

Version: 10.0

Question: 1

Click the Exhibit button.

[edit]

```
user@PE-1# run show l2 circuit connections
```

Layer-2 Circuit Connections:

Legend for connection status (St)

EI -- encapsulation invalid NP -- interface

h/w not present

MM -- mtu mismatch Dn -- down

EM -- encapsulation mismatch VC-Dn --

Virtual circuit Down

CM -- control-word mismatch Up --

operational

VM -- vlan id mismatch CF -- Call

admission control failure

OL -- no outgoing label IB -- TDM

incompatible bitrate

NC -- intf encaps not CCC/TCC TM -- TDM

misconfiguration

BK -- Backup Connection ST -- Standby

Connection

CB -- rcvd cell-bundle size bad SP -- Static

Pseudowire

LD -- local site signaled down RS -- remote

site standby

RD -- remote site signaled down XX -- unknown

Legend for interface status

Up -- operational

Dn -- down

Neighbor: 4.4.4.4

Interface Type St Time

last up #Up trans

ge-0/0/1.512 (vc 1) rmt OL

[edit]

```
user@PE-1# show protocols ldp
```

```
interface ge-0/0/2.0;
```

[edit]

```
user@PE-1# show protocols l2circuit
```

```
neighbor 4.4.4.4 {
```

```
interface ge-0/0/1.512 {
```

```
virtual-circuit-id 1
```

```

}
}
[edit]
user@PE-1# show interfaces ge-0/0/1
vlan-tagging;
encapsulation vlan-ccc;
unit 512 {
encapsulation vlan-ccc;
vlan-id 512;
}
[edit]
uxer@P-1 # show protocols ldp
interface all;
[edit]
user@P-2# show protocols ldp
interface all;
[edit]
user@PE-2# run show l2circuit connections
Layer-2 Circuit Connections:
Legend For connection status (St)
EI -- encapsulation invalid NP -- interface
h/w not present
MM -- mtu mismatch Dn -- down
EM -- encapsulation mismatch VC-Dn --
Virtual circuit Down
CM -- control-word mismatch Up --
operational
VM -- vlan id mismatch CF -- Call
admission control failure
OL -- no outgoing label IB -- TDM
incompatible bitrate
NC -- intf encaps not CCC/TCC TM -- TDM
misconfiguration
BK -- Backup Connection ST -- Standby
Connection
CB -- rcvd cell-bundle size bad SP -- Static
Pseudowire
LD -- Local site signaled down RS -- remote
site standby
RD -- remote site signaled down XX -- unknown
Legend for interface status
UP -- operational
DN -- down
Neighbor: 1.1.1.1
Interface Type St Time
last up #Up trans
ge-0/0/1.512 (vc 1) rmt OL
[edit]

```

```

user@PE-2# show protocols ldp
interface ge-0/0/2.0;
[edit]
user@PE-2# show protocols l2circuit
neighbor 1.1.1.1 {
interface ge-0/0/1.512 {
virtual-circuit-id 1;
}
}
[edit]
user@PE-2# show interfaces ge-0/0/1
vlan-tagging;
encapsulation vlan-ccc;
unit 512 {
encapsulation vlan-ccc;
vlan-id 512;
}

```

Referring to the exhibit, you have configured an L2 circuit that connects Site-1 and Site-2, but the L2 circuit is not functioning. The topology in this scenario is shown below.

Site-1 > PE-1 > P-1 > P-2 > PE-2 > Site-2

Which action will allow communication between Site-1 and Site-2?

- A. Change the virtual circuit identifier to 2 for PE-2.
- B. Add the family inet statement under the ge-0/0/1.512 interface for PE-1 and PE-2.
- C. Add the lo0 interface under the {edit protocols ldp} hierarchy for all routers.
- D. Add the lo0 interface under the {edit protocols l2circuit} hierarchy for PE-1 and PE-2

Answer: C

Explanation:

LDP is required as the signaling protocol for Layer 2 circuits. You must include the loopback address in LDP. We enable ldp on the loopback interfaces.

Question: 2

Which command will match communities 101:111, 111:1, and 999:1111?

- A. set policy-options community COMMUNITY members "^... :1?"
- B. set policy-options community COMMUNITY members "^1.*:1+"
- C. set policy-options community COMMUNITY members ["^1.1:1?" 999:1111]
- D. set policy-options community COMMUNITY members "^... :1+"

Answer: D

Explanation:

Period (.)—A wildcard character that matches any single digit in an AS number.

+ stands for one or more repetitions of term.

? stands for zero or one repetition of term.

References: http://www.juniper.net/documentation/en_US/junos15.1/topics/usage-guidelines/policy-defining-bgp-communities-and-extended-communities-for-use-in-routing-policy-match-conditions.html#id-10243437

Question: 3

Click the Exhibit button.

[edit]

```
user@PE-1# show protocols
```

```
rsvp {  
interface all;  
}  
mpls {  
label-switched-path p1 {  
from 1.1.1.1;  
to 4.4.4.4;  
no cspf;  
}  
interface all;  
}  
bgp {  
group Int {  
type Internal;  
local-address 1.1.1.1;  
family inet {  
unicast;  
}  
family inet-vpn {  
unicast;  
}  
neighbor 2.2.2.2;  
neighbor 3.3.3.3;  
neighbor 4.4.4.4;  
}  
}  
ospf {  
area 0.0.0.0 {  
interface ge-0/0/2.0;  
interf lo0.0;  
}  
}
```

[edit]

```
user@p-1# show protocols
```

```
mpls {  
interface all;  
}  
ospf {
```

```
area 0.0.0.0 {
interface ge-0/0/1.0;
interface ge-0/0/2.0;
interface ge-1o0.0;
}
}
[edit]
user@p-2# show protocols
mpls {
interface all;
}
ospf {
area 0.0.0.0 {
interface ge-0/0/1.0;
interface ge-0/0/2.0;
interface ge-1o0.0;
}
}
[edit]
user@p-2# show protocols
rsrv {
interface all;
}
mpls {
label-switched-path p2 {
from 4.4.4.4;
to 1.1.1.1;
no-ospf
}
interface all;
}
bgp {
group INT {
type internal;
local-address 4.4.4.4,
family inet {
unicast;
neighbor 2.2.2.2;
neighbor 3.3.3.3;
neighbor 1.1.1.1;
}
}
ospf {
area 0.0.0.0 {
interface ge-0/0/2.0;
interface 1o0;
}
}
}
```

Referring to the exhibit, you have configured an L3VPN that connects Site-1 and Site-2 together, but the BGP routes are being hidden on the PE routers. The topology in this scenario is shown below.

Site-1 > PE-1 > P-1 > P-2 > PE-2 > Site-2

Which two actions would allow communication Site-1 and Site-2? (Choose two.)

- A. Disable CSPF on under MPLS on P-1 and P-2.
- B. Configure BGP on P-1 and P-2.
- C. Enable RSVP for all interfaces on P-1 and P-2.
- D. Enable LDP for all interfaces on all routers.

Answer: B,D

Explanation:

Hidden routes usually mean that routes were not labeled properly. You should enable RSVP or LDP on all routers. RSVP is already configured on PE-1 so we only need to configure it on P-1 and P-2.

References:

http://www.juniper.net/documentation/en_US/junos12.1x47/topics/concept/mpls-security-rsvp-signaling-protocol-understanding.html

http://www.juniper.net/techpubs/en_US/junos15.1x49/topics/task/verification/bgp-mpls-lsp-up.html

<https://packetcorner.wordpress.com/2013/01/30/mpls-l3vpn/>

Question: 4

A layer 2 circuit (RFC 4447) is established between two PE routers to provide connectivity between two customer sites.

Which two statements related to this deployment are true?

- A. Kompella encapsulation is used in the data plane communications.
- B. LDP must be used for the control plane communications.
- C. BGP must be used for the control plane communications.
- D. Martini encapsulation is used in the data plane communications.

Answer: B,D

Explanation:

Junos OS substantially supports t RFC 4447, Pseudowire Setup and Maintenance Using the Label Distribution Protocol (LDP).

Martini uses directed LDP to signal the VPN label between the PE devices, Kompella uses BGP to signal the VPN label between the PE devices.

References:

https://www.juniper.net/documentation/en_US/junos15.1/topics/reference/standards/layer-2-circuit.html

Question: 5

Click the exhibit button.

```
[edit protocols pim]
user@R1# show
rp {
bootstrap {
family inet {
priority 250;
}
}
local {
address 10.220.1.1;
priority 1;
group-ranges {
224.1.1.11/32;
224.0.0.0/4;
}
}
}
interface all;
interface fxp0.0 {
disable;
}
```

```
[edit protocols pim]
user@R4# show
rp {
bootstrap {
family inet {
priority 249;
}
}
local {
address 10.220.1.4;
priority 5;
group-ranges {
224.1.1.12/32;
224.0.0.0/4;
}
}
}
interface all;
interface fxp0.0 {
disable;
}
```

Referring to the exhibit, which router will be the RP?

- A. R4 for all groups
- B. R1 for group 224.1.1.11 and R4 for all other groups
- C. R1 for all groups
- D. R4 for group 224.1.1.12 and R1 for all other groups

Answer: A

Explanation:

A priority of 1 means the routing device has the least chance of becoming a designated router. Here R1 has priority 1, while R4 has priority 5. R4 will be elected the designated router and the rendezvous point (RP) for both address ranges.

Note: In a shared tree, the root of the distribution tree is a router, not a host, and is located somewhere in the core of the network. In the primary sparse mode multicast routing protocol, Protocol Independent Multicast sparse mode (PIM SM), the core router at the root of the shared tree is the rendezvous point (RP).

References: http://www.juniper.net/documentation/en_US/junos15.1/topics/example/ospf-designated-router-election-configuring.html

Question: 6

Click the Exhibit button.

[edit] [edit]

```
lab@r1# show protocols lab@r2# show protocols
ospf3 { ospf3 {
area 0.0.0.0 { area 0.0.0.0 {
interface 1o0.0; interface 1o0.0;
interface ge-1/0/6.0; interface ge-1/0/7.0;
}
}
}
```



lo0 = 172.16.100.1/32 [edit]

fc00:1000::1/128 lab@r2# show protocols

```
ospf3 {
area 0.0.0.0 {
interface 1o0.0;
interface ge-1/1/7.0;
interface ge-1/1/6.0;
}
}
```

You must ensure that r1's IPv4 loopback address exists in r3's inet 0 routing table.

Referring to the exhibit, which statement is true?

- A. An IPv4 unicast realm can be enabled on each router.
- B. A policy can be configured on r1 to redistribute 172.16.100.1/32 into OSPFv2, which would cause r3 to eventually learn the route and place it into inet 0.
- C. A RIB group can be configured on r3 to copy that route into inet 0 because 172.16.100.1/32 exists in r3's inet.6 table.
- D. A policy can be configured on r1 to redistribute 172.16.100.1/32 into OSPFv3, which would cause r3 to eventually learn the route and place it into inet 0.

Answer: A

Explanation:

By default, OSPFv3 supports ONLY unicast IPv6 routes. One would have to configure OSPFv3 to support multiple address families including IPv4 unicast, etc. JUNOS OS maps each address family to a separate realm. You configure each realm independently. To support an address family other than unicast IPv6, you configure a realm that allows OSPFv3 to advertise IPv4 unicast.

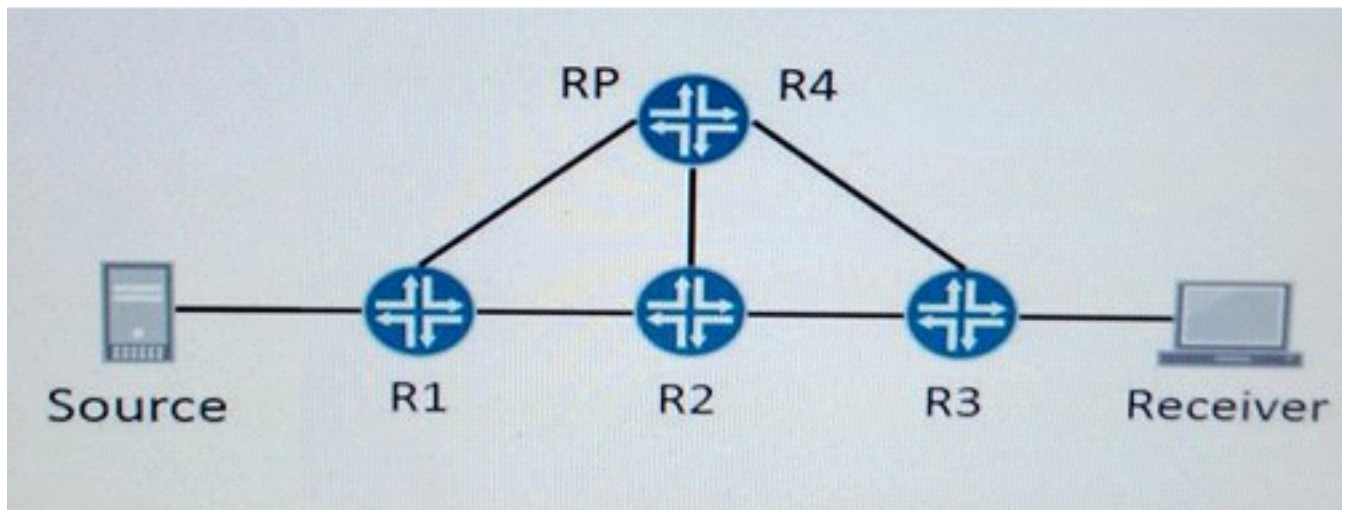
References:

http://www.juniper.net/techpubs/en_US/junos14.1/topics/topic-map/ospfv3-multiple-address-families.html

<https://kb.juniper.net/InfoCenter/index?page=content&id=kb16133&actp=search>

Question: 7

Click the Exhibit button.



Referring to the exhibit, you have a network that uses PIM-SM and you need to block certain PIM register messages.

Which two statements are correct in this situation? (Choose two.)

- A. You should apply a policy that blocks PIM register messages from the source on R4.
- B. You should apply a policy that blocks PIM register messages from the source on R3.
- C. You should apply a policy that blocks PIM register messages from the source on R2.
- D. You should apply a policy that blocks PIM register messages from the source on R1.

Answer: A,D

Explanation:

You can filter Protocol Independent Multicast (PIM) register messages sent from the designated router (DR) or to the rendezvous point (RP).

Note: In a shared tree, the root of the distribution tree is a router, not a host, and is located somewhere in the core of the network. In the primary sparse mode multicast routing protocol, Protocol Independent Multicast sparse mode (PIM SM), the core router at the root of the shared tree

is the rendezvous point (RP).

References:

http://www.juniper.net/documentation/en_US/junos15.1/topics/example/ospf-designated-router-election-configuring.html

http://www.juniper.net/techpubs/en_US/junos15.1/topics/topic-map/mcast-pim-filtering.html

Question: 8

Which statements are true about NG MVPNs? (Choose two.)

- A. NG MVPN membership is signaled between PEs using PIM?
- B. Every NG MVPN PE router builds a selective provider multicast service interface tunnel to every other router in the same NG MVPN
- C. NG MVPN membership is signaled between PEs using MP-BGP.
- D. Customer multicast traffic can be transported over the provider network using point-to-multipoint MPLS LSPs.

Answer: B,D

Explanation:

Inter-AS MVPN Membership Discovery (Type 2 Routes), via BGP MCAST-VPN address family, are used for membership discovery between PE routers that belong to different autonomous systems (ASs).

The service provider uses RSVP-TE point-to-multipoint LSPs for transmitting VPN multicast data across the network.

References: Technology Overview, Understanding Junos OS Next-Generation Multicast VPN, pages 2, 8

https://www.juniper.net/techpubs/en_US/release-independent/nce/information-products/topic-collections/nce/nce0090-ng-mvpn-understanding/ng-mvpn-understanding.pdf

Question: 9

A service provider wants to start using all of their LSPs for internal traffic and not just their MPLS VPNs. Any solution must ensure that existing VPNs and routing policies will continue to function properly.

Which MPLS traffic engineering parameter would accomplish this task?

- A. bgp
- B. bgp-igp-both-ribs
- C. bgp-igp
- D. mpls-forwarding

Answer: B

Explanation:

Using LSPs for Forwarding in Virtual Private Networks

VPNs require that routes remain in the inet.3 routing table to function properly. For VPNs, configure the bgp-igp-both-ribs option of the traffic-engineering statement to cause BGP and the IGP to use

LSPs for forwarding traffic destined for egress routers.

Question: 10

Click the Exhibit button.

```
user@router# run show route 2.0.0.0/8
inet.0: 101 destinations, 198 routes (100
active, 0 holddown, 1 hidden)
+ = Active Route, - = Last Active, * = Both
2.0.0.0/8 *[BGP/170] 00:12:06, MED
1000, Localpref 100, from 10.220.1.2
As path: 2000 I,
validation-state: unverified
> to 10.220.15.2 via ge-
1/0/0.0, label-switched-path r1-to-r3
to 10.220.12.2 via ge-
1/1/0.0, label-switched-path r1-to-r3
[BGP/170] 00:12:10, MED
1000, localpref 100, from 10.220.1.5
AS path: 2000 I,
validation-state: unverified
> to 10.220.15.2 via ge-
1/0/0.0, label-switched-path r1-to-r3
to 10.220.12.2 via ge-
1/1/0.0, label-switched-path r1-to-r3
2.6.6.6/32 *[BGP/170] 00:12:06, MED
1000, localpref 100, from 10.220.1.2
AS path: 2000 I,
validation-state: unverified
> to 10.220.15.2 via ge-
1/0/0.0, label-switched-path r1-tor3
to 10.220.12.2 via ge-
1/1/0.0, label-switched-path r1-to-r3
[BGP/170] 00:12:10, MED
1000, localpref 100, from 10.220.1.5
AS path: 2000 I,
validation-state: unverified
> to 10.220.15.2 via ge-
1/0/0.0, label-switched-path r1-to-r3
to 10.220.12.2 via ge-
1/1/0.0, label-switched-path r1-to-r3
user@router# run show route advertising-protocol
bgp 192.168.11.0
inet.0: 101 destinations, 198 routes (100
active, 0 holddown, 1 hidden)
Prefix Nexthop
MED Lclpref AS path
* 2.6.6.6/32 Self
```

```

2000 I
[edit protocols bgp]
user@router# show
export reject;
group peer {
export as1000;
neighbor 192.168.11.0 {
family inet {
unicast;
}
peer-as 1000;
}
}
[edit policy-options]
user@router# show
policy-statement as1000 {
term 1 {
from {
route-filter 2.0.0.0/8 longer;
}
then accept;
}
term 2 {
then reject;
}
}
policy-statement reject {
term 1 {
from {
route-filter 2.0.0.0/8 exact;
}
then reject
}
}

```

You want to advertise routes 2.0.0.0/8 and 2.6.6.6/32 to BGP peer 192.168.11.0. Referring to the exhibit, which configuration change would satisfy this requirement?

- A. Delete the as1000 export policy.
- B. Change the as1000 policy to orlonger.
- C. Delete the reject export policy.
- D. Change the reject policy to longer.

Answer: B

Explanation:

We must change the match type from longer to orlonger in the as1000 policy. The match type Orlonger matches if the prefix-length is equal to or greater than the route's prefix length, while the Longer match type only matches if the prefix-length is greater than the route's prefix length.

References: http://www.juniper.net/documentation/en_US/junos15.1/topics/example/policy-prefix-list.html