Vendor: Fortinet

Exam Code: NSE7_SDW-7.0

Exam Name: Fortinet NSE 7 - SD-WAN 7.0

Version: 23.101

QUESTION 1
Which are two benefits of using CLI templates in FortiManager? (Choose two.)

A. You can reference meta fields.
B. You can configure interfaces as SD-WAN members without having to remove references first.
C. You can configure FortiManager to sync local configuration changes made on the managed device, to the CLI template.
D. You can configure advanced CLI settings.

Answer: AD
Explanation:
CLI templates are useful for pushing advanced CLI settings that reference meta fields.

QUESTION 2
What is the route-tag setting in an SD-WAN rule used for?

A. To indicate the routes for health check probes.
B. To indicate the destination of a rule based on learned BGP prefixes.
C. To indicate the routes that can be used for routing SD-WAN traffic.
D. To indicate the members that can be used to route SD-WAN traffic.

Answer: B

QUESTION 3
Refer to the exhibit.

```
branch1_fgt # diagnose sys sdwan service 3

Service(3): Address Mode(IPV4) flags=0x200 use-shortcut-sla
  Gen(5), TOS(0x0/0x0), Protocol(0: 1->65535), Mode(priority), link-cost-
factor(latency), link-cost-threshold(10), heath-check(VPN_PING)
  Members(3):
    1: Seq_num(3 T_INET_0_0), alive, latency: 101.349, selected
    2: Seq_num(4 T_INET_1_0), alive, latency: 151.278, selected
    3: Seq_num(5 T_MPLS_0), alive, latency: 200.984, selected
  Src address(1):
        10.0.1.0-10.0.1.255


  Dst address(1):
        10.0.0.0-10.255.255.255


branch1_fgt (3) # show
config service
    edit 3
        set name "Corp"
        set mode priority
        set dst "Corp-net"
        set src "LAN-net"
        set health-check "VPN_PING"
        set priority-members 3 4 5
    next
end
```

The exhibit shows the SD-WAN rule status and configuration. Based on the exhibit, which change in the measured latency will make T_MPLS_0 the new preferred member?

A. When T_INET_0_0 and T_MPLS_0 have the same latency.
B. When T_MPLS_0 has a latency of 100 ms.
C. When T_INET_0_0 has a latency of 250 ms.
D. When T_N1PLS_0 has a latency of 80 ms.

Answer: D
Explanation:
link-cost-treshold is set to 10 (percent) so the other link must have a latency of less than 90% of the preferred link.

QUESTION 4
Refer to the exhibits.

Exhibit A

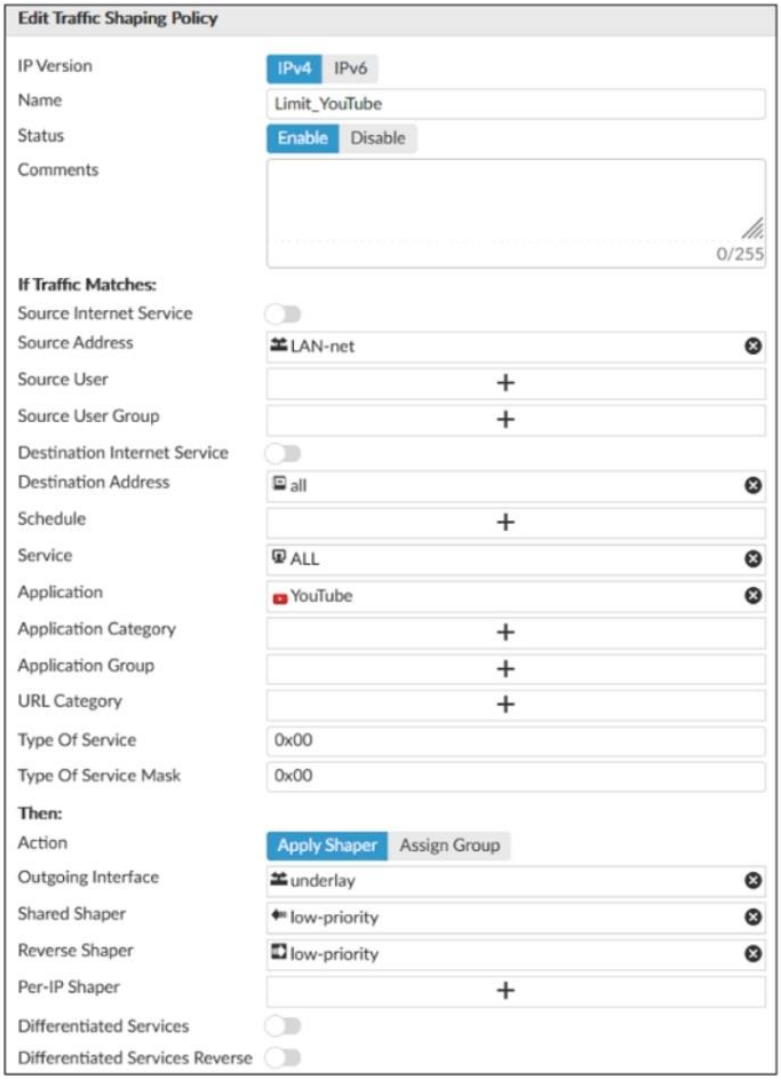


Exhibit B

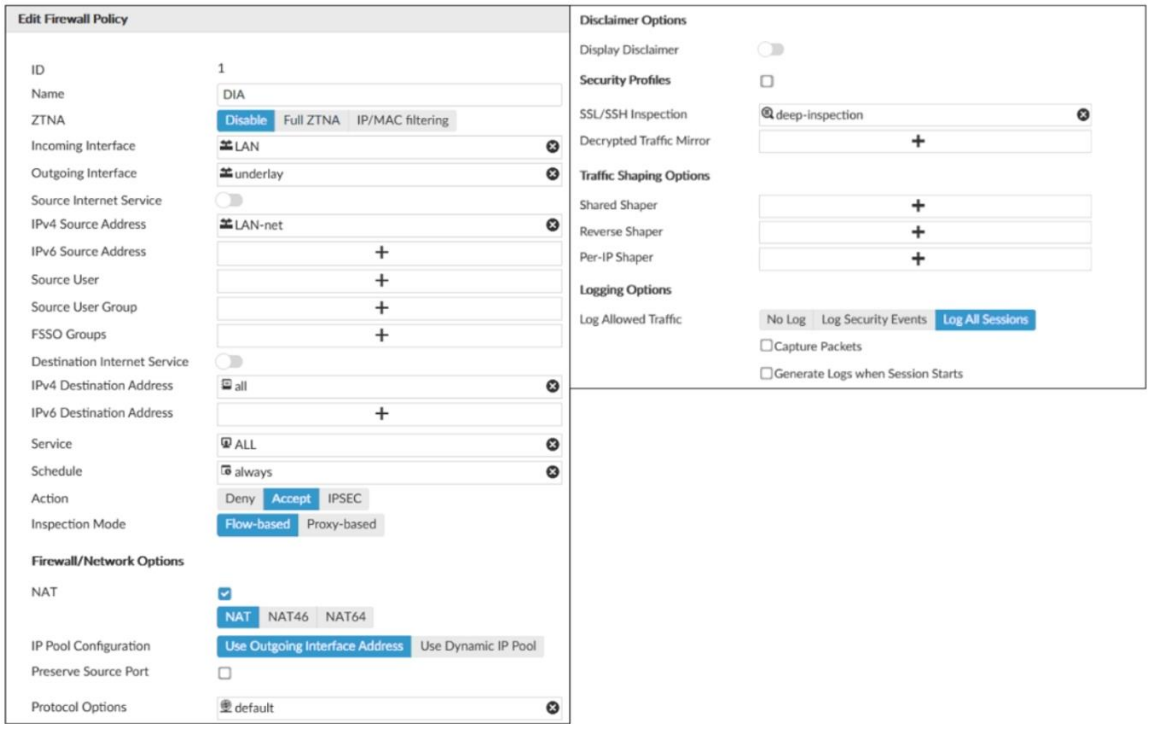


Exhibit A shows the traffic shaping policy and exhibit B shows the firewall policy. The administrator wants FortiGate to limit the bandwidth used by YouTube. When testing, the administrator determines that FortiGate does not apply traffic shaping on YouTube traffic. Based on the policies shown in the exhibits, what configuration change must be made so FortiGate performs traffic shaping on YouTube traffic?

A. Destination internet service must be enabled on the traffic shaping policy.
B. Application control must be enabled on the firewall policy.
C. Web filtering must be enabled on the firewall policy.
D. Individual SD-WAN members must be selected as the outgoing interface on the traffic shaping policy.

Answer: B

QUESTION 5
Refer to the exhibit, which shows the IPsec phase 1 configuration of a spoke.

```
config vpn ipsec phase1-interface
    edit "T_INET_0_0"
        set interface "port1"
        set ike-version 2
        set keylife 28800
        set peertype any
        set net-device disable
        set proposal aes128-sha256 aes256-sha256 aes128gcm-prfsha256 aes256gcm-prfsha384
chacha20poly1305-prfsha256
        set comments "[created by FMG VPN Manager]"
        set idle-timeout enable
        set idle-timeoutinterval 5
        set auto-discovery-receiver enable
        set remote-gw 100.64.1.1
        set psksecret ENC
6D5rVsaK1MeAyVYt1z95BS24Psew761wY023hnFVviwb6deItSc51tCa+iNYhujT8gycfD4+WuszpmuIv8rRzrVh
7DFkHaW2auAAprQ0dHUfaCzjOhME7mPw+8he2xB7Edb9ku/nZEHb0cKLkKYJc/p9J9IMweV2lZUgFjvIpXNxHxpH
LReOFShoH01SPFKz5IYCVA==
    next
end
```

What must you configure on the IPsec phase 1 configuration for ADVPN to work with SD-WAN?

A. You must set ike-version to 1.
B. You must enable net-device.
C. You must enable auto-discovery-sender.
D. You must disable idle-timeout.

Answer: B
Explanation:
For SPOKE you need to configure "net-device Enable" and a"uto-discovery-sender Enable".

QUESTION 6
Refer to the exhibits.

Exhibit A

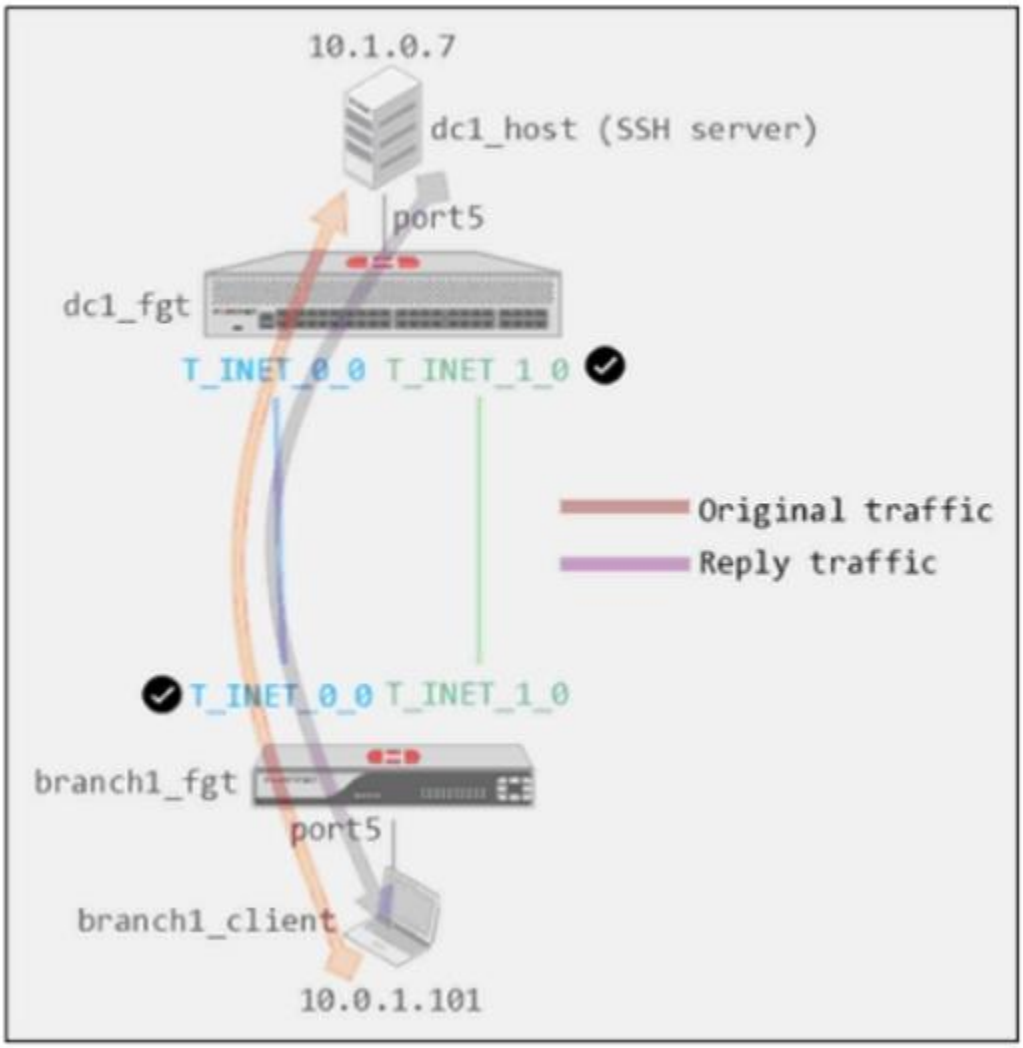

10.1.0.7
dc1_host (SSH server)
port5
dc1_fgt
T_INET_0_0
T_INET_1_0
Original traffic
Reply traffic
T_INET_0_0
T_INET_1_0
branch1_fgt
port5
branch1_client
10.0.1.101

Exhibit B

```
dc1_fgt # show system global
config system global
    set admin-https-redirect disable
    set admintimeout 480
    set alias "FortiGate-VM64"
    set hostname "dc1_fgt"
    set timezone 04
end

dc1_fgt # show system settings
config system settings
    set tcp-session-without-syn enable
    set allow-subnet-overlap enable
    set gui-allow-unnamed-policy enable
    set gui-multiple-interface-policy enable
end
```

Exhibit A shows a site-to-site topology between two FortiGate devices: branch1_fgt and dc1_fgt. Exhibit B shows the system global and system settings configuration on dc1_fgt. When branch1_client establishes a connection to dc1_host, the administrator observes that, on dc1_fgt, the reply traffic is routed over T_INET_0_0, even though T_INET_1_0 is the preferred member in the matching SD-WAN rule.
Based on the information shown in the exhibits, what configuration change must be made on dc1_fgt so dc1_fgt routes the reply traffic over T_INET_1_0?

A. Enable auxiliary-session under config system settings.
B. Disable tp-session-without-syn under config system settings.
C. Enable snat-route-change under config system global.
D. Disable allow-subnet-overlap under config system settings.

Answer: A
Explanation:
Controlling return path with auxiliary session When multiple incoming or outgoing interfaces are used in ECMP or for load balancing, changes to routing, incoming, or return traffic interfaces impacts how an existing sessions handles the traffic. Auxiliary sessions can be used to handle these changes to traffic patterns.

QUESTION 7
Refer to the exhibits.

Exhibit A

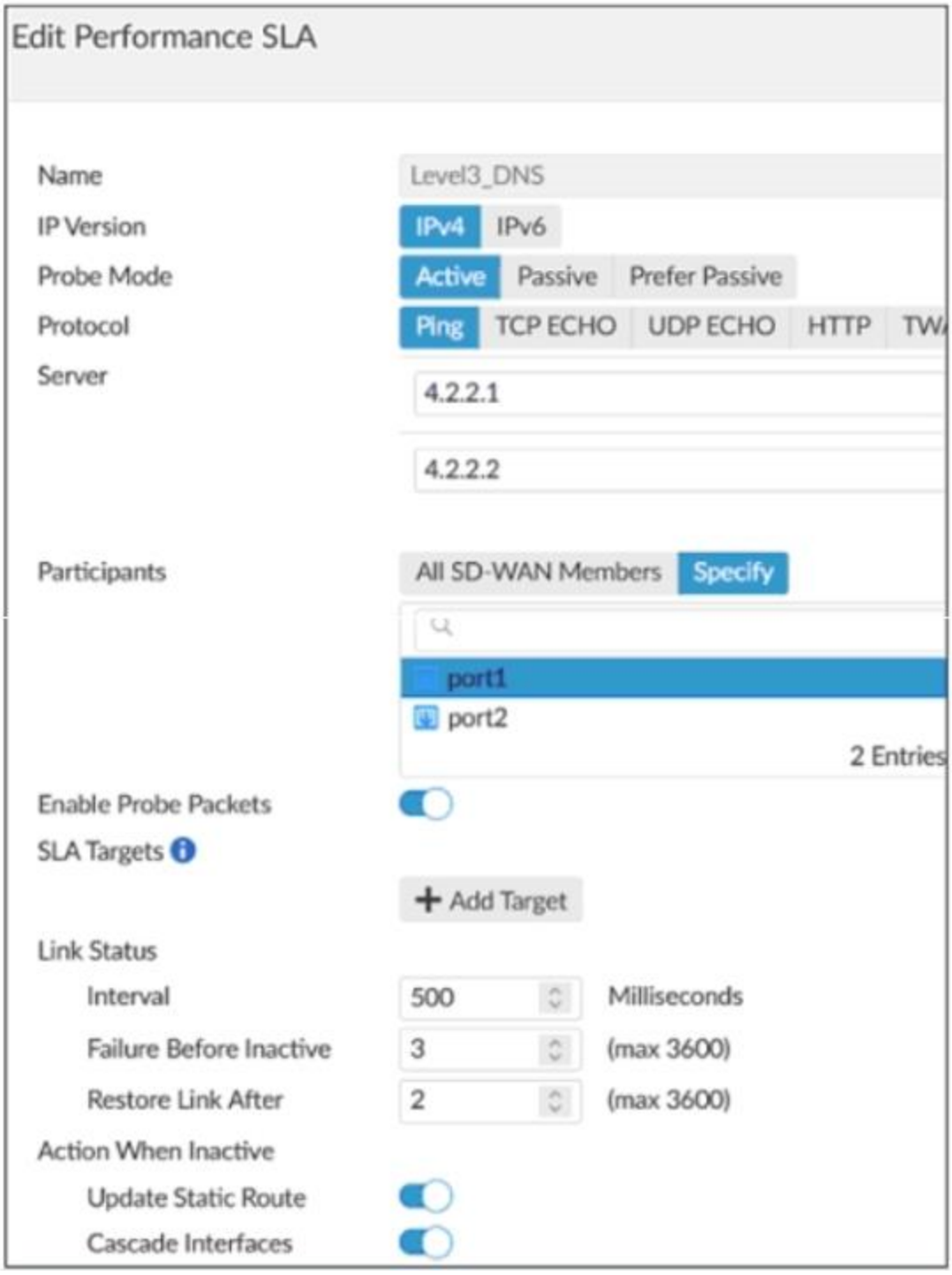

Edit Performance SLA
Name
Level3_DNS
IP Version
IPv4
IPv6
Probe Mode
Active
Passive
Prefer Passive
Protocol
Ping
TCP ECHO
UDP ECHO
HTTP
Server
4.2.2.1
4.2.2.2
Participants
All SD-WAN Members
Specify
port1
port2
2 Entries
Enable Probe Packets
SLA Targets
Add Target
Link Status
Interval
500
Milliseconds
Failure Before Inactive
3
(max 3600)
Restore Link After
2
(max 3600)
Action When Inactive
Update Static Route
Cascade Interfaces

Exhibit B

```
branch1_fgt # diagnose sys sdwan member | grep port
Member(1): interface: port1, flags=0x0 , gateway: 192.2.0.2, priority: 0 1024, weight: 0
Member(2): interface: port2, flags=0x0 , gateway: 192.2.0.10, priority: 0 1024, weight: 0

branch1_fgt # get router info routing-table all | grep port
S*      0.0.0.0/0 [1/0] via 192.2.0.2, port1
                  [1/0] via 192.2.0.10, port2
S       8.8.8.8/32 [10/0] via 192.2.0.11, port2
C       10.0.1.0/24 is directly connected, port5
S       172.16.0.0/16 [10/0] via 172.16.0.2, port4
C       172.16.0.0/29 is directly connected, port4
C       192.2.0.0/29 is directly connected, port1
C       192.2.0.8/29 is directly connected, port2
C       192.168.0.0/24 is directly connected, port10

branch1_fgt # diagnose sys sdwan health-check status Level3_DNS
Health Check(Level3_DNS):
Seq(1 port1): state(alive), packet-loss(0.000%) latency(1.919), jitter(0.137), bandwidth-
up(10238), bandwidth-dw(10238), bandwidth-bi(20476) sla_map=0x0
Seq(2 port2): state(alive), packet-loss(0.000%) latency(1.509), jitter(0.101), bandwidth-
up(10238), bandwidth-dw(10238), bandwidth-bi(20476) sla_map=0x0
```

Exhibit A shows the SD-WAN performance SLA and exhibit B shows the SD-WAN member status, the routing table, and the performance SLA status.
If port2 is detected dead by FortiGate, what is the expected behavior?

A. Port2 becomes alive after three successful probes are detected.
B. FortiGate removes all static routes for port2.
C. The administrator manually restores the static routes for port2, if port2 becomes alive.
D. Host 8.8.8.8 is reachable through port1 and port2.

Answer: B
Explanation:
This is due to Update static route is enable which removes the static route entry referencing the interface if the interface is dead.

QUESTION 8
Which best describes the SD-WAN traffic shaping mode that bases itself on a percentage of available bandwidth?

A. Interface-based shaping mode
B. Reverse-policy shaping mode
C. Shared-policy shaping mode
D. Per-IP shaping mode

Answer: A
Explanation:
Interface-based shaping goes further, enabling traffic controls based on percentage of the interface bandwidth.

QUESTION 9
Refer to the exhibit.

```
config system sdwan
    set status enable
    set load-balance source-dest-ip-based
    config zone
        edit "virtual-wan-link"
        next
        edit "SASE"
        next
        edit "underlay"
        next
    end
    config members
        edit 1
            set interface "port1"
            set zone "underlay"
            set gateway 192.2.0.2
        next
        edit 2
            set interface "port2"
            set zone "underlay"
            set gateway 192.2.0.10
        next
    end
...
end
```

Which algorithm does SD-WAN use to distribute traffic that does not match any of the SD-WAN rules?

A. All traffic from a source IP to a destination IP is sent to the same interface.
B. All traffic from a source IP is sent to the same interface.
C. All traffic from a source IP is sent to the most used interface.
D. All traffic from a source IP to a destination IP is sent to the least used interface.

Answer: A
Explanation:
By default when no sd-wan rule is matched, uses a source-IP load balancing algorithm, BUT from the exhibit the has been changed to Source-Destination IP.

QUESTION 10
Which are three key routing principles in SD-WAN? (Choose three.)

A. FortiGate performs route lookups for new sessions only.
B. Regular policy routes have precedence over SD-WAN rules.
C. SD-WAN rules have precedence over ISDB routes.

D. By default, SD-WAN members are skipped if they do not have a valid route to the destination.
E. By default, SD-WAN rules are skipped if the best route to the destination is not an SD-WAN member.

Answer: BDE

QUESTION 11
What are two reasons for using FortiManager to organize and manage the network for a group of FortiGate devices? (Choose two)

A. It simplifies the deployment and administration of SD-WAN on managed FortiGate devices.
B. It improves SD-WAN performance on the managed FortiGate devices.
C. It sends probe signals as health checks to the beacon servers on behalf of FortiGate.
D. It acts as a policy compliance entity to review all managed FortiGate devices.
E. It reduces WAN usage on FortiGate devices by acting as a local FortiGuard server.

Answer: AE

QUESTION 12
In the default SD-WAN minimum configuration, which two statements are correct when traffic matches the default implicit SD-WAN rule? (Choose two)

A. Traffic has matched none of the FortiGate policy routes.
B. Matched traffic failed RPF and was caught by the rule.
C. The FIB lookup resolved interface was the SD-WAN interface.
D. An absolute SD-WAN rule was defined and matched traffic.

Answer: AC

QUESTION 13
Refer to the exhibit.

```
config vpn ipsec phase1-interface
    edit "FIRST_VPN"
        set type dynamic
        set interface "port1"
        set peertype any
        set proposal aes128-sha256 aes256-sha38
        set dhgrp 14 15 19
        set xauthtype auto
        set authusrgrp "first-group"
        set psksecret fortinet1
    next
    edit "SECOND_VPN"
        set type dynamic
        set interface "port1"
        set peertype any
        set proposal aes128-sha256 aes256-sha38
        set dhgrp 14 15 19
        set xauthtype auto
      set authusrgrp "second-group"
      set psksecret fortinet2
    next
edit
```

FortiGate has multiple dial-up VPN interfaces incoming on port1 that match only FIRST_VPN. Which two configuration changes must be made to both IPsec VPN interfaces to allow incoming connections to match all possible IPsec dial-up interfaces? (Choose two.)

A. Specify a unique peer ID for each dial-up VPN interface.
B. Use different proposals are used between the interfaces.
C. Configure the IKE mode to be aggressive mode.
D. Use unique Diffie Hellman groups on each VPN interface.

Answer: AC

QUESTION 14
Refer to the exhibit. Based on the output, which two conclusions are true? (Choose two.)

```
branch1_fgt # diagnose firewall proute list
list route policy info(vf=root):

id=1 dscp_tag=0xff 0xff flags=0x0 tos=0x00 tos_mask=0x00 protocol=17 sport=0-65535 iif=7
dport=53 path(1) oif=3(port1)
source wildcard(1): 0.0.0.0/0.0.0.0
destination wildcard(1): 4.2.2.1/255.255.255.255
hit_count=0 last_used=2022-03-25 10:53:26

id=2131165185(0x7f070001) vwl_service=1(Critical-DIA) vwl_mbr_seq=1 2 dscp_tag=0xff 0xff
flags=0x0 tos=0x00 tos_mask=0x00 protocol=0 sport=0-65535 iif=0 dport=1-65535 path(2)
oif=3(port1) oif=4(port2)
source(1): 10.0.1.0-10.0.1.255
destination wildcard(1): 0.0.0.0/0.0.0.0
internet service(3): GoToMeeting(4294836966,0,0,0, 16354)
Microsoft.Office.365.Portal(4294837474,0,0,0, 41468) Salesforce(4294837976,0,0,0, 16920)
hit_count=0 last_used=2022-03-24 12:18:16

id=2131165186(0x7f070002) vwl_service=2(Non-Critical-DIA) vwl_mbr_seq=2 dscp_tag=0xff
0xff flags=0x0 tos=0x00 tos_mask=0x00 protocol=0 sport=0-65535 iif=0 dport=1-65535
path(1) oif=4(port2)
source(1): 10.0.1.0-10.0.1.255
destination wildcard(1): 0.0.0.0/0.0.0.0
internet service(2): Facebook(4294836806,0,0,0, 15832) Twitter(4294838278,0,0,0, 16001)
hit_count=0 last_used=2022-03-24 12:18:16

id=2131165187(0x7f070003) vwl_service=3(all_rules) vwl_mbr_seq=1 dscp_tag=0xff 0xff
flags=0x0 tos=0x00 tos_mask=0x00 protocol=0 sport=0-65535 iif=0 dport=1-65535 path(1)
oif=3(port1)
source(1): 0.0.0.0-255.255.255.255
destination(1): 0.0.0.0-255.255.255.255
hit_count=0 last_used=2022-03-25 10:58:12
```

A. The all_rules rule represents the implicit SD-WAN rule.
B. There is more than one SD-WAN rule configured.
C. Entry 1 (id=1) is a regular policy route.
D. The SD-WAN rules takes precedence over regular policy routes.

Answer: BC

QUESTION 15
Which two tasks about using central VPN management are true? (Choose two.)

A. You can configure full mesh, star, and dial-up VPN topologies.
B. FortiManager installs VPN settings on both managed and external gateways.
C. You configure VPN communities to define common IPsec settings shared by all VPN gateways.
D. You must enable VPN zones for SD-WAN deployments.

Answer: AC

QUESTION 16
Which diagnostic command can you use to show the SD-WAN rules interface information and state?

A. diagnose sys sdwan route-tag-list.
B. diagnose sys sdwan service.
C. diagnose sys sdwan member.
D. diagnose sys sdwan neighbor.

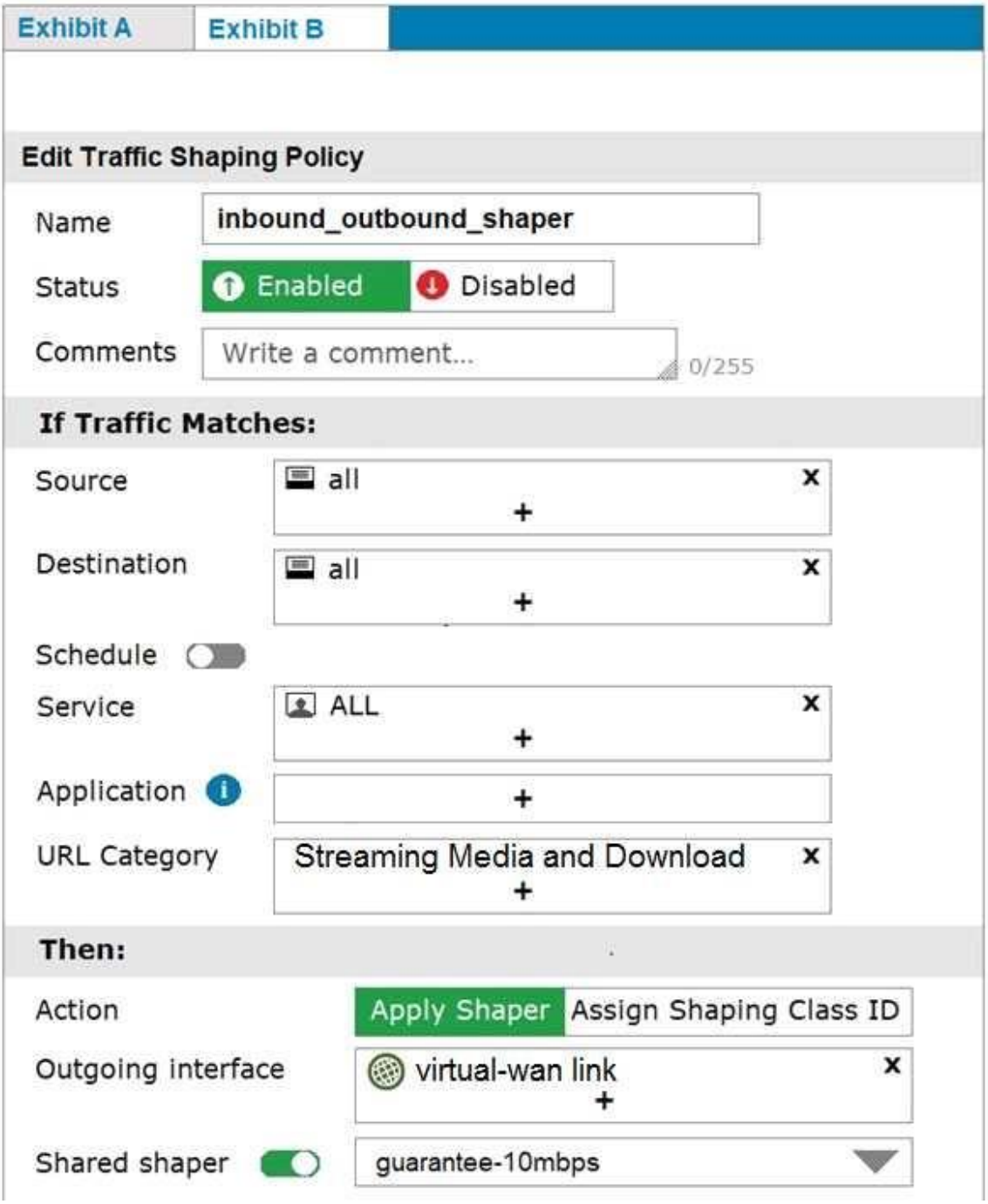
Answer: B

QUESTION 17
Which feature enables SD-WAN to combine IPsec VPN dynamic shortcut tunnels between spokes and a static tunnel to the hub?

A. ADVPN
B. GRE
C. SSLVPN
D. OCVPN

Answer: A

QUESTION 18
Refer to exhibits. Exhibit A shows the firewall policy and exhibit B shows the traffic shaping policy. The traffic shaping policy is being applied to all outbound traffic; however, inbound traffic is not being evaluated by the shaping policy.
Based on the exhibits, what configuration change must be made in which policy so that traffic shaping can be applied to inbound traffic?



A. Create a new firewall policy, and the select the SD-WAN zone as Incoming Interface.
B. In the traffic shaping policy, select Assign Shaping Class ID as Action.
C. In the firewall policy, select Proxy-based as Inspection Mode.
D. In the traffic shaping policy, enable Reverse shaper, and then select the traffic shaper to use.

Answer: D

QUESTION 19

Based on the exhibit, which status description is correct?

```
NGFW-1 # diagnose sys virtual-wan-link health-check
Health Check(DC_PBX_SLA):
Seq(1 port1): state(dead), packet-loss(75.000%) sla_map=0x0
Seq(2 port2): state(alive), packet-loss(0.000%) latency(50.477), jitter(3.699)
sla_map=0x1

NGFW -1 # diagnose sys sdwan service

Service(1): Address Mode(IPV4) flags=0x0
  Gen(3), TOS(0x0/0x0), Protocol(0: 1->65535), Mode(priority), link-cost-
factor(latency), link-cost-threshold(10), heath-check(DC_PBX_SLA)
  Members:
    1: Seq_num(2 port2), alive, latency: 50.233, selected
    2: Seq_num(1 port1), dead
  Internet Service: Microsoft-Skype_Teams(327781,0,0,0)
  Src address:
      0.0.0.0-255.255.255.255
```

A. Port1 is dead because it does not meet the SLA target.
B. Port2 is alive because its packet loss is lower than 10%.
C. The SD-WAN members are monitored by different performance SLAs.
D. Traffic matching the SD-WAN rule is steered through port2.

Answer: D

QUESTION 20
Which statement about using BGP routes in SD-WAN is true?

A. Learned routes can be used as dynamic destinations in SD-WAN rules.
B. You must use BGP to route traffic for both overlay and underlay links.
C. You must configure AS path prepending.
D. You must use external BGP.

Answer: A

QUESTION 21
Which two statements about SLA targets and SD-WAN rules are true? (Choose two.)

A. Member metrics are measured only if an SLA target is configured.
B. SLA targets are used only by SD-WAN rules that are configured with Lowest Cost (SLA) or Maximize Bandwidth (SLA) as strategy.
C. When configuring an SD-WAN rule, you can select multiple SLA targets of the same performance SLA.
D. SD-WAN rules use SLA targets to check if the preferred members meet the SLA requirements.

Answer: BD

QUESTION 22
Which statement is correct about SD-WAN and ADVPN?

A. You must use OSPF.
B. SD-WAN can steer traffic to ADVPN shortcuts established over IPsec overlays configured as SD-WAN members.
C. Routes for ADVPN shortcuts must be manually configured.
D. SD-WAN does not monitor the health and performance of ADVPN shortcuts.

Answer: B

QUESTION 23
Refer to the exhibit. Which two statements about the IPsec VPN configuration and the status of the IPsec VPN tunnel are true? (Choose two.)

```
config vpn ipsec phase1-interface
    edit Hub
        set add-route enable
        set net-device disable
        set tunnel-search nexthop
    next
end

diagnose vpn tunnel list name Hub
list ipsec tunnel by names in vd 0
------------------------------------------------------
name=Hub ver=1 serial=1 100.64.1.1:0->0.0.0.0:0 dst_mtu=0
bound_if=3 lgwy=static/1 tun=intf/0 mode=dialup/2 encap=none/512 options[0200]=search-
nexthop frag-rfc accept_traffic=1
proxyid_num=0 child_num=2 refcnt=20 ilast=176 olast=176 ad=/0
stat: rxp=22 txp=18 rxb=2992 txb=1752
dpd: mode=on-idle on=0 idle=20000ms retry=3 count=0 seqno=0
natt: mode=none draft=0 interval=0 remote_port=0
run_tally=2
ipv4 route tree:
100.64.3.1 1
100.64.5.1 0
172.16.1.2 1
172.16.1.3 0
```

A. FortiGate creates separate virtual interfaces for each dial-up client.
B. FortiGate creates a single IPsec virtual interface that is shared by all clients.
C. FortiGate maps the remote gateway 100.64.3.1 to tunnel index interface 1.
D. FortiGate does not install IPsec static routes for remote protected networks in the routing table.

Answer: BC
Explanation:
If net-device is disabled, FortiGate creates a single IPSEC virtual interface that is shared by all IPSEC clients connecting to the same dialup VPN. In this case, the tunnel-search setting determines how FortiGate learns the network behind each remote client.

QUESTION 24
Which diagnostic command can you use to show the member utilization statistics measured by performance SLAs for the last 10 minutes?

A. diagnose sys sdwan intf-sla-log
B. diagnose sys sdwan health-check

C. diagnose sys sdwan log
D. diagnose sys sdwan sla-log

Answer: A
Explanation:
The diagnose sys sdwan sla-log command shows the member utilization statistics measured by performance SLAs for the last 10 minutes.
Option A, diagnose sys sdwan intf-sla-log, shows the interface utilization statistics measured by performance SLAs for the last 10 minutes.
Option B, diagnose sys sdwan health-check, shows the health check statistics for all interfaces.
Option C, diagnose sys sdwan log, shows all SD-WAN logs.

QUESTION 25
Which two protocols in the IPsec suite are most used for authentication and encryption? (Choose two.)

A. Encapsulating Security Payload (ESP)
B. Secure Shell (SSH)
C. Internet Key Exchange (IKE)
D. Security Association (SA)

Answer: AC
Explanation:
ESP is used for encryption, while IKE is used for authentication and key exchange. SSH is not a part of the IPsec suite, and SA is a term used to refer to a security association, which is a set of parameters that define how two peers will communicate securely.

QUESTION 26
Which two settings can you configure to speed up routing convergence in BGP? (Choose two.)

A. update-source
B. set-route-tag
C. holdtime-timer
D. link-down-failover

Answer: CD
Explanation:
The holdtime-timer is the amount of time that a BGP router will wait for a BGP update from a neighbor before declaring the neighbor down. The link-down-failover setting tells BGP to immediately withdraw routes from a neighbor if the link to the neighbor goes down.
The update-source and set-route-tag settings do not affect routing convergence.

QUESTION 27
Refer to the exhibits.

Exhibit A

```
branch1_fgt (3) # show
config service
    edit 3
        set name "Corp"
        set mode sla
        set dst "Corp-net"
        set src "LAN-net"
        config sla
            edit "VPN_PING"
                set id 1
            next
            edit "VPN_HTTP"
                set id 1
            next
        end
        set priority-members 3 4 5
        set gateway enable
    next
end
```

Exhibit B

```
branch1_fgt # diagnose sys sdwan service 3

Service(3): Address Mode(IPV4) flags=0x200 use-shortcut-sla
  Gen(1), TOS(0x0/0x0), Protocol(0: 1->65535), Mode(sla), sla-compare-order
  Members(2):
    1: Seq_num(5 T_MPLS_0), alive, sla(0x3), gid(0), cfg_order(2), cost(0), selected
    2: Seq_num(4 T_INET_1_0), alive, sla(0x1), gid(0), cfg_order(1), cost(0), selected
    3: Seq_num(3 T_INET_0_0), alive, sla(0x0), gid(0), cfg_order(0), cost(0), selected
  Src address(1):
        10.0.1.0-10.0.1.255

  Dst address(1):
        10.0.0.0-10.255.255.255


branch1_fgt # get router info routing-table all | grep T_
S       10.0.0.0/8 [1/0] via T_INET_0_0 tunnel 100.64.1.1
                   [1/0] via T_INET_1_0 tunnel 100.64.1.9
S       10.201.1.254/32 [15/0] via T_INET_0_0 tunnel 100.64.1.1
S       10.202.1.254/32 [15/0] via T_INET_1_0 tunnel 100.64.1.9
S       10.203.1.254/32 [15/0] via T_MPLS_0 tunnel 172.16.1.5


branch1_fgt # diagnose sys sdwan member | grep T_
Member(3): interface: T_INET_0_0, flags=0x4 , gateway: 100.64.1.1,  peer: 10.201.1.254,
priority: 0 1024, weight: 0
Member(4): interface: T_INET_1_0, flags=0x4 , gateway: 100.64.1.9,  peer: 10.202.1.254,
priority: 0 1024, weight: 0
Member(5): interface: T_MPLS_0, flags=0x4 , gateway: 172.16.1.5,  peer: 10.203.1.254,
priority: 0 1024, weight: 0
```

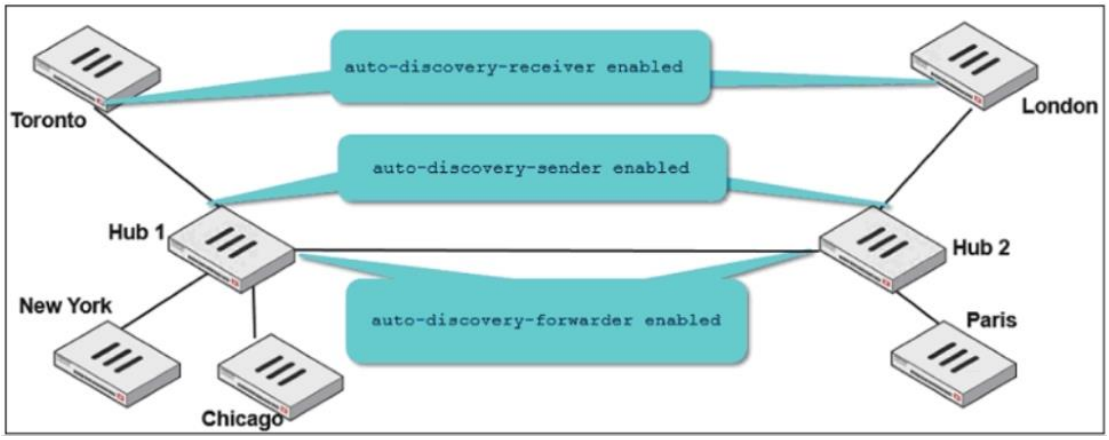
Exhibit A shows the configuration for an SD-WAN rule and exhibit B shows the respective rule status, the routing table, and the member status.

The administrator wants to understand the expected behavior for traffic matching the SD-WAN rule. Based on the exhibits, what can the administrator expect for traffic matching the SD-WAN rule?

A. The traffic will be load balanced across all three overlays.
B. The traffic will be routed over T_INET_0_0.
C. The traffic will be routed over T_MPLS_0.
D. The traffic will be routed over T_INET_1_0.

Answer: D
Explanation:
MPLS doesn´t has valid route for destination AND set gateway enable without also set default enable will not allow packets to flow to this member without a valid route.
INET_1 has route and meets one sla target (0x1).
INET_0 has route but doesn´t meet sla targets (0x0)

QUESTION 28
Refer to the exhibit.



Two hub-and-spoke groups are connected through a site-to-site IPsec VPN between Hub 1 and Hub
2. The administrator configured ADVPN on both hub-and-spoke groups. Which two outcomes are expected if a user in Toronto sends traffic to London? (Choose two.)

A. London generates an IKE information message that contains the Toronto public IP address.
B. Traffic from Toronto to London triggers the dynamic negotiation of a direct site-to-site VPN.
C. Toronto needs to establish a site-to-site tunnel with Hub 2 to bypass Hub 1.
D. The first packets from Toronto to London are routed through Hub 1 then to Hub 2.

Answer: BD

QUESTION 29
Which two performance SLA protocols enable you to verify that the server response contains a specific value? (Choose two.)

A. http
B. icmp
C. twamp

D. dns

Answer: AD

QUESTION 30
Refer to the exhibit.

```
# diagnose firewall shaper traffic-shaper list name VoIP_Shaper
name VoIP_Shaper
maximum-bandwidth 6250 KB/sec
guaranteed-bandwidth 2500 KB/sec
current-bandwidth 93 KB/sec
priority 2
overhead 0
tos ff
packets dropped 0
bytes dropped 0
```

Which two conclusions for traffic that matches the traffic shaper are true? (Choose two.)

A. The traffic shaper drops packets if the bandwidth is less than 2500 KBps.
B. The measured bandwidth is less than 100 KBps.
C. The traffic shaper drops packets if the bandwidth exceeds 6250 KBps.
D. The traffic shaper limits the bandwidth of each source IP to a maximum of 6250 KBps.

Answer: BC

QUESTION 31
Refer to the exhibit.

```
# get router info routing-table all
...
B       10.0.2.0/24 [200/0] via 10.201.1.2 [3] (recursive via VPN0 tunnel 100.64.1.1), 00:00:54
                    [200/0] via 10.202.1.2 [3] (recursive via VPN1 tunnel 100.64.1.9), 00:00:54
                    [200/0] via 10.203.1.1 [3] (recursive via VPN2 tunnel 172.16.1.5), 00:00:54
...
```

The device exchanges routes using IBGP.
Which two statements are correct about the IBGP configuration and routing information on the device? (Choose two.)

A. Each BGP route is three hops away from the destination.
B. ibgp-multipath is disabled.
C. additional-path is enabled.
D. You can run the get router info routing-table database command to display the additional paths.

Answer: CD
Explanation:
C - the [3] means that additional-path is enabled makes the duplicate routes are consolidated in the routing table
D - get router info routing table database - shows duplicate routes without the [3]

QUESTION 32
In a hub-and-spoke topology, what are two advantages of enabling ADVPN on the IPsec overlays? (Choose two.)

A. It provides the benefits of a full-mesh topology in a hub-and-spoke network.
B. It provides direct connectivity between spokes by creating shortcuts.
C. It enables spokes to bypass the hub during shortcut negotiation.
D. It enables spokes to establish shortcuts to third-party gateways.

Answer: AB

QUESTION 33
Which components make up the secure SD-WAN solution?

A. Application, antivirus, and URL, and SSL inspection
B. Datacenter, branch offices, and public cloud
C. FortiGate, FortiManager, FortiAnalyzer, and FortiDeploy
D. Telephone, ISDN, and telecom network.

Answer: C
Explanation:
These are the components that make up the secure SD-WAN solution from Fortinet.
- FortiGate is the physical or virtual security appliance that provides the core security functionality for the SD-WAN solution.
- FortiManager is the central management platform for the SD-WAN solution. It provides centralized configuration, provisioning, and monitoring of FortiGate appliances.
- FortiAnalyzer is the centralized security analytics platform for the SD-WAN solution. It collects and analyzes security logs from FortiGate appliances to provide visibility into security threats and incidents.
- FortiDeploy is the provisioning and orchestration tool for the SD-WAN solution. It automates the deployment and configuration of FortiGate appliances.

QUESTION 34
Refer to the exhibit.

```
config system virtual-wan-link
     set status enable
     set load-balance-mode source-ip-based
     config members
          edit 1
                    set interface "port1"
                    set gateway 100.64.1.254
                    set source 100.64.1.1
                    set cost 15
          next
          edit 2
                    set interface "port2"
                    set gateway 100.64.2.254
                    set priority 10
          next
     end
end
```

Based on the output shown in the exhibit, which two criteria on the SD-WAN member configuration can be used to select an outgoing interface in an SD-WAN rule? (Choose two.)

A. Set priority 10.
B. Set cost 15.
C. Set load-balance-mode source-ip-ip-based.
D. Set source 100.64.1.1.

Answer: AB

QUESTION 35
What are two reasons why FortiGate would be unable to complete the zero-touch provisioning process? (Choose two.)

A. The FortiGate cloud key has not been added to the FortiGate cloud portal.
B. FortiDeploy has connected with FortiGate and provided the initial configuration to contact FortiManager
C. The zero-touch provisioning process has completed internally, behind FortiGate.
D. FortiGate has obtained a configuration from the platform template in FortiGate cloud.
E. A factory reset performed on FortiGate.

Answer: AC

QUESTION 36
Which two statements describe how IPsec phase 1 main mode is different from aggressive mode when performing IKE negotiation? (Choose two)

A. A peer ID is included in the first packet from the initiator, along with suggested security policies.
B. XAuth is enabled as an additional level of authentication, which requires a username and password.
C. A total of six packets are exchanged between an initiator and a responder instead of three packets.
D. The use of Diffie Hellman keys is limited by the responder and needs initiator acceptance.

Answer: BC

QUESTION 37
Refer to the exhibit.

```
FortiGate # diagnose sys session list

session info: proto=1 proto_state=00 duration=25 expire=34 timeout=0 flags=00000000
socktype=0 sockport=0 av_idx=0 use=3
origin-shaper=
reply-shaper=
per_ip_shaper=
class_id=0 ha_id=0 policy_dir=0 tunnel=/ vlan_cos=0/255
state=dirty may_dirty
statistic(bytes/packets/allow_err): org=84/1/1 reply=84/1/1 tupless=2
tx speed(Bps/kbps): 0/0 rx speed(Bps/kbps): 0/0
orgin->sink: org pre->post, reply pre->post dev=5->4/4->5 gwy=192.168.73.2/10.0.1.10
hook=post dir=org act=snat 10.0.1.10:2246->8.8.8.8:8(192.168.73.132:62662)
hook=pre dir=reply act=dnat 8.8.8.8:62662->192.168.73.132:0(10.0.1.10:2246)
misc=0 policy_id=1 auth_info=0 chk_client_info=0 vd=0
serial=00000a2c tos=ff/ff app_list=0 app=0 url_cat=0
rpdb_link_id= 80000000 rpdb_svc_id=0 ngfwid=n/a
npu_state=0x040000
total session 1
```

Based on the exhibit, which statement about FortiGate re-evaluating traffic is true?

A. The type of traffic defined and allowed on firewall policy ID 1 is UDP.
B. FortiGate has terminated the session after a change on policy ID 1.
C. Changes have been made on firewall policy ID 1 on FortiGate.
D. Firewall policy ID 1 has source NAT disabled.

Answer: C

QUESTION 38
Refer to the exhibit.

```
config vpn ipsec phase1-interface
    edit "T_INET_0_0"
        set type dynamic
        set interface "port1"
        set keylife 28800
        set peertype any
        set net-device disable
        set proposal aes128-sha256
        set add-route enable
        set psksecret ENC
Zv9n4Urfk0W4jj8vWI+KywxBG4ZDT7jWHKd8YaL8j4+pRpYOx/N7mSgc7VL0BW2ZHQUXWJ6zvFxNKktiPYNtA8aP
i6ly7gDx2lP/OfKexTQQJzgCGRYzLM8eFTOnK7K6AuX0bFDCpBBhEIdf+03CYBMLwkFZmdU6RsT+qvybblVX+Ioy
HK5EXakpmz5RiltELgZ9Gg==
    next
end
```

Which configuration change is required if the responder FortiGate uses a dynamic routing protocol to exchange routes over IPsec?

A. type must be set to static.
B. mode-cfg must be enabled.
C. exchange-interface-ip must be enabled.
D. add-route must be disabled.

Answer: D
Explanation:
For using "non ike" routes (for example BGP/static and so on) you must do disable the add-route that inject automatically kernel route based on p2 selectors from the remote site.

QUESTION 39
Which CLI command do you use to perform real-time troubleshooting for ADVPN negotiation?

A. get router info routing-table all
B. diagnose debug application ike
C. diagnose vpn tunnel list
D. get ipsec tunnel list

Answer: B
Explanation:
The diagnose debug application ike command displays real-time debugging information for the IKE protocol. This information can be used to troubleshoot ADVPN negotiation problems.

QUESTION 40
Refer to the exhibit.

Exhibit A

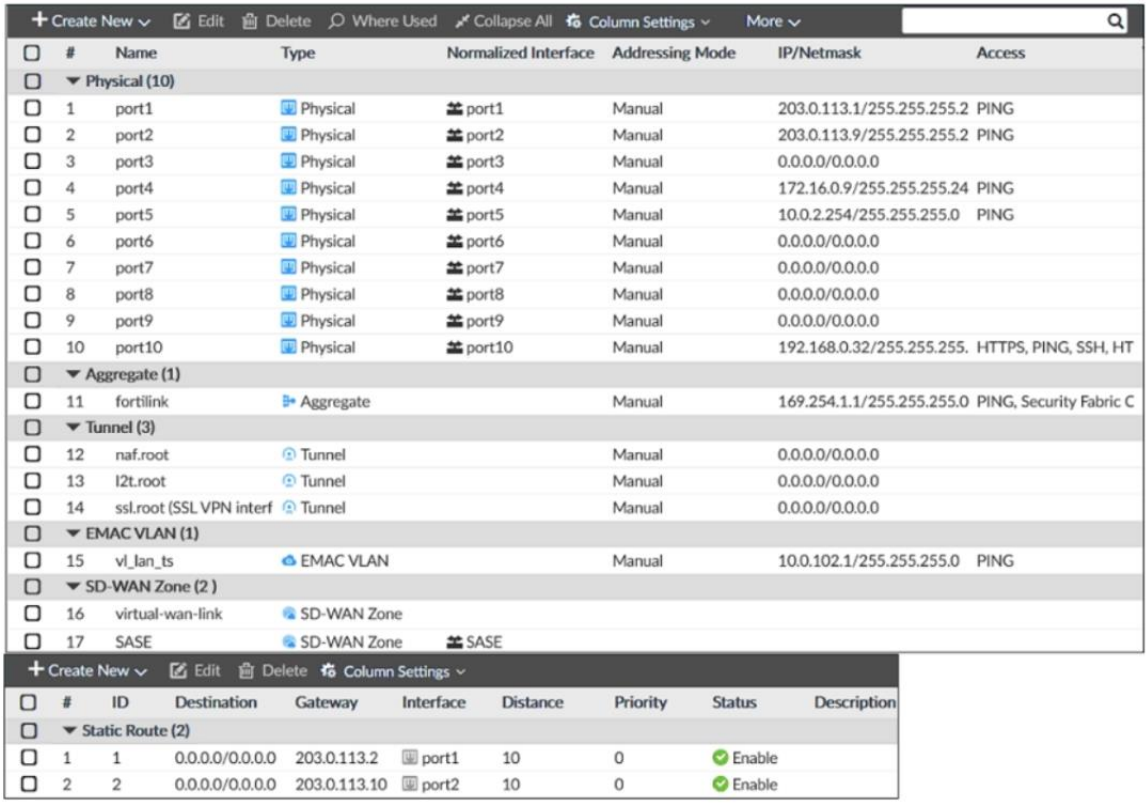


Exhibit B

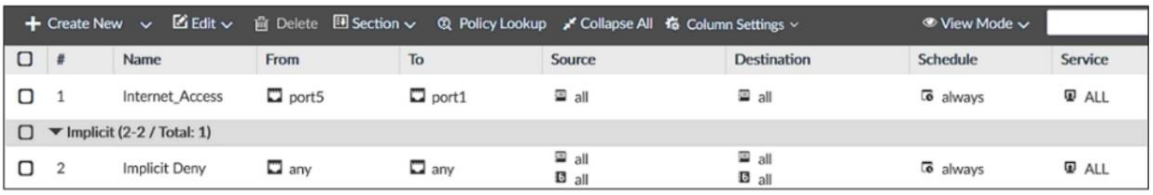


Exhibit A shows the system interface with the static routes and exhibit B shows the firewall policies on the managed FortiGate.
Based on the FortiGate configuration shown in the exhibits, what issue might you encounter when creating an SD-WAN zone for port1 and port2?

A. port1 is assigned a manual IP address.
B. port1 is referenced in a firewall policy.
C. port2 is referenced in a static route.
D. port1 and port2 are not administratively down.

Answer: B

QUESTION 41
Which two statements are correct when traffic matches the implicit SD-WAN rule? (Choose two.)

A. The sdwan_service_id flag in the session information is 0.
B. All SD-WAN rules have the default setting enabled.
C. Traffic does not match any of the entries in the policy route table.

D. Traffic is load balanced using the algorithm set for the v4-ecmp-mode setting.

Answer: AC
Explanation:
sdwan_service_id is 0 = match SD-WAN implicit rule
SD-WAN rules internally are interpreted as a Policy route, so when the traffic doesn't match with any policy route, it will be flowing by implict policy.

QUESTION 42
Refer to the exhibit.

```
branch1_fgt # diagnose sys sdwan service 1

Service(3): Address Mode(IPV4) flags=0x200 use-shortcut-sla
  Gen(6), TOS(0x0/0x0), Protocol(0: 1->65535), Mode(manual)
  Members(2):
    1: Seq_num(3 T_INET_0_0), alive, selected
    2: Seq_num(4 T_INET_1_0), alive, selected
  Src address(1):
        10.0.1.0-10.0.1.255

  Dst address(1):
        10.0.0.0-10.255.255.255


branch1_fgt # diagnose sys sdwan member | grep T_INET_
Member(3): interface: T_INET_0_0, flags=0x4 , gateway: 100.64.1.1, priority: 10 1024,
weight: 0
Member(4): interface: T_INET_1_0, flags=0x4 , gateway: 100.64.1.9, priority: 0 1024,
weight: 0

branch1_fgt # get router info routing-table all | grep T_INET_
S       10.0.0.0/8 [1/0] via T_INET_1_0 tunnel 100.64.1.9
```

An administrator is troubleshooting SD-WAN on FortiGate. A device behind branch1_fgt generates traffic to the 10.0.0.0/8 network. The administrator expects the traffic to match SD-WAN rule ID 1 and be routed over T_INET_0_0. However, the traffic is routed over T_INET_1_0. Based on the output shown in the exhibit, which two reasons can cause the observed behavior? (Choose two.)

A. The traffic matches a regular policy route configured with T_INET_1_0 as the outgoing device.
B. T_INET_1_0 has a lower route priority value (higher priority) than T_INET_0_0.
C. T_INET_0_0 does not have a valid route to the destination.
D. T_INET_1_0 has a higher member configuration priority than T_INET_0_0.

Answer: AC

QUESTION 43
Refer to the exhibit.

```
config system settings
    set firewall-session-dirty check-new
end
```

Based on the exhibit, which two actions does FortiGate perform on sessions after a firewall policy

change? (Choose two.)

A. FortiGate flushes all sessions.
B. FortiGate terminates the old sessions.
C. FortiGate does not change existing sessions.
D. FortiGate evaluates new sessions.

Answer: CD
Explanation:
FortiGate not to flag existing impacted session as dirty by setting firewall-session-dirty to check new. The results is that FortiGate evaluates only new session against the new firewall policy.

QUESTION 44
Which two statements about SD-WAN central management are true? (Choose two.)

A. The objects are saved in the ADOM common object database.
B. It does not support meta fields.
C. It uses templates to configure SD-WAN on managed devices.
D. It supports normalized interfaces for SD-WAN member configuration.

Answer: AC
Explanation:
Normalized interfaces are not supported for SD-WAN templates. You can create multiple SD-WAN zones and add interface members to the SD-WAN zones. You must bind the interface members by name to physical interfaces or VPN interfaces.

QUESTION 45
Exhibit.

```
id=20010 trace_id=1402 func=print_pkt_detail line=5588 msg="vd-root:0 received a
packet(proto=6, 10.1.10.1:52490->42.44.50.10:443) from port3. flag [.], seq 1213725680,
ack 1169005655, win 65535"
id=20010 trace_id=1402 func=resolve_ip_tuple_fast line=5669 msg="Find an existing
session, id-00001ca4, original direction"
id=20010 trace_id=1402 func=fw_forward_dirty_handler line=447 msg="Denied by quota
check"
```

Which conclusion about the packet debug flow output is correct?

A. The total number of daily sessions for 10.1.10.1 exceeded the maximum number of concurrent sessions configured in the traffic shaper, and the packet was dropped.
B. The packet size exceeded the outgoing interface MTU.
C. The number of concurrent sessions for 10.1.10.1 exceeded the maximum number of concurrent sessions configured in the traffic shaper, and the packet was dropped.
D. The number of concurrent sessions for 10.1.10.1 exceeded the maximum number of concurrent sessions configured in the firewall policy, and the packet was dropped.

Answer: C
Explanation:
In a Per-IP shaper configuration, if an IP address exceeds the configured concurrent session limit, the message "Denied by quota check" appears.

QUESTION 46
Refer to the exhibits. Which two statements about the IPsec VPN configuration and the status of the IPsec VPN tunnel are true? (Choose two.)

```
dc1_fgt # show vpn ipsec phase1-interface T_INET_1_0
config vpn ipsec phase1-interface
    edit "T_INET_1_0"
        set type dynamic
        set interface "port2"
        set ike-version 2
        set keylife 28800
        set peertype any
        set net-device disable
        set proposal aes128-sha256
        set add-route disable
        set psksecret ENC
GayzHJ/UhxCc9FYtwas5o4rkNCMjjNUEj4Q4fZNS6I65RIVF9zum6sJALsU9Cg+1jsXz3ZtIM+WNkHLsXkHqydgS
G/Zx8Vp9Rcht6zKHPectOcFVbaG+UeO3Rw41pmGP/Z3rIz3tdXJxfYSzKjRqggqahsmDovkrKRHTVFUlzA07Zt6W
iPL9co/Zf3cX+Qpnmm38MQ==
    next
end
```

```
dc1_fgt # diagnose vpn tunnel list name T_INET_1_0_0
list ipsec tunnel by names in vd 0
------------------------------------------------------
name=T_INET_1_0_0 ver=2 serial=7 100.64.1.9:0->192.2.0.9:0 tun_id=192.2.0.9 dst_mtu=0
dpd-link=on weight=1
bound_if=4 lgwy=static/1 tun=tunnel/255 mode=dial_inst/3 encap=none/8832
options[2280]=rgwy-chg frag-rfc  run_state=0 accept_traffic=1 overlay_id=0
parent=T_INET_1_0 index=0
proxyid_num=1 child_num=0 refcnt=6 ilast=17 olast=23464 ad=/0
stat: rxp=0 txp=0 rxb=0 txb=0
dpd: mode=on-demand on=1 idle=20000ms retry=3 count=0 seqno=1
natt: mode=none draft=0 interval=0 remote_port=0
proxyid=T_INET_1_0_0 proto=0 sa=1 ref=2 serial=1 add-route
  src: 0:0.0.0.0-255.255.255.255:0
  dst: 0:10.0.1.0-10.0.1.255:0
  SA:  ref=3 options=20683 type=00 soft=0 mtu=1280 expire=972/0B replaywin=2048
       seqno=1 esn=0 replaywin_lastseq=00000000 itn=0 qat=0 hash_search_len=1
  life: type=01 bytes=0/0 timeout=1790/1800
  dec: spi=02f9844e esp=aes key=16 7fb5011247248d3a45ac3d802d8c8d64
       ah=sha1 key=20 bb217ce87ae060f27823b0050052338119 93a303
  enc: spi=ffc6576a esp=aes key=16 825bddbc5c995feb70411a773867c2d0
       ah=sha1 key=20 02db4176f7f21fae7d141526099a707f639893f1
  dec:pkts/bytes=0/0, enc:pkts/bytes=0/0
```

A. FortiGate does not install IPsec static routes for remote protected networks in the routing table.
B. The phase 1 configuration supports the network-overlay setting.
C. FortiGate facilitated the negotiation of the T_INET_1_0_0 ADVPN shortcut over T_INET_1_0.
D. Dead peer detection is disabled.

Answer: AB

QUESTION 47
Refer to the exhibits.

Exhibit A

```
config system global
    set snat-route-change enable
end
```

Exhibit B

```
branch1_fgt # get router info routing-table all
Codes: K - kernel, C - connected, S - static, R - RIP, B - BGP
       O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default

Routing table for VRF=0
S*      0.0.0.0/0 [1/0] via 192.2.0.2, port2, [1/0]
                  [1/0] via 192.2.0.10, port1 [10/0]
...
```

Exhibit A shows the source NAT (SNAT) global setting and exhibit B shows the routing table on FortiGate.
Based on the exhibits, which two actions does FortiGate perform on existing sessions established over port2, if the administrator increases the static route priority on port2 to 20? (Choose two.)

A. FortiGate flags the sessions as dirty.
B. FortiGate continues routing the sessions with no SNAT, over port2.
C. FortiGate performs a route lookup for the original traffic only.
D. FortiGate updates the gateway information of the sessions with SNAT so that they use port1 instead of port2.

Answer: AD

QUESTION 48
Refer to the exhibits.

Exhibit A

```
config system sdwan
    config health-check
        edit "Passive"
            set detect-mode passive
            set members 3 4
        next
    end
end

config system sdwan
    config service
        edit 1
            set name "Facebook-YouTube"
            set src "all"
            set internet-service enable
            set internet-service-app-ctrl 15832 31077
            set health-check "Passive"
            set priority-member 3 4
            set passive-measurement enable
        next
    end
end

branch1_fgt # get application name status | grep "id: 15832" -B1
app-name: "Facebook"
id: 15832

branch1_fgt # get application name status | grep "id: 31077" -B1
app-name: "YouTube"
id: 31077
```

Exhibit B

```
config firewall policy
    edit 1
        set name "DIA"
        set uuid b973e4ec-5f90-51ec-cadb-017c830d9418
        set srcintf "port5"
        set dstintf "underlay"
        set action accept
        set srcaddr "LAN-net"
        set dstaddr "all"
        set schedule "always"
        set service "ALL"
        set passive-wan-health-measurement enable
        set utm-status enable
        set ssl-ssh-profile "certificate-inspection"
        set application-list "default"
        set logtraffic all
        set auto-asic-offload disable
        set nat enable
    next
end

branch1_fgt # diagnose sys sdwan zone | grep underlay -A1
Zone underlay index=3
        members(2): 3(port1) 4(port2)
```

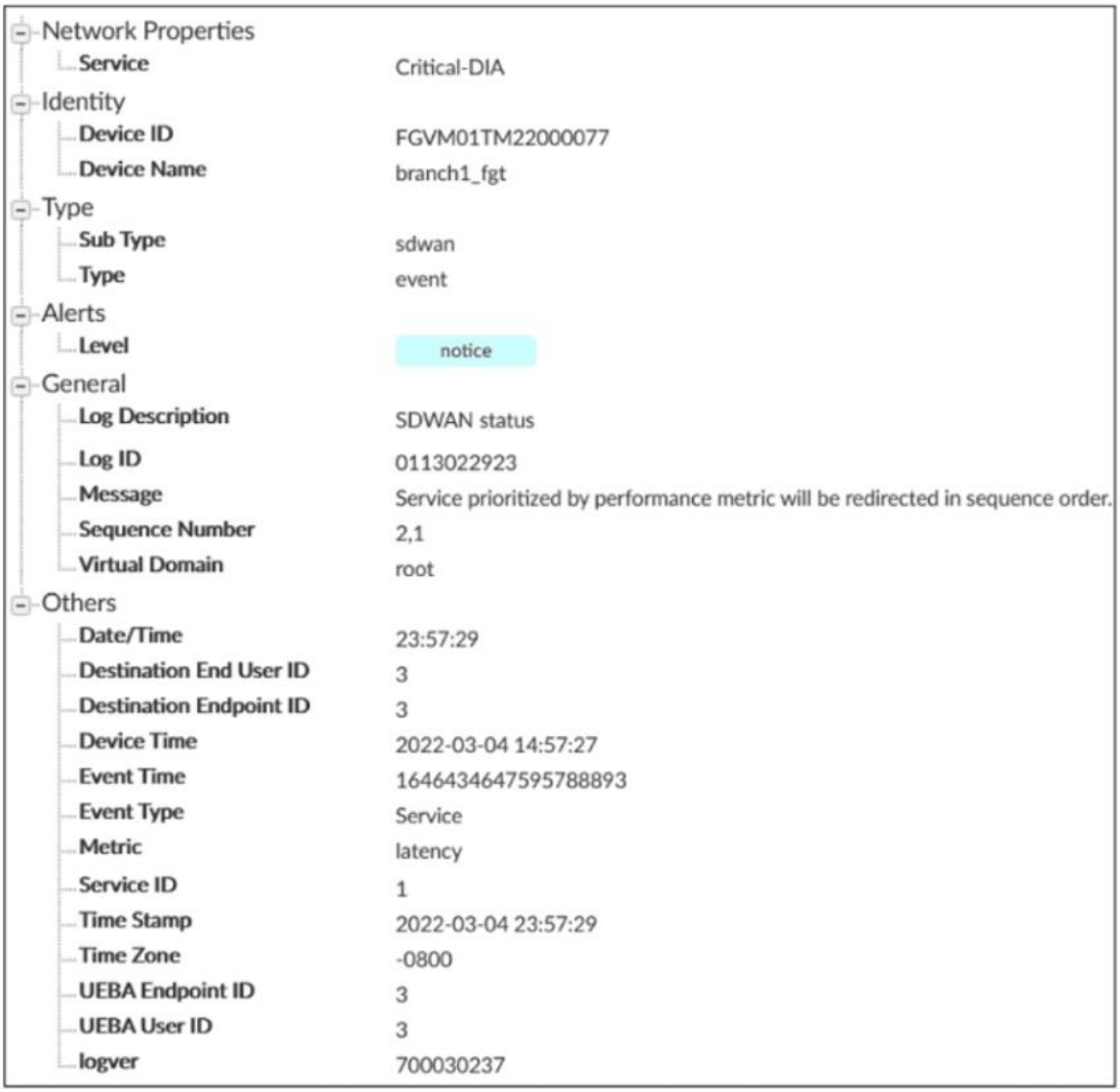
Exhibit A shows the SD-WAN performance SLA configuration, the SD-WAN rule configuration, and the application IDs of Facebook and YouTube. Exhibit B shows the firewall policy configuration and the underlay zone status.
Based on the exhibits, which two statements are correct about the health and performance of port1 and port2? (Choose two.)

A. The performance is an average of the metrics measured for Facebook and YouTube traffic passing through the member.
B. FortiGate is unable to measure jitter and packet loss on Facebook and YouTube traffic.
C. FortiGate identifies the member as dead when there is no Facebook and YouTube traffic passing through the member.
D. Non-TCP Facebook and YouTube traffic are not used for performance measurement.

Answer: AD

QUESTION 49
Refer to the exhibits.

Exhibit A



Network Properties	
Service	Critical-DIA
Identity	
Device ID	FGVM01TM22000077
Device Name	branch1_fgt
Type	
Sub Type	sdwan
Type	event
Alerts	
Level	notice
General	
Log Description	SDWAN status
Log ID	0113022923
Message	Service prioritized by performance metric will be redirected in sequence order.
Sequence Number	2,1
Virtual Domain	root
Others	
Date/Time	23:57:29
Destination End User ID	3
Destination Endpoint ID	3
Device Time	2022-03-04 14:57:27
Event Time	1646434647595788893
Event Type	Service
Metric	latency
Service ID	1
Time Stamp	2022-03-04 23:57:29
Time Zone	-0800
UEBA Endpoint ID	3
UEBA User ID	3
logver	700030237

Exhibit B

```
branch1_fgt # diagnose sys sdwan member
Member(1): interface: port1, flags=0x0 , gateway: 192.2.0.2, priority: 0 1024, weight: 0
Member(2): interface: port2, flags=0x0 , gateway: 192.2.0.10, priority: 0 1024, weight: 0
```

```
config service
    edit 1
        set name "Critical-DIA"
        set mode priority
        set src "LAN-net"
        set internet-service enable
        set internet-service-app-ctrl 16354 41468 16920
        set health-check "Level3_DNS"
        set priority-members 1 2
    next
end
```

Exhibit A shows an SD-WAN event log and exhibit B shows the member status and the SD-WAN rule configuration.
Based on the exhibits, which two statements are correct? (Choose two.)

A. FortiGate updated the outgoing interface list on the rule so it prefers port2.
B. Port2 has the highest member priority.
C. Port2 has a lower latency than port1.
D. SD-WAN rule ID 1 is set to lowest cost (SLA) mode.

Answer: AC

QUESTION 50
Which two interfaces are considered overlay links? (Choose two.)

A. LAG
B. IPsec
C. Physical
D. GRE

Answer: BD

QUESTION 51
What are two benefits of using the Internet service database (ISDB) in an SD-WAN rule? (Choose two.)

A. The ISDB is dynamically updated and reduces administrative overhead.
B. The ISDB requires application control to maintain signatures and perform load balancing.
C. The ISDB applies rules to traffic from specific sources, based on application type.
D. The ISDB contains the IP addresses and port ranges of well-known internet services.

Answer: AD

QUESTION 52
Which statement is correct about SD-WAN and ADVPN?

A. Routes for ADVPN shortcuts must be manually configured.
B. SD-WAN can steer traffic to ADVPN shortcuts, established over IPsec overlays, configured as SD-WAN members.
C. SD-WAN does not monitor the health and performance of ADVPN shortcuts.
D. You must use IKEv2 on IPsec tunnels.

Answer: B

QUESTION 53
What does enabling the exchange-interface-ip setting enable FortiGate devices to exchange?

A. The gateway address of their IPsec interfaces
B. The tunnel ID of their IPsec interfaces
C. The IP address of their IPsec interfaces
D. The name of their IPsec interfaces

Answer: C

QUESTION 54
Which diagnostic command can you use to show the configured SD-WAN zones and their assigned members?

A. diagnose sys sdwan zone
B. diagnose sys sdwan service
C. diagnose sys sdwan member
D. diagnose sys sdwan interface

Answer: A
Explanation:
diagnose sys sdwan zone displays the configured zones and their members. Note that the output indicates the kernel interface index number of a member, which should match the index displayed by diagnose netlink interface list.

QUESTION 55
Refer to the exhibits.

Exhibit A

```
    config duplication
        edit 1
            set srcaddr "10.0.1.0/24"
            set dstaddr "10.1.0.0/24"
            set srcintf "port5"
            set dstintf "overlay"
            set service "ALL"
            set packet-duplication force
        next
    end
```

```
branch1_fgt # diagnose sys sdwan zone
Zone SASE index=2
        members(0):
Zone overlay index=4
        members(3): 19(T_INET_0_0) 20(T_INET_1_0) 21(T_MPLS_0)
Zone underlay index=3
        members(2): 3(port1) 4(port2)
Zone virtual-wan-link index=1
        members(0):
```

```
1.274665 port5 in 10.0.1.101 -> 10.1.0.7: icmp: echo request
1.275788 T_INET_0_0 out 10.0.1.101 -> 10.1.0.7: icmp: echo request
1.275790 T_INET_1_0 out 10.0.1.101 -> 10.1.0.7: icmp: echo request
1.275801 T_MPLS_0 out 10.0.1.101 -> 10.1.0.7: icmp: echo request
1.278365 T_INET_1_0 in 10.1.0.7 -> 10.0.1.101: icmp: echo reply
1.278553 port5 out 10.1.0.7 -> 10.0.1.101: icmp: echo reply
```

Exhibit B

```
3.874431 T_INET_1_0 in 10.0.1.101 -> 10.1.0.7: icmp: echo request
3.874630 port5 out 10.0.1.101 -> 10.1.0.7: icmp: echo request
3.874895 T_INET_0_0 in 10.0.1.101 -> 10.1.0.7: icmp: echo request
3.875125 T_MPLS_0 in 10.0.1.101 -> 10.1.0.7: icmp: echo request
3.875054 port5 in 10.1.0.7 -> 10.0.1.101: icmp: echo reply
3.875308 T_INET_1_0 out 10.1.0.7 -> 10.0.1.101: icmp: echo reply
```

Exhibit A shows the packet duplication rule configuration, the SD-WAN zone status output, and the sniffer output on FortiGate acting as the sender. Exhibit B shows the sniffer output on a FortiGate acting as the receiver.

The administrator configured packet duplication on both FortiGate devices. The sniffer output on

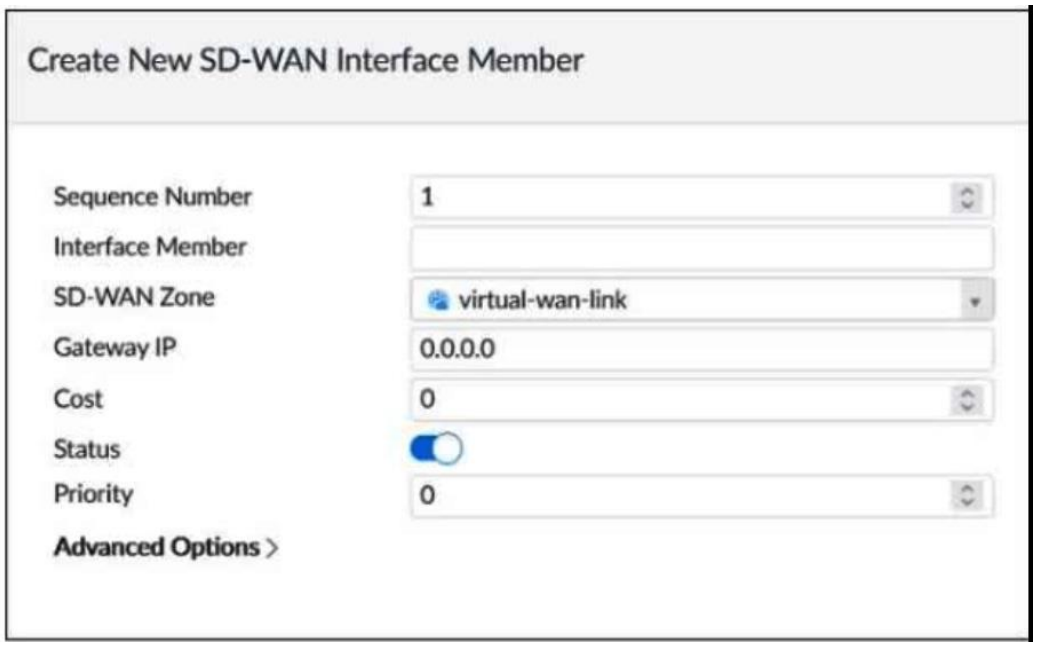
the sender FortiGate shows that FortiGate forwards an ICMP echo request packet over three overlays, but it only receives one reply packet through T_INET_1_0.

Based on the output shown in the exhibits, which two reasons can cause the observed behavior? (Choose two.)

A. On the receiver FortiGate, packet-de-duplication is enabled.
B. The ICMP echo request packets sent over T_INET_0_0 and T_MPLS_0 were dropped along the way.
C. The ICMP echo request packets received over T_INET_0_0 and T_MPLS_0 were offloaded to NPU.
D. On the sender FortiGate, duplication-max-num is set to 3.

Answer: AD

QUESTION 56
Refer to the exhibit.



Which two SD-WAN template member settings support the use of FortiManager meta fields? (Choose two.)

A. Cost
B. Interface member
C. Priority
D. Gateway IP

Answer: BD

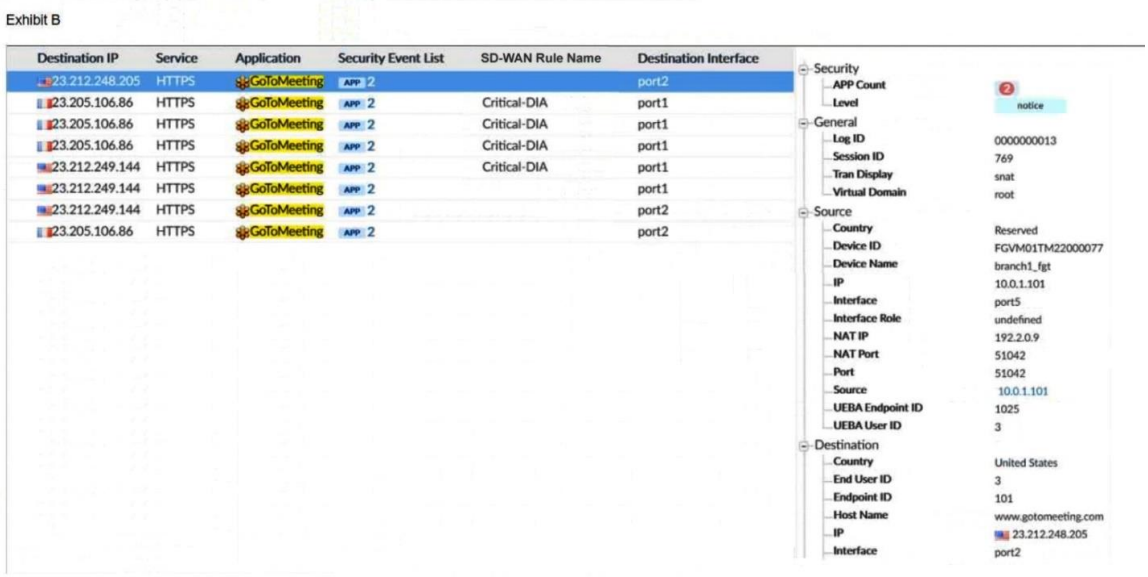
QUESTION 57
Which statement about using BGP for ADVPN is true?

A. IBGP is preferred over EBGP, because IBGP preserves next hop information.
B. You must use BGP to route traffic for both overlay and underlay links.
C. You must configure BGP communities.
D. You must configure AS path prepending.

Answer: A

QUESTION 58
Refer to the exhibits.

Exhibit B



An administrator is testing application steering in SD-WAN. Before generating test traffic, the administrator collected the information shown in exhibit A.

After generating GoToMeeting test traffic, the administrator examined the respective traffic log on FortiAnalyzer, which is shown in exhibit B. The administrator noticed that the traffic matched the implicit SD-WAN rule, but they expected the traffic to match rule ID 1.

Which two reasons explain why the traffic matched the implicit SD-WAN rule? (Choose two.)

A. FortiGate did not refresh the routing information on the session after the application was detected.
B. Port1 and port2 do not have a valid route to the destination.
C. Full SSL inspection is not enabled on the matching firewall policy.
D. The session 3-tuple did not match any of the existing entries in the ISDB application cache.

Answer: AC

QUESTION 59
Refer to the exhibit.

```
# diagnose firewall shaper per-ip-shaper list
name FTP_5M
maximum-bandwidth 625 KB/sec
maximum-concurrent-session 5
tos ff/ff
packets dropped 65
bytes dropped 81040
        addr=10.1.0.1 status: bps=0 ses=1
        addr=10.1.0.100 status: bps=0 ses=1
        addr=10.1.10.1 status: bps=1656 ses=3
```

Which are two expected behaviors of the traffic that matches the traffic shaper? (Choose two.)

A. The number of simultaneous connections among all source IP addresses cannot exceed five connections.
B. The traffic shaper limits the combined bandwidth of all connections to a maximum of 5 MB/sec.
C. The number of simultaneous connections allowed for each source IP address cannot exceed five connections.
D. The traffic shaper limits the bandwidth of each source IP address to a maximum of 625 KB/sec.

Answer: CD

QUESTION 60
Which two statements are true about using SD-WAN to steer local-out traffic? (Choose two.)

A. FortiGate does not consider the source address of the packet when matching an SD-WAN rule for local-out traffic.
B. By default, local-out traffic does not use SD-WAN.
C. By default, FortiGate does not check if the selected member has a valid route to the destination.
D. You must configure each local-out feature individually, to use SD-WAN.

Answer: BD

QUESTION 61
Which three matching traffic criteria are available in SD-WAN rules? (Choose three.)

A. Type of physical link connection
B. Internet service database (ISDB) address object
C. Source and destination IP address
D. URL categories
E. Application signatures

Answer: BCE

QUESTION 62
Refer to the exhibit.

```
id=20085 trace_id=847 func=print_pkt_detail line=5428 msg="vd-root:0 received a
packet(proto=6, 10.1.10.1:33920->74.125.195.93:443) from port3. flag [.], seq
2018554516, ack 4141536963, win 2238"
id=20085 trace_id=847 func=resolve_ip_tuple_fast line=5508 msg="Find an existing
session, id-000008c1, original direction"
id=20085 trace_id=847 func=shaper handler line=821 msg="exceeded shaper limit, drop"
```

Which conclusion about the packet debug flow output is correct?

A. The original traffic exceeded the maximum packets per second of the outgoing interface, and the packet was dropped.
B. The reply traffic exceeded the maximum bandwidth configured in the traffic shaper, and the packet was dropped.
C. The original traffic exceeded the maximum bandwidth of the outgoing interface, and the packet was dropped.
D. The original traffic exceeded the maximum bandwidth configured in the traffic shaper, and the packet was dropped.

Answer: D

QUESTION 63
Refer to the exhibit.

```
config router bgp
    set as 65000
    set router-id 10.1.0.1
    set ibgp-multipath enable
    set additional-path enable
    set additional-path-select 3
    config neighbor-group
        edit "Branches_INET_0"
            set interface "T_INET_0_0"
            set remote-as 65000
            set update-source "T_INET_0_0"
        next
        edit "Branches_INET_1"
            set interface "T_INET_1_0"
            set remote-as 65000
            set update-source "T_INET_1_0"
        next
        edit "Branches_MPLS"
            set interface "T_MPLS_0"
            set remote-as 65000
            set update-source "T_MPLS_0"
        next
    end
    config neighbor-range
        edit 1
            set prefix 10.201.1.0 255.255.255.0
            set neighbor-group "Branches_INET_0"
        next
        edit 2
            set prefix 10.202.1.0 255.255.255.0
            set neighbor-group "Branches_INET_1"
        next
        edit 3
            set prefix 10.203.1.0 255.255.255.0
            set neighbor-group "Branches_MPLS"
        next
    end
...
end
```

The exhibit shows the BGP configuration on the hub in a hub-and-spoke topology. The administrator wants BGP to advertise prefixes from spokes to other spokes over the IPsec overlays, including additional paths. However, when looking at the spoke routing table, the administrator does not see the prefixes from other spokes and the additional paths.

Based on the exhibit, which three settings must the administrator configure inside each BGP neighbor group so spokes can learn other spokes prefixes and their additional paths? (Choose three.)

A. Set additional-path to send
B. Enable route-reflector-client
C. Set advertisement-interval to the number of additional paths to advertise
D. Set adv-additional-path to the number of additional paths to advertise
E. Enable soft-reconfiguration

Answer: ABD

QUESTION 64
Refer to the exhibit.

```
session info: proto=6 proto_state=11 duration=242 expire=3349 timeout=3600
flags=00000000 socktype=0 sockport=0 av_idx=0 use=4
origin-shaper=
reply-shaper=
per_ip_shaper=
class_id=0 ha_id=0 policy_dir=0 tunnel=/ vlan_cos=0/255
state=log dirty may_dirty ndr f00 app_valid
statistic(bytes/packets/allow_err): org=3421/20/1 reply=3777/17/1 tuples=3
tx speed(Bps/kbps): 0/0 rx speed(Bps/kbps): 0/0
orgin->sink: org pre->post, reply pre->post dev=7->3/3->7 gwy=0.0.0.0/0.0.0.0
hook=post dir=org act=snat 10.0.1.101:34676->128.66.0.1:22(192.2.0.1:34676)
hook=pre dir=reply act=dnat 128.66.0.1:22->192.2.0.1:34676(10.0.1.101:34676)
hook=post dir=reply act=noop 128.66.0.1:22->10.0.1.101:34676(0.0.0.0:0)
pos/(before,after) 0/(0,0), 0/(0,0)
misc=0 policy_id=2 pol_uuid_idx=14721 auth_info=0 chk_client_info=0 vd=0
serial=000032d9 tos=ff/ff app_list=2000 app=16060 url_cat=0
sdwan_mbr_seq=1 sdwan_service_id=2
rpdb_link_id=ff000002 rpdb_svc_id=0 ngfwid=n/a
npu_state=0x001008
```

Which statement explains the output shown in the exhibit?

A. FortiGate performed standard FIB routing on the session.
B. FortiGate will not re-evaluate the session following a firewall policy change.
C. FortiGate used 192.2.0.1 as the gateway for the original direction of the traffic.
D. FortiGate must re-evaluate the session due to routing change.

Answer: D

QUESTION 65
Refer to the exhibit.

```
# diagnose sys session list

session info: proto=6 proto_state=01 duration=39 expire=3593 timeout=3600 flags=00000000
socktype=0 sockport=0 av_idx=0 use=4
state=may_dirty npu
orgin->sink: org pre->post, reply pre->post dev=7->5/5->7 gwy=10.10.10.1/10.9.31.160
hook=pre dir=org act=noop 10.9.31.160:7932->10.0.1.7:22(0.0.0.0:0)
hook=post dir=reply act=noop 10.0.1.7:22->10.9.31.160:7932(0.0.0.0:0)
pos/(before,after) 0/(0,0), 0/(0,0)
misc=0 policy_id=1 auth_info=0 chk_client_info=0 vd=0
serial=00045e02 tos=ff/ff app_list=0 app=0 url_cat=0
sdwan_mbr_seq=1 sdwan_service_id=1
rpdb_link_id=80000000 rpdb_svc_id=0 ngfwid=n/a
npu_state=0x4000c00
npu info: flag=0x81/0x81, offload=8/8, ips_offload=0/0, epid=64/76, ipid=76/64,
vlan=0x0000/0x0000
vlifid=76/64, vtag_in=0x0000/0x0000 in_npu=1/1, out_npu=1/1, fwd_en=0/0, qid=2/2
reflect info 0:
dev=7->6/6->7
npu_state=0x4000800
npu info: flag=0x00/0x81, offload=0/8, ips_offload=0/0, epid=0/76, ipid=0/65, vlan=0x0000/0x0000
vlifid=0/65, vtag_in=0x0000/0x0000 in_npu=0/1, out_npu=0/1, fwd_en=0/0, qid=0/2
total reflect session num: 1
total session 1

# diagnose netlink interface list

if=port1 family=00 type=1 index=5 mtu=1500 link=0 master=0
if=port2 family=00 type=1 index=6 mtu=1500 link=0 master=0
if=port3 family=00 type=1 index=7 mtu=1500 link=0 master=0
```

The exhibit shows the details of a session and the index numbers of some relevant interfaces on a

FortiGate appliance that supports hardware offloading. Based on the information shown in the exhibits, which two statements about the session are true? (Choose two.)

A. The reply direction of the asymmetric traffic flows from port2 to port3.
B. The auxiliary session can be offloaded to hardware.
C. The original direction of the symmetric traffic flows from port3 to port2.
D. The main session cannot be offloaded to hardware.

Answer: AB

QUESTION 66
Refer to the exhibit.

```
config firewall policy
    edit 1
        set anti-replay disable
    next
end
```

In a dual-hub hub-and-spoke SD-WAN deployment, which is a benefit of disabling the anti-replay setting on the hubs?

A. It instructs the hub to disable the reordering of TCP packets on behalf of the receiver, to improve performance.
B. It instructs the hub to disable TCP sequence number check, which is required for TCP sessions originated from spokes to fail over back and forth between the hubs.
C. It instructs the hub to not check the ESP sequence numbers on IPsec traffic, to improve performance.
D. It instructs the hub to skip content inspection on TCP traffic, to improve performance.

Answer: B

QUESTION 67
Which SD-WAN setting enables FortiGate to delay the recovery of ADVPN shortcuts?

A. hold-down-time
B. link-down-failover
C. auto-discovery-shortcuts
D. idle-timeout

Answer: A

QUESTION 68
Refer to the exhibit.

```
ike 0:T_INET_0_0:214: received informational request
ike 0:T_INET_0_0:214: processing notify type SHORTCUT_QUERY
ike 0:T_INET_0_0: recv shortcut-query 9065761962601467474
07409008f7fbd17e/0000000000000000 192.2.0.1 10.0.1.101->10.0.2.101 psk 64 ppk 0 ttl 32
nat 0 ver 2 mode 0
ike 0:T_INET_0: iif 20 10.0.1.101->10.0.2.101 route lookup oif 20 T_INET_0 gwy
10.201.1.1
ike 0:T_INET_0_1: forward shortcut-query 9065761962601467474
07409008f7fbd17e/0000000000000000 192.2.0.1 10.0.1.101->10.0.2.101 psk 64 ppk 0 ttl 31
ver 2 mode 0, ext-mapping 192.2.0.1:500
```

Which statement about the role of the ADVPN device in handling traffic is true?

A. This is a spoke that has received a query from a remote hub and has forwarded the response to its hub.
B. Two hubs, 10.0.1.101 and 10.0.2.101, are receiving and forwarding queries between each other.
C. This is a hub that has received a query from a spoke and has forwarded it to another spoke.
D. Two spokes, 192.2.0.1 and 10.0.2.101, forward their queries to their hubs.

Answer: C

QUESTION 69
Refer to the exhibit.

```
config system interface
    edit "port2"
        set vdom "root"
        set ip 192.2.0.9 255.255.255.248
        set allowaccess ping
        set type physical
        set role wan
        set snmp-index 2
        set preserve-session-route enable
    next
end
```

Based on the exhibit, which two actions does FortiGate perform on traffic passing through port2? (Choose two.)

A. FortiGate does not change the routing information on existing sessions that use a valid gateway, after a route change.
B. FortiGate performs routing lookups for new sessions only, after a route change.
C. FortiGate always blocks all traffic, after a route change.
D. FortiGate flushes all routing information from the session table, after a route change.

Answer: AB

QUESTION 70
What is a benefit of using application steering in SD-WAN?

A. The traffic always skips the regular policy routes.

B. You steer traffic based on the detected application.
C. You do not need to enable SSL inspection.
D. You do not need to configure firewall policies that accept the SD-WAN traffic.

Answer: B

QUESTION 71
Which two statements about the SD-WAN zone configuration are true? (Choose two.)

A. The service-sla-tie-break setting enables you to configure preferred member selection based on the best route to the destination.
B. You can delete the default zones.
C. The default zones are virtual-wan-link and SASE.
D. An SD-WAN member can belong to two or more zones.

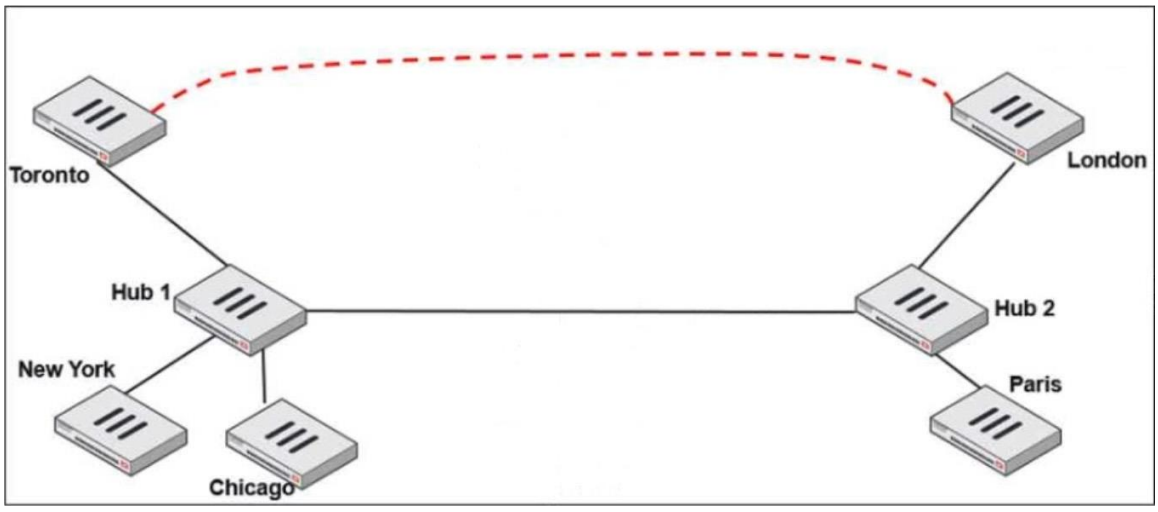
Answer: AC

QUESTION 72
What are two common use cases for remote internet access (RIA)? (Choose two.)

A. Provide direct internet access on spokes
B. Provide internet access through the hub
C. Centralize security inspection on the hub
D. Provide thorough inspection on spokes

Answer: BC

QUESTION 73
Refer to the exhibit.



Two hub-and-spoke groups are connected through a site-to-site IPsec VPN between Hub 1 and Hub 2.

Which two configuration settings are required for Toronto and London spokes to establish an

ADVPN shortcut? (Choose two.)

A. On the hubs, auto-discovery-sender must be enabled on the IPsec VPNs to spokes.
B. On the spokes, auto-discovery-receiver must be enabled on the IPsec VPN to the hub.
C. auto-discovery-forwarder must be enabled on all IPsec VPNs.
D. On the hubs, net-device must be enabled on all IPsec VPNs.

Answer: AB

QUESTION 74
Refer to the exhibit.

```
branch1_fgt # diagnose sys sdwan service 3

Service(3): Address Mode(IPV4) flags=0x200 use-shortcut-sla
  Gen(2), TOS(0x0/0x0), Protocol(0: 1->65535), Mode(priority), link-cost-factor(packet-
loss), link-cost-threshold(0), heath-check(VPN_PING)
  Members(3):
    1: Seq_num(3 T_INET_0_0), alive, packet loss: 2.000%, selected
    2: Seq_num(4 T_MPLS_0), alive, packet loss: 4.000%, selected
    3: Seq_num(5 T_INET_1_0), alive, packet loss: 12.000%, selected
  Src address(1):
        10.0.1.0-10.0.1.255

  Dst address(1):
        10.0.0.0-10.255.255.255

branch1_fgt (3) # show
config service
    edit 3
        set name "Corp"
        set mode priority
        set dst "Corp-net"
        set src "LAN-net"
        set health-check "VPN_PING"
        set link-cost-factor packet-loss
        set link-cost-threshold 0
        set priority-members 5 3 4
    next
end
```

The exhibit shows the SD-WAN rule status and configuration.

Based on the exhibit, which change in the measured packet loss will make T_INET_1_0 the new preferred member?

A. When all three members have the same packet loss.
B. When T_INET_0_0 has 4% packet loss.
C. When T_INET_0_0 has 12% packet loss.
D. When T_INET_1_0 has 4% packet loss.

Answer: A

QUESTION 75
Refer to the exhibit.

```
config system sdwan
    set fail-detect enable
    set fail-alert-interfaces "port5"
    config health-check
        edit "Level3_DNS"
            set update-cascade-interface enable
            set members 1 2
        next
        edit "HQ"
            set update-cascade-interface enable
            set members 3
        next
    end
end
```

Based on the exhibit, which action does FortiGate take?

A. FortiGate bounces port5 after it detects all SD-WAN members as dead.
B. FortiGate fails over to the secondary device after it detects all SD-WAN members as dead.
C. FortiGate brings up port5 after it detects all SD-WAN members as alive.
D. FortiGate brings down port5 after it detects all SD-WAN members as dead.

Answer: D
Explanation:
This feature extends fail-detect to aggregate and redundant interfaces. When an aggregate or a redundant interface goes down, the corresponding fail-alert-interface will be changed to down. When the aggregate or redundant interface comes up, the corresponding fail-alert-interface will be changed to up.

QUESTION 76
What are two benefits of using forward error correction (FEC) in IPsec VPNs? (Choose two.)

A. FEC supports hardware offloading.
B. FEC improves reliability of noisy links.
C. FEC transmits parity packets that can be used to reconstruct packet loss.
D. FEC can leverage multiple IPsec tunnels for parity packets transmission.

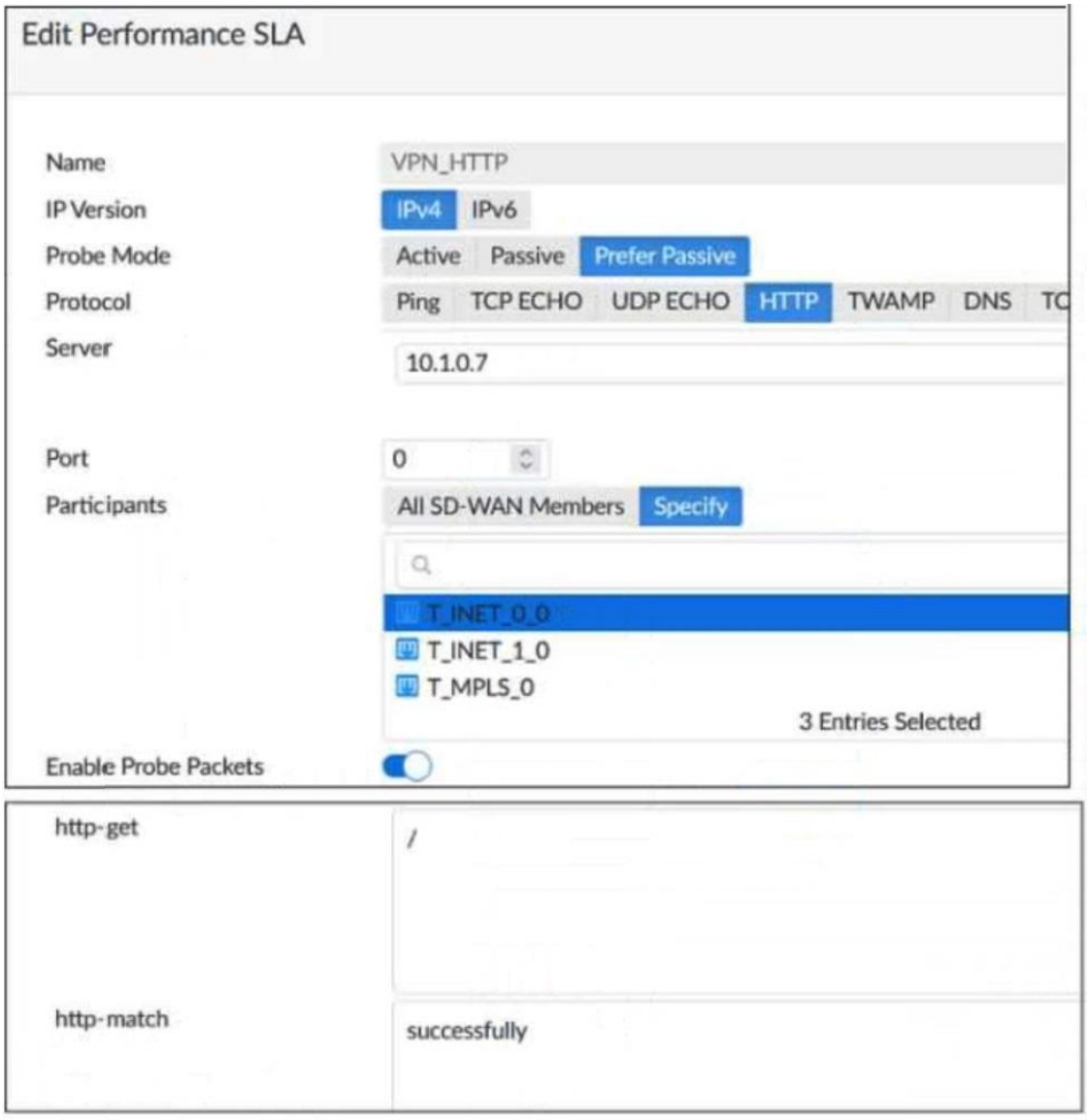
Answer: BC

QUESTION 77
Which two tasks are part of using central VPN management? (Choose two.)

A. You can configure full mesh, star, and dial-up VPN topologies.
B. You must enable VPN zones for SD-WAN deployments.
C. FortiManager installs VPN settings on both managed and external gateways.
D. You configure VPN communities to define common IPsec settings shared by all VPN gateways.

Answer: AD

QUESTION 78
Refer to the exhibit.



Based on the exhibit, which two statements are correct about the health of the selected members? (Choose two.)

A. After FortiGate switches to active mode, FortiGate never fails back to passive monitoring.
B. During passive monitoring, FortiGate can't detect dead members.
C. FortiGate can offload the traffic that is subject to passive monitoring to hardware.
D. FortiGate passively monitors the member if TCP traffic is passing through the member.

Answer: BD