b. SAP 1/1/2 will be blocked after 20 or more relearns in a 10 second interval.
c. SPOKE-SDP 2 will be blocked after 20 or more relearns in a 15 second interval.
d. SAP 1/1/1 will be blocked after 20 or more relearns in a 10 second interval.

1.11 The L2 network below is running Rapid spanning tree for loop prevention. How many Alternate Ports (AP) are there in the network?



a. 1
b. 2
c. 3
d. 4

1.12 In the L2 network and the VPLS service displayed below, PE-1, PE-2, PE-3 and PE-4 are Nokia 7750-SRs and are operating in default STP mode. Which PE will become the primary bridge?



a. PE-1
b. PE-2
c. PE-3
d. PE-4
e. None

1.13 Which of the following statements about a Management VPLS is TRUE?

a. M-VPLS is required to be configured on mesh-sdps to remove loops.
b. SAPs and SDPs mimic the user's VPLS topology.
c. M-VPLS operates in Transparent mode.
d. M-VPLS carries customer traffic.

1.14 Which of the following statements about a LAG is TRUE?

a. When using different port speeds in a LAG, auto-negotiation will reduce all ports to the lowest speed.
b. When LACP is set to passive, the LAG group will initiate LACP packets to the far-end.
c. Once the LAG port threshold is reached, the LAG action will be either dynamic-cost or down.
d. LAG communication is vendor specific.

1.15 Which of the following statements about MC-LAG 2 is FALSE?

```
A:VPLSv3_PE1# show lag 2 detail
===============================================================================
LAG Details
===============================================================================
Details
-------------------------------------------------------------------------------
Lag-id              : 2                     Mode                : access
Adm                 : up                    Opr                 : up
Thres. Exceeded Cnt : 10                    Port Threshold      : 2
Thres. Last Cleared : 04/29/2015 07:38:38   Threshold Action    : down
Dynamic Cost        : false                 Encap Type          : dot1q
Configured Address  : 60:2c:ff:00:01:41     Lag-IfIndex         : 1342177281
Hardware Address    : 60:2c:ff:00:01:41     Adapt Qos (access)  : distribute
...
LACP                : enabled               Mode                : active
LACP Transmit Intvl : fast                  LACP xmit stdby     : enabled
Selection Criteria  : highest-count         Slave-to-partner    : disabled
...
System Id           : 60:2c:ff:00:00:00     System Priority     : 32768
Admin Key           : 40000                 Oper Key            : 32769
Prtr System Id      : 60:30:ff:00:00:00     Prtr System Priority : 32768
Prtr Oper Key       : 32768
Standby Signaling   : lacp
Port weight speed   : 0 gbps                Number/Weight Up    : 3
Weight Threshold    : 0                     Threshold Action    : down

MC Peer Address     : 10.10.10.2            MC Peer Lag-id      : 1
MC System Id        : 00:00:00:00:00:01     MC System Priority  : 32768
MC Admin Key        : 32769                 MC Active/Standby   : active
MC Lacp ID in use   : true                  MC extended timeout : false
MC Selection Logic  : local master decided
MC Config Mismatch  : no mismatch
-------------------------------------------------------------------------------
Port-id        Adm     Act/Stdby Opr     Primary   Sub-group     Forced  Prio
-------------------------------------------------------------------------------
1/1/2          up      active    up      yes       1            -       32768
1/2/1          up      active    up                1            -       32768
1/2/2          up      active    up                1            -       32768
```

a. The LAG requires 3 ports to remain operationally up.
b. The LAG supports the use of VLAN tags.
c. The peer LAG ID is 2.
d. The LAG can be used to support SAPs.

1.16 Which of the following statements about Active/Standby pseudowires is TRUE?

a. An endpoint can support a maximum of three different spoke-sdps.
b. A maximum of two spoke-sdps can be active in an endpoint for load balancing.
c. T-LDP signals pseudowire status to aid in the selection of the active pseudowire.
d. MAC learning is still enabled on the standby pseudowires to aid in rapid switch over.

1.17 Which of the following statements about the RPL link is TRUE?

a. The RPL neighbor controls the RPL link.
b. Under normal conditions, the RPL is the primary link for data.
c. The RPL neighbor is responsible for blocking traffic over the RPL.
d. If an RPL is not configured, the last link to become active will be blocked.

1.18 Which of the following statements regarding the use of spoke-sdp in H-VPLS is FALSE?

a. Simplifies signaling
b. Simplifies MDU configuration
c. Spoke-sdps are used for the core connections between the PEs.
d. Spoke-sdps are used to connect between two or more fully meshed VPLS services.

1.19 Which of the following statements about PBB is TRUE?

a. Each SDP is configured with a B-MAC address to hide customer's MAC in the core.
b. Supports the mapping of multiple standard VPLS services to a B-VPLS
c. Supports the mapping of multiple B-VPLS services to an I-VPLS
d. PBB is also referred to as MAC-in-MAC.

1.20 Which of the following statements about the use of the I-SID on the Nokia 7750-SR is TRUE?

a. The I-SID is always set to the value of the B-VPLS service-id.
b. The I-SID has to be explicitly configured when building the B-VPLS.
c. For known unicast traffic, the I-SID is inspected to forward traffic to the local I-VPLS.
d. The PE uses the I-TAG in the I-SID to identify the local I-VPLS to forward the traffic.

QoS

2.1 Which of the following statements about CIR of a queue is TRUE?

a. It may exceed PIR of the queue.
b. It may be exceeded by the average servicing rate of the queue.
c. It varies depending on the traffic characteristics.
d. It is the rate at which packets are forwarded out of the queue.

2.2 Which of the following statements about the four step QoS process (classification, queuing, scheduling, and marking/remarking) executed for every packet entering a Nokia 7750 SR is TRUE?

a. The process happens only before the packet goes through the switching fabric.
b. The process happens only before the packet goes onto the egress port.
c. Marking/remarking the packets is for future classification.
d. Marking/remarking the packets will occur right after classification of the packet.

2.3 Which of the following statements about behavior aggregate and multi-field classification in a Nokia 7750 SR is TRUE?

a. Multi-field classification can use both MAC criteria and IP criteria in the same SAP-ingress QoS policy.
b. Behavior aggregate classification can use both lsp-exp and dscp in the same SAP-ingress QoS policy.
c. Multi-field classification cannot use both IP criteria and IPv6 criteria in the same SAP-ingress QoS policy.
d. Behavior aggregate classification cannot use both dot1p and lsp-exp in the same SAP-ingress QoS policy.

2.4 The SAP-ingress policy shown below is applied properly to a Nokia 7750 SR. A traffic stream is received from an IP address of 192.168.2.200 with DSCP and dot1p set to EF and 4, respectively. Which forwarding class and priority level is used for this traffic stream?

```
R2>config>qos>sap-ingress# info
----------------------------------------------
           --- Output omitted ---
           ip-criteria
                 entry 10 create
                     match
                         dscp ef
                     exit
                     action fc "h1"
                 exit
                 entry 20 create
                     match
                         src-ip 192.168.2.200
                     exit
                     action fc "af" priority low
                 exit
           exit
           dot1p 4 fc l1 priority high
           exit
----------------------------------------------
```

a. FC H1, high
b. FC H1, low
c. FC AF, high
d. FC AF, low

2.5 The network QoS policy shown below is applied properly to a Nokia 7750 SR acting as a transit Label Switch Router (LSR) for a given MPLS tunnel. A packet is received inside the MPLS tunnel with EXP=4, and DSCP=AF. Which forwarding class Is assigned to this packet?

```
R2>config>qos>network# info
----------------------------------------------
            ingress
                default action fc l2 profile out
                ler-use-dscp
                dscp af fc h1 profile in
                lsp-exp 4 fc af profile out
                dot1p 4 fc be profile in
            exit
            egress
            exit
----------------------------------------------
```

a. L2
b. H1
c. AF
d. BE

2.6 Which of the following egress points does NOT support egress reclassification?

a. Spoke-SDPs bound to an IES
b. Spoke-SDPs bound to a VPRN interface
c. SAPs
d. Network interfaces

2.7 Which ports on the same MDA share a buffer pool in a Nokia 7750 SR?

a. Access ingress ports
b. Access egress ports
c. Network ingress ports
d. Network egress ports

2.8 Which of the following is NOT a reason for configuring a slope policy on a queue?

a. To have control over the amount of the low priority packets that enter the queue.
b. To control any traffic flowing through the shared buffer space of the queue.
c. To limit the number of the TCP sessions that go into slow start during congestion.
d. To force the TCP algorithm to increase its transmission window upon detecting a congestion.

2.9 According to the SAP-ingress QoS policy shown, which packets have a higher priority to enter queue 2?

```
R2>config>qos>sap-ingress# info
----------------------------------
     --- Output omitted ---
     queue 2 profile-mode create
          mbs 10
          cbs 5
          high-prio-only 30
     exit
     queue 3 priority-mode create
          mbs 20
          cbs 5
          high-prio-only 50
     exit
     fc af create
          queue 2
     exit
     fc "af.out" create
          profile out
     exit
     dscp af33 fc "af.out" priority high
     dot1p 4 fc af
     default-fc l1
     exit
----------------------------------
```

a. Packets marked with dscp = af33
b. Packets marked with dot1p = 4
c. All packets mapped to queue 2 have the same priority to enter this queue.
d. There are no packets mapped to queue 2.

2.10 For which of the following queues does a Nokia 7750 SR allocate a separate hardware queue per each destination fast forward path complex (FFPC)?

a. An egress unicast queue defined in a network queue policy
b. An ingress unicast queue defined in a SAP-ingress policy
c. An ingress multipoint queue defined in a SAP-ingress policy
d. An ingress multipoint queue defined in a network queue policy

2.11 According to the SAP-ingress QoS policy shown, which of the following statements about processing of the packets by policers 3 and 4 is TRUE?

```
R1>config>qos>sap-ingress# info
----------------------------------------
     ---- Output omitted ----
     policer 3 create
          rate 10000 cir 4000
          mbs 40
          cbs 20
          high-prio-only 30
     exit
     policer 4 create
          rate 10000 cir 2000
          mbs 20
          cbs 5
          high-prio-only 70
     exit
     fc af create
          policer 3
     exit
     fc l2 create
          policer 4
     exit
     dscp "ef" fc "af"
     dot1p 2 fc "af"
     dot1p 4 fc "l2" priority low
     default-fc l1
     default-priority low
exit
```

a. Policer 3 forwards packets as out-of-profile when its PIR bucket has 4000 tokens.
b. Policer 3 starts discarding low-priority packets when its PIR bucket has at least 3000 tokens.
c. Policer 4 forwards all its packets as out-of-profile.
d. Policer 4 starts discarding low-priority packets when its PIR bucket has at least 3000 tokens.

2.12 Which of the following statements is a characteristic of a CFHP arbiter?

a. An arbiter can adjust the CIR of its child policers.
b. An arbiter rate-limits the collective output of several policers towards each egress FFPC.
c. An arbiter can adjust the bandwidth assigned to its child arbiters and child policers.
d. An arbiter does not need to honor the configurations of its child policers.

2.13 According to the SAP-egress policy configured and applied, which queue will forwarding class AF's traffic use?

```
R1>config>qos# info
----------------------------------------
   --- Output omitted ---
   queue-group-templates
     ingress
       queue-group "Q-Group1" create
         policer 1 create
         exit
         policer 2 create
         exit
     exit
   exit
   sap-ingress 10 create
     policer 1 create
     exit
     fc "af" create
      policer 2 fp-redirect-group
     exit
     default-fc af
----------------------------------------
R1>config>qos# exit all
R1#
R1# configure card 1 fp 1 ingress access queue-group "Q-Group1" instance 1 create
R1# configure service epipe 1 sap 1/1/4 ingress qos 10 fp-redirect-group Q-Group1 instance 1
```

a. Policer 2 on the queue-group Q-Group1 instance 1.
b. Policer 1 on the queue-group Q-Group1 instance 1.
c. The default policer 1.
d. AF traffic is dropped.

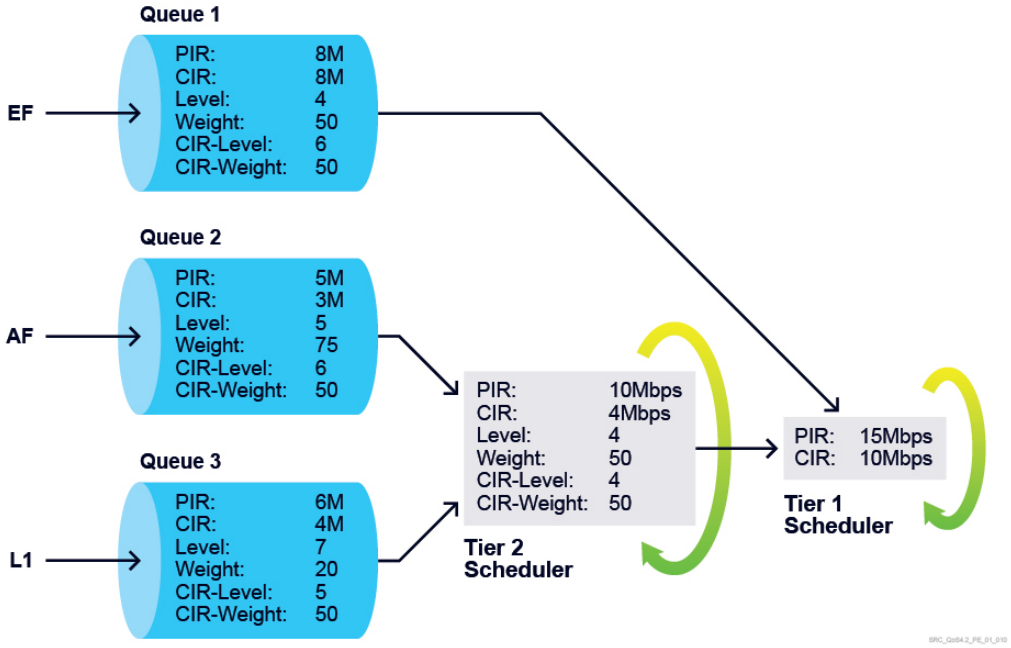
2.14 Which of the following statements about a queue's rate parameters is FALSE?

a. If CIR=PIR, then all packets will be considered as in-profile.
b. CIR can be set to 0.
c. CIR can be larger than PIR.
d. CIR can be set to 'max'.

2.15 Which of the following statements about the default scheduler in the Nokia 7750 SR is FALSE?

a. The default scheduler spends an equal amount of time servicing each queue that has traffic to be sent out.
b. Queue-type can be configured as best-effort, expedite, or auto-expedite.
c. A queue will be serviced as expedited if its type is configured as expedited, regardless of the forwarding classes mapped to it.
d. A queue configured as auto-expedited will be an expedited queue as long as no Best Effort FC is mapped to it.

2.16 A hierarchical scheduler policy with the shown parameters is configured at a service ingress. If the offered rate of each queue is 10Mbps, what is the operational PIR and CIR for queue 3?



a. PIR = 5 Mbps, CIR = 0 Mbps
b. PIR = 4 Mbps, CIR = 1 Mbps
c. PIR = 6 Mbps, CIR = 4 Mbps
d. PIR = 6 Mbps, CIR = 1 Mbps

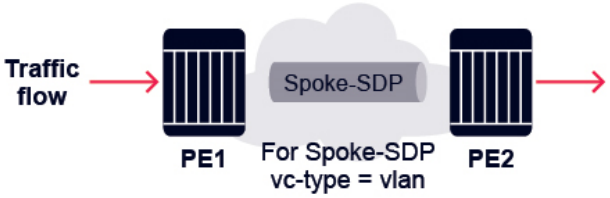
2.17 Which of the following statements about the bandwidth allocation criteria used by an egress port scheduler is TRUE?

a. The available bandwidth of the port is divided in a strict priority over its children.
b. Expedited queues must be serviced before best-effort queues.
c. Orphaned queues are serviced on the 8th scheduling priority.
d. The configured CIR dictates the maximum port bandwidth that can be allocated during the within-CIR pass for that level.

2.18 A frame belonging to a Layer 2 service is encapsulated in an MPLS tunnel at a network-egress port. Which of the following fields in the frame can be marked or remarked at the network egress port?

a. ToS
b. DSCP
c. PREC
d. EXP

2.19 Packets enter the network via the ePipe SAP on PE1 with dot1p marking of 6. The VC type of the SDP interconnecting PE1 and PE2 is vlan. All network interfaces use the default network QoS policy. According to the configuration shown above, what is the inner dot1p value of the BE traffic egressing router PE2?




```
A:PE1# configure service epipe 11
A:PE1>config>service>epipe# info
----------------------------------------------
    sap 1/1/1:50
    exit
    spoke-sdp 12:11 vc-type vlan
```

```
A:PE2# configure service epipe 11
A:PE2>config>service>epipe# info
----------------------------------------------
    sap 2/2/2:11.22
        egress
            qos 10
            qinq-mark-top-only
        exit
    exit
    spoke-sdp 21:11 vc-type vlan
```

```
A:PE2# configure qos sap-egress 10
A:PE2>config>qos>sap-egress# info
----------------------------------------------
    queue 3 create
    exit
    fc be create
      queue 3
      dot1p 3
    exit
```

a. 0
b. 3
c. 6
d. 22

2.20 According to the configuration shown below, which of the following statements about the classification of self-generated OSPF traffic is TRUE?

```
R1# config>router>sgt-qos# info
        application ospf dscp none
        dscp nc1 fc be
R1#
R1# exit all
R1#
R1# config qos network-queue default
R1# info
        --- Omitted Output ---
        fc nc create
          queue 8
        exit
        fc be create
          queue 1
        exit
        --- Omitted Output ---
```

a. It will be classified into forwarding class BE and stored in queue 1.
b. It will be classified into forwarding class BE and stored in queue 8.
c. It will be classified into forwarding class NC and stored in queue 1.
d. It will be classified into forwarding class NC and stored in queue 8.

VPRN

3.1 Which of the following statements about a VPRN service is FALSE?

a. Layer 2 information is removed from the customer data before it is forwarded across the VPRN.
b. Each P router maintains a separate IP forwarding table for each VPRN service.
c. Each customer's VPRN is invisible to other customers' VPRNs.
d. Customer data transported across the provider network is encapsulated with two MPLS labels.

3.2 Which of the following statements about a VPN-IPv4 address is FALSE?

a. It consists of an 8-byte route distinguisher and an IPv4 prefix.
b. It appears in IP packets exchanged between PE routers.
c. It is created when an IPv4 prefix is exported from a VRF to a VPRN.
d. It is not seen by the CE router.

3.3 Which of the following statements about the route distinguisher is FALSE?

a. A route can have more than one route distinguisher.
b. A route distinguisher does not identify the origin of the route.
c. A route distinguisher is used to create distinct routes for a common IPv4 address prefix.
d. The Nokia 7750 SR supports three different types of route distinguishers.

3.4 A service provider core consists of 4 PE routers and 3 P routers. Assuming route reflection is not used, how many internal BGP sessions are required in the service provider network for the correct operation of VPRN services?

a. 3
b. 4
c. 6
d. 12

3.5 VPRN Outbound Route Filtering (ORF) is configured on PE1. Which of the following is NOT indicated in the BGP Open message sent by PE1?

```
PE1# configure router bgp group "multi-bgp" neighbor 10.10.10.2
PE1>config>router>bgp>group>neighbor# outbound-route-filtering
PE1>config>router>bgp>group>neighbor>orf# extended-community accept-orf
PE1>config>router>bgp>group>neighbor>orf# extended-community send-orf
```

a. That it supports Route Refresh
b. That it supports aggregate routes
c. That it is willing to send ORFs
d. That it supports VPN-IPv4 routes

3.6 Which of the following statements about the AS-Path remove-private method on a Nokia 7750 SR is FALSE?

a. It is configured on a PE router to update VPN routes advertised to peer PEs.
b. It is only valid when private AS numbers are used at customer sites.
c. It is functionally similar to the AS-Path nullification method.
d. It does not affect public AS numbers present in the AS-Path string.

3.7 Which of the following statements about full mesh VPRNs is FALSE?

a. Failure in any single connection should result in no loss of service.
b. Scalability is improved.
c. LSP tunnels can be LDP or RSCP-TE based.
d. Optimal forwarding is achieved.

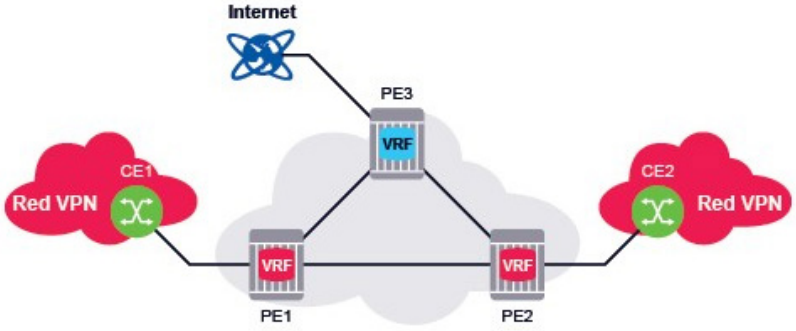
3.8 How many different route targets are required to configure a PE hub and spoke VPRN with one hub and 3 spokes?

a. 1
b. 2
c. 3
d. 4

3.9 Which of the following statements about Route Distinguisher (RD) assignment in VPRNs is FALSE?

a. Assigning one RD per VRF per site allows quick identification of the site of origin.
b. Assigning one RD per VRF adds resiliency in a single VPN.
c. Assigning one RD per VRF increases memory consumption on the PEs.
d. Assigning one RD per VPN allows load balancing.

3.10 The network has an Internet VRF dedicated to Internet access. CE1 is connected to the Red VPN and requires the full Internet table. Which of the following statements do not fulfill this requirement?

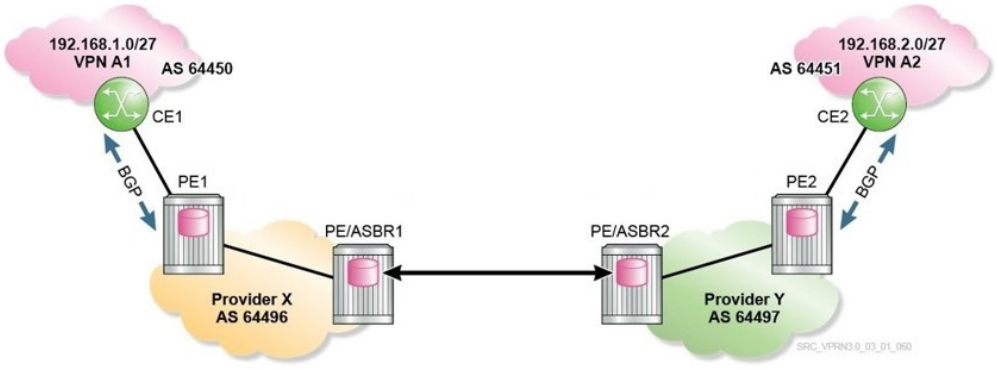


a. The Internet VRF on PE3 imports the red VPN routes advertised by PE1.
b. PE3 learns the Internet routes via its VRF interface to the Internet peering router.
c. PE1 advertises only the red VPN routes and a default route to CE1.
d. The red VRF on PE1 imports the red VPN routes advertised by PE2.

3.11 Which of the following statements about Inter-AS model A VPRN is FALSE?

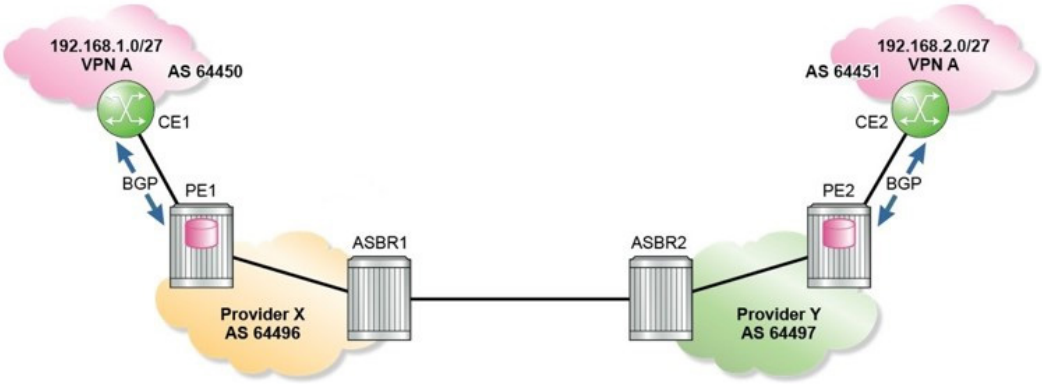
a. All routers that support VPRN functionality support model A by default.
b. It is also known as the VRF-to-VRF approach.
c. ASBR of one AS is directly connected to ASBR of the neighboring AS.
d. MPLS is required at the boundary between ASes.

3.12 An inter-AS model A VPRN is used to provide connectivity between CEs. Which of the following statements about the control plane operation is FALSE?



a. CE1 sends route 192.168.1.0/27 as an IPv4 route to PE1.
b. PE1 installs the route in the VRF and advertises it as a VPN-IPv4 route to ASBR1.
c. ASBR1 advertises the received route as a VPN-IPv4 route to ASBR2.
d. ASBR2 advertises the received route as a VPN-IPv4 route to PE2.

3.13 For the Inter-AS model 8 VPRN, which of the following statements is TRUE when CE2 sends an IP packet to 192.168.1.1?

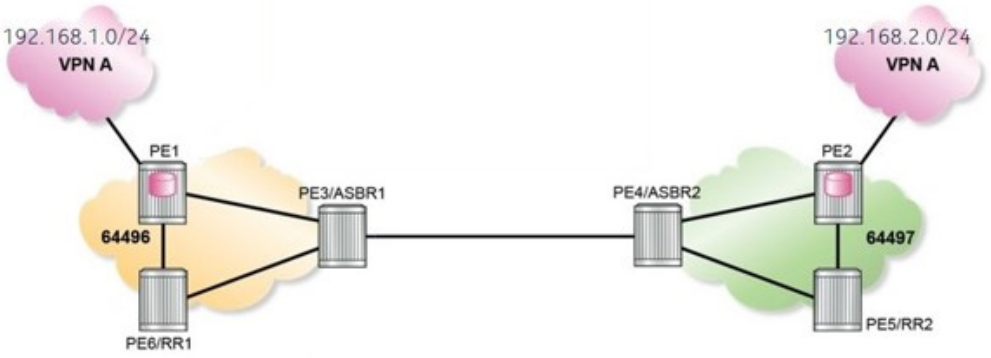


a. PE2 pushes 2 labels on the packet and forwards it to ASBR2.
b. ASBR2 pushes 2 labels on the packet and forwards it to ASBR1.
c. ASBR1 pushes 1 label on the packet and forwards it to PE1.
d. PE1 pushes 1 label on the packet and forwards it to CE1.

3.14 Which of the following statements about Inter-AS model B VPRN is FALSE?

a. It improves the scalability of the Inter-AS model A solution.
b. It is also known as MP-eBGP for VPN-IPv4 exchange.
c. It requires the configuration of VPRN instances on the ASBRs.
d. In this model, the route target advertised in one AS is maintained and used in the remote AS.

3.15 Routers RR1 and RR2 are configured as route reflectors for all BGP routes. For the Inter-AS model C VPRN, which of the following statements about VPN-IPv4 route advertisement is FALSE?



a. PE1 advertises the VPN-IPv4 route for prefix 192.168.1.0/24 to RR1.
b. RR1 advertises the VPN-IPv4 route for prefix 192.168.1.0/24 to RR2.
c. PE2 advertises the VPN-IPv4 route for prefix 192.168.1.0/24 to RR2.
d. RR1 advertises the VPN-IPv4 route for prefix 192.168.2.0/24 to PE1.

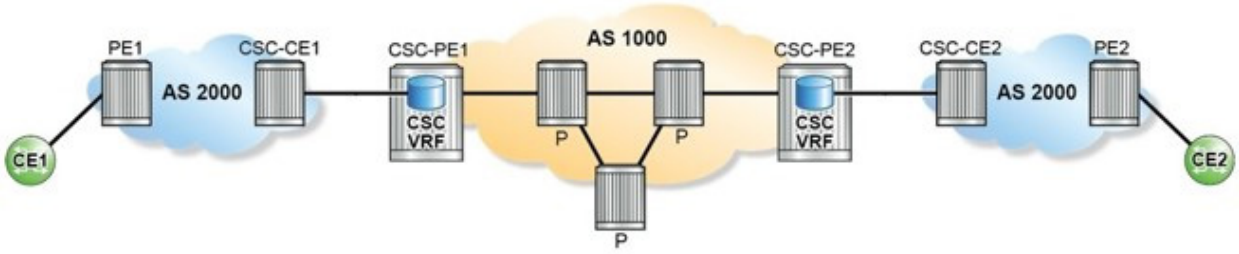
3.16 Which of the following is NOT a characteristic of Inter-AS model C VPRN?

a. Each ASBR advertises remote PE routes within its local AS.
b. PE routers in different ASes exchange IPv4 routes directly using eBGP.
c. VPN routes are neither held, nor re-advertised by the ASBR.
d. ASBRs exchange labels for the system addresses of PE routers.

3.17 Which of the following statements about Carrier Supporting Carrier (CSC) VPRN is TRUE?

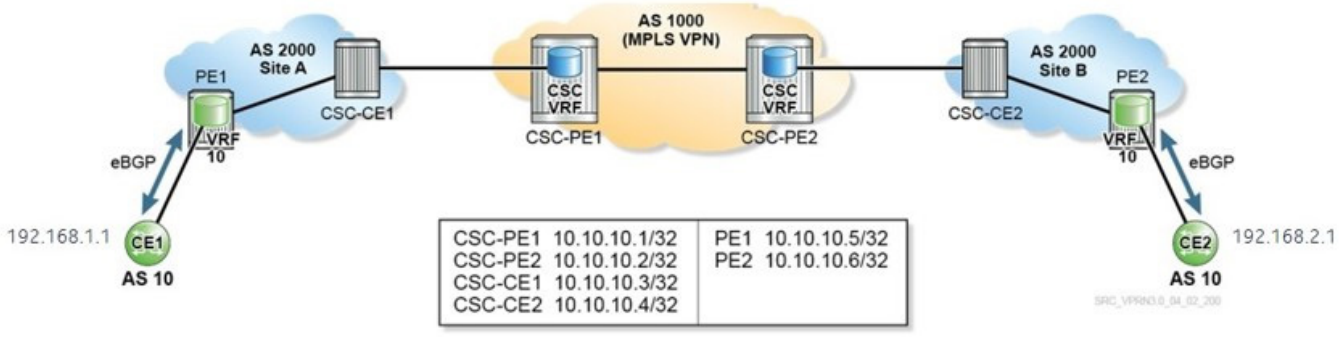
a. A CSC VPRN is configured on the network provider P routers.
b. The network provider P routes are referred to as CSC-PEs.
c. The customer carrier PE routers are referred to as CSC-CEs.
d. The network provider provides an MPLS VPN backbone to the customer carrier.

3.18 For the Carrier Supporting Carrier (CSC) VPRN, which of the following statements about the transport tunnel creation process between PE1 and PE2 is FALSE?



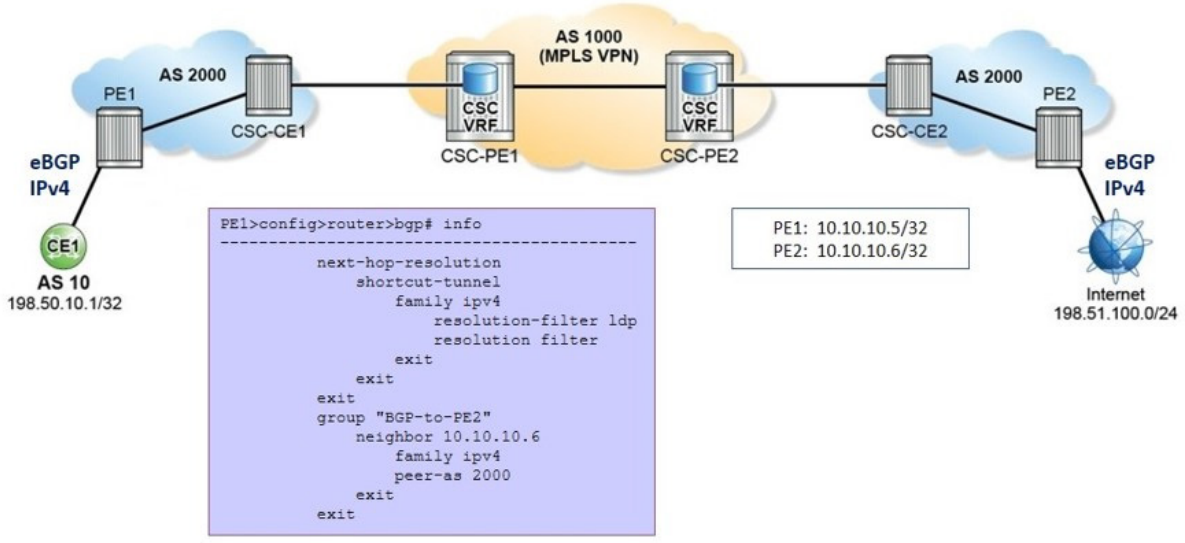
a. PE2 advertises to CSC-CE2 a route and a label for its system IP address.
b. CSC-CE2 advertises the system IP address of PE2 to CSC-PE2 as a labeled IPv4 route.
c. CSC-PE2 installs the system IP address of PE2 in its CSC VRF.
d. CSC-PE1 advertises the system IP address of PE2 as an unlabeled BGP route to CSC-CE1.

3.19 A Carrier Supporting Carrier (CSC) VPRN is configured for a customer carrier who provides VPN services. Which of the following routes is NOT present in PE2's global route table?



a. 10.10.10.2
b. 10.10.10.4
c. 10.10.10.5
d. 10.10.10.6

3.20 A Carrier Supporting Carrier (CSC) VPRN is configured on a Nokia 7750 SR for a customer carrier who is an Internet Service Provider (ISP). Which of the following statements about the configuration on PE1 is TRUE?



a. "advertise-label ipv4" is required in the BGP neighbor configuration.
b. "family ipv4" should be "family vpn-ipv4".
c. "next-hop-self" is required in the BGP neighbor configuration.
d. The configuration is correct.

BGP

4.1 An autonomous system has 6 routers configured with BGP. How many iBGP sessions are required for a fully meshed configuration.

a. 1
b. 6
c. 12
d. 15

4.2 Which of the following statements about eBGP is FALSE?

a. eBGP can be classified into two major categories: Peering and Transit.
b. BGP messages are sent to eBGP neighbors with an IP time-to-live of 64.
c. It is typical for devices that have an eBGP session between them to be directly connected.
d. An eBGP session is between two devices in different ASes.

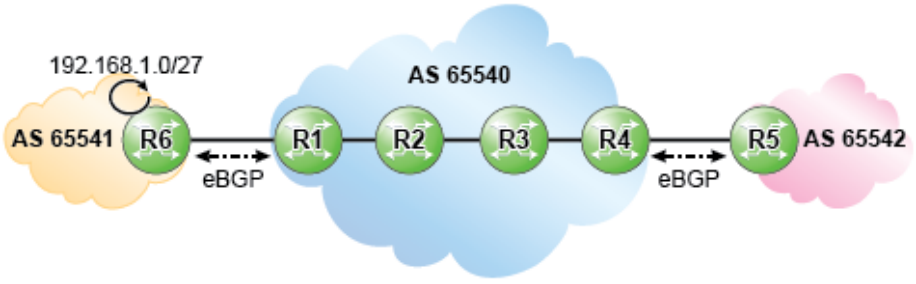
4.3 A BGP session is currently in the Active state. Which BGP message type is exchanged next?

a. Keepalive
b. Update
c. Open
d. Notification

4.4 Which of the following is NOT an optional non-transitive BGP attribute?

a. AGGREGATOR
b. MULTI_EXIT_DISC
c. ORIGINATOR_ID
d. CLUSTER_LIST

4.5 If router R6 originates a BGP route for prefix 192.168.1.0/27 with origin IGP, what will the update contain when it reaches router R4?



a. AS Path of 65540 65541 and Origin of EGP
b. AS Path of 65540 66541 and Origin of IGP
c. AS Path of 65541 and Origin of EGP
d. AS Path of 65541 and Origin of IGP

4.6 Which of the following about the Community attribute is FALSE?

a. Use extended communities for 4 byte ASNs.
b. ISPs use communities to signal internal and external peers.
c. Community is an optional non-transitive attribute.
d. ISPs can apply one or more communities to a prefix.

4.7 Which of the following about the BGP databases is FALSE?

a. Adj-RIBs-In stores all routes received from BGP neighbors.
b. The Loc-RIB stores the routes before the import policies process the routing information.
c. Adj-RIBs-Out stores only a subset of the paths placed in the Loc-RIB.
d. Only best BGP routes are sent to the Loc-RIB.

4.8 Which of the following statements about BGP recursive lookup is FALSE?

a. A BGP recursive lookup is performed on the packet's destination IP address.
b. Address matching is based on longest-match routing.
c. If the lookup returns an interface, the packet is encapsulated and forwarded via the specified interface.
d. A BGP recursive lookup is needed if the egress interface is not known.

4.9 The commands "configure router triggered-policy" and "clear router bgp external soft" are executed on a Nokia 7750 SR. Which of the following statements is FALSE?

a. Resets eBGP neighbors only. All eBGP neighbors reevaluate all routes in the Local-RIB against any configured export policies.
b. Does not reset any BGP neighbor. All eBGP neighbors reevaluate all routes in the Local-RIB against any configured export policies.
c. Does not reset any BGP neighbor. All eBGP neighbors reevaluate all routes in the RIB-In against any configured import policies.
d. Resets eBGP neighbors only. All eBGP neighbors reevaluate all routes in the RIB-In against any configured import policies.

4.10 Which of the following statements about BGP import policies on a Nokia 7750 SR is FALSE?

a. Import policies can filter NLRI based on AS Path.
b. Import policies can send aggregate routes.
c. Import policies can filter NLRI based on prefix lists.
d. Import policies can modify local preference.

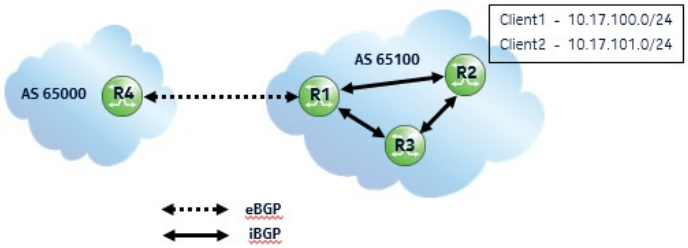
4.11 What is the result of configuring the following policy statement as a BGP import policy on the Nokia 7750 SR?

```
policy-statement "Policy-1"
    entry 10
        from
            protocol bgp
            prefix-list "List-1" "List-2"
        exit
        action reject
        exit
    exit
    default-action reject
```

a. All routes are rejected.
b. All BGP routes are rejected.
c. Only BGP routes matching prefix lists "List-1" or "List-2" are rejected.
d. Only BGP routes matching prefix lists "List-1" and "List 2" are rejected.

4.12 AS 65100 owns CIDR block 10.16.0.0/12. Router R1 creates and advertises the aggregate 10.16.0.0/12 to AS 65000 using the configuration below. Which of the following statements is TRUE?

```
*A:R1>config>router# aggregate 10.16.0.0/12
-------------------------------------------------------------
*A:R1>config>router>policy-options# info
-------------------------------------------------------------
        policy-statement "advertise aggregate"
            entry 10
                from
                    protocol aggregate
                exit
                action accept
                exit
            exit
        exit
-------------------------------------------------------------
*A:R1>config>router>bgp>group# export "advertise aggregate"
```

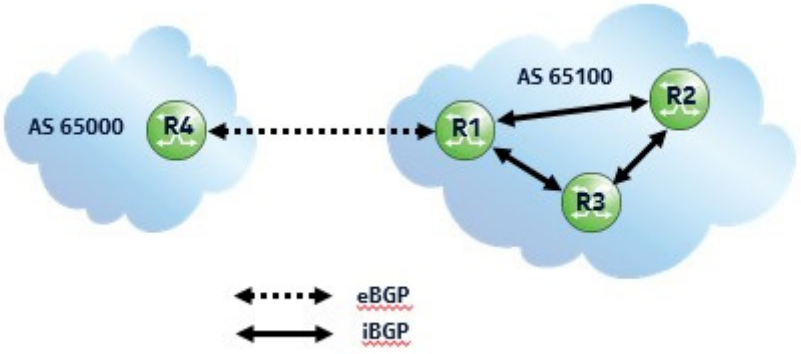


a. R4 receives the aggregate route only and the atomic aggregate attribute is set.
b. R4 receives the aggregate route only and the atomic aggregate attribute is not set.
c. R4 receives the aggregate route and specific routes for each client. The atomic aggregate route is set.
d. R4 receives the aggregate route and specific routes for each client. The atomic aggregate attribute is not set.

4.13 Which of the following AS Paths will match the regular expression "*65000."?

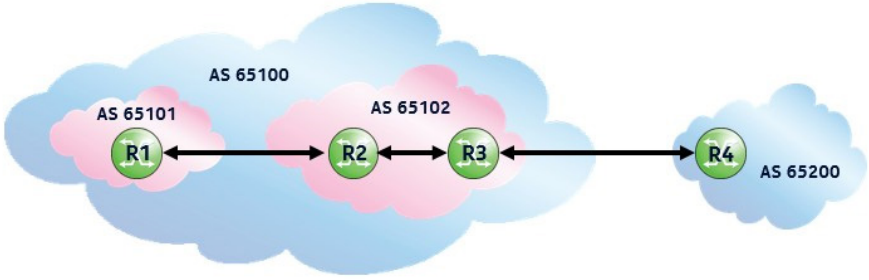
a. 65100 65000
b. 65100 65000 65200
c. 65100 65200 65000
d. 65000 65100 65200

4.14 R1 receives a route from R2 with a MED value of 200. What MED value for the route is sent from R1 to R4?



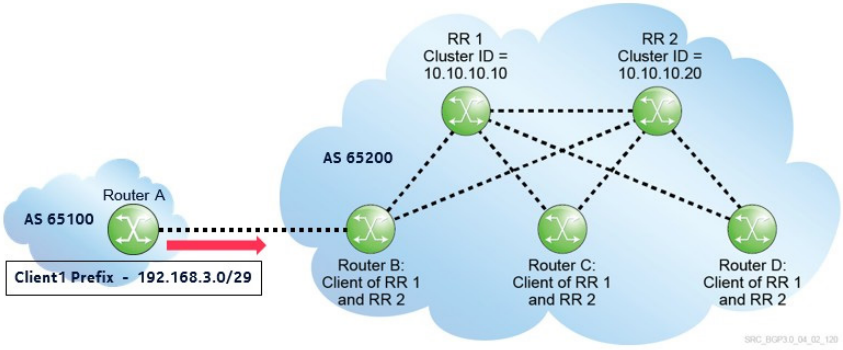
a. 200
b. None
c. 100
d. 1

4.15 Which of the following statements best describes the BGP sessions within the given network?



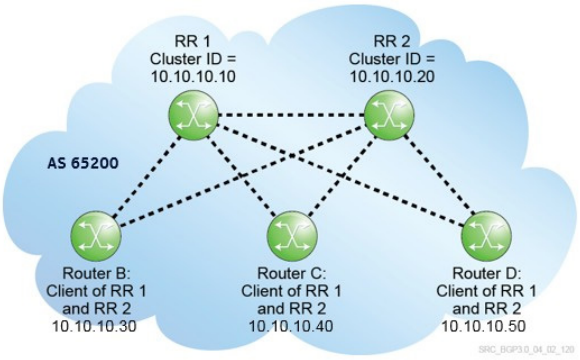
a. The session between AS 65101 and AS 65102 is an inter-confederation iBGP session.
b. The session between AS 65102 and AS 65200 is an inter-confederation eBGP session.
c. The session between AS 65101 and 65102 is an intra-confederation eBGP session.
d. The session between AS 65102 and AS 65200 is an intra-confederation eBGP session.

4.16 Routers RR1 and RR2 are route reflectors with different Cluster IDs. When the update for prefix 192.168.3.0/29 is received at router D from RR2, what will the CLUSTER_LIST attribute be?



a. The Cluster ID of RR1 only.
b. The Cluster ID of RR2 only.
c. The Cluster ID of RR1 and RR2.
d. The CLUSTER_LIST is not set.

4.17 Routers RR1 and RR2 are redundant route reflectors for clients B, C and D. Which of the following is a valid configuration on router RR2?



a.

```
RR2>config>router>bgp# info
----------------------------------------------
        group "AS 65200"
            peer-as 65200
            neighbor 10.10.10.10
            exit
            neighbor 10.10.10.30
                cluster 10.10.10.20
            exit
            neighbor 10.10.10.40
                cluster 10.10.10.20
            exit
            neighbor 10.10.10.50
                cluster 10.10.10.20
        exit
```

b.

```
RR2>config>router>bgp# info
----------------------------------------------
        group "AS 65200"
            peer-as 65200
            neighbor 10.10.10.10
                cluster 10.10.10.10
            exit
            neighbor 10.10.10.30
                cluster 10.10.10.20
            exit
            neighbor 10.10.10.40
                cluster 10.10.10.20
            exit
            neighbor 10.10.10.50
                cluster 10.10.10.20
        exit
```

c.

```
RR2>config>router>bgp# info
----------------------------------------------
        group "AS 65200"
            cluster 10.10.10.20
            peer-as 65200
            neighbor 10.10.10.10
            exit
            neighbor 10.10.10.30
            exit
            neighbor 10.10.10.40
            exit
            neighbor 10.10.10.50
            exit
        exit
```

d.

```
RR2>config>router>bgp# info
----------------------------------------------
        group "AS 65200"
            peer-as 65200
            neighbor 10.10.10.10
                cluster 10.10.10.20
            exit
            neighbor 10.10.10.30
            exit
            neighbor 10.10.10.40
            exit
            neighbor 10.10.10.50
            exit
        exit
```

4.18 Which of the following statements about the BGP Advertise External feature is FALSE?

a. BGP Advertise External modifies BGP advertisement logic with no protocol changes.
b. BGP Advertise External allows better load sharing.
c. BGP Advertise External applies to both regular IPv4 unicast routes and labeled-IPv4 (SAFI4) routes.
d. BGP Advertise External is supported only at the config>router>bgp>group level.

4.19 Which of the following statements regarding BGP Add-Paths is FALSE?

a. A BGP speaker must advertise the capability to receive multiple paths from its peer.
b. Ipv4, ipv6, vpn-ipv4 are all supported and configured independently.
c. Add-Paths capabilities are exchanged between peers after BGP session establishment.
d. Up to N=16 paths are configurable per prefix, per peer.

4.20 Which of the following is NOT a criterion used to notify the IOM that a BGP next-hop is unreachable?

a. Peer IP address unreachable and peer-tracking enabled.
b. The LDP tunnel that resolves the next-hop goes down.
c. BFD session associated with BGP goes down.
d. BGP hold timers for a session expire.

Answer Key

VPLS		QoS		VPRN		BGP	
1.1	C	2.1	B	3.1	B	4.1	D
1.2	C	2.2	C	3.2	B	4.2	B
1.3	D	2.3	B	3.3	A	4.3	C
1.4	A	2.4	A	3.4	C	4.4	A
1.5	A	2.5	C	3.5	B	4.5	D
1.6	C	2.6	D	3.6	A	4.6	C
1.7	D	2.7	C	3.7	B	4.7	B
1.8	C	2.8	D	3.8	B	4.8	A
1.9	D	2.9	B	3.9	D	4.9	B
1.10	B	2.10	B	3.10	C	4.10	B
1.11	B	2.11	D	3.11	D	4.11	B
1.12	E	2.12	C	3.12	C	4.12	D
1.13	B	2.13	A	3.13	A	4.13	B
1.14	C	2.14	C	3.14	C	4.14	B
1.15	C	2.15	A	3.15	C	4.15	C
1.16	C	2.16	A	3.16	B	4.16	B
1.17	D	2.17	A	3.17	D	4.17	A
1.18	C	2.18	D	3.18	D	4.18	D
1.19	D	2.19	C	3.19	A	4.19	C
1.20	C	2.20	D	3.20	C	4.20	D

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