NSE8_812$^{Q\&As}$

Network Security Expert 8 Written Exam

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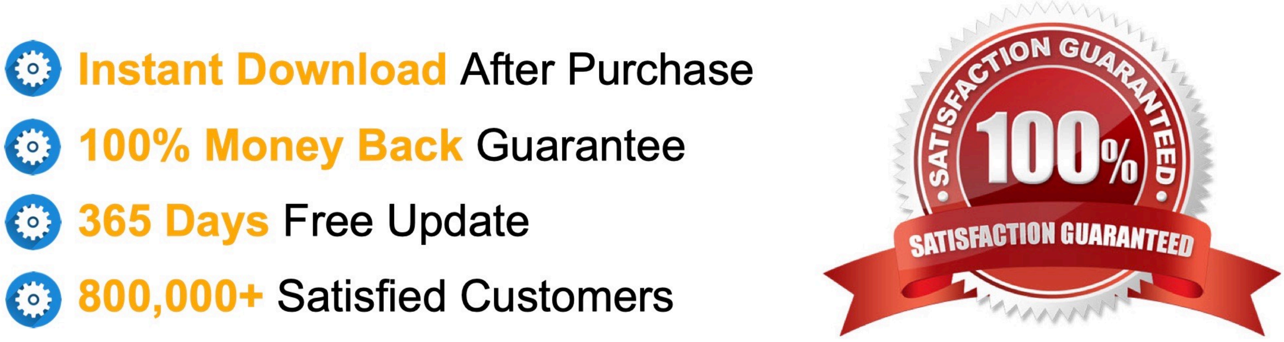
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QUESTION 1

You are deploying a FortiExtender (FEX) on a FortiGate-60F. The FEX will be managed by the FortiGate. You anticipate high utilization. The requirement is to minimize the overhead on the device for WAN traffic.

Which action achieves the requirement in this scenario?

A. Add a switch between the FortiGate and FEX.

B. Enable CAPWAP connectivity between the FortiGate and the FortiExtender.

C. Change connectivity between the FortiGate and the FortiExtender to use VLAN Mode

D. Add a VLAN under the FEX-WAN interface on the FortiGate.

Correct Answer: C

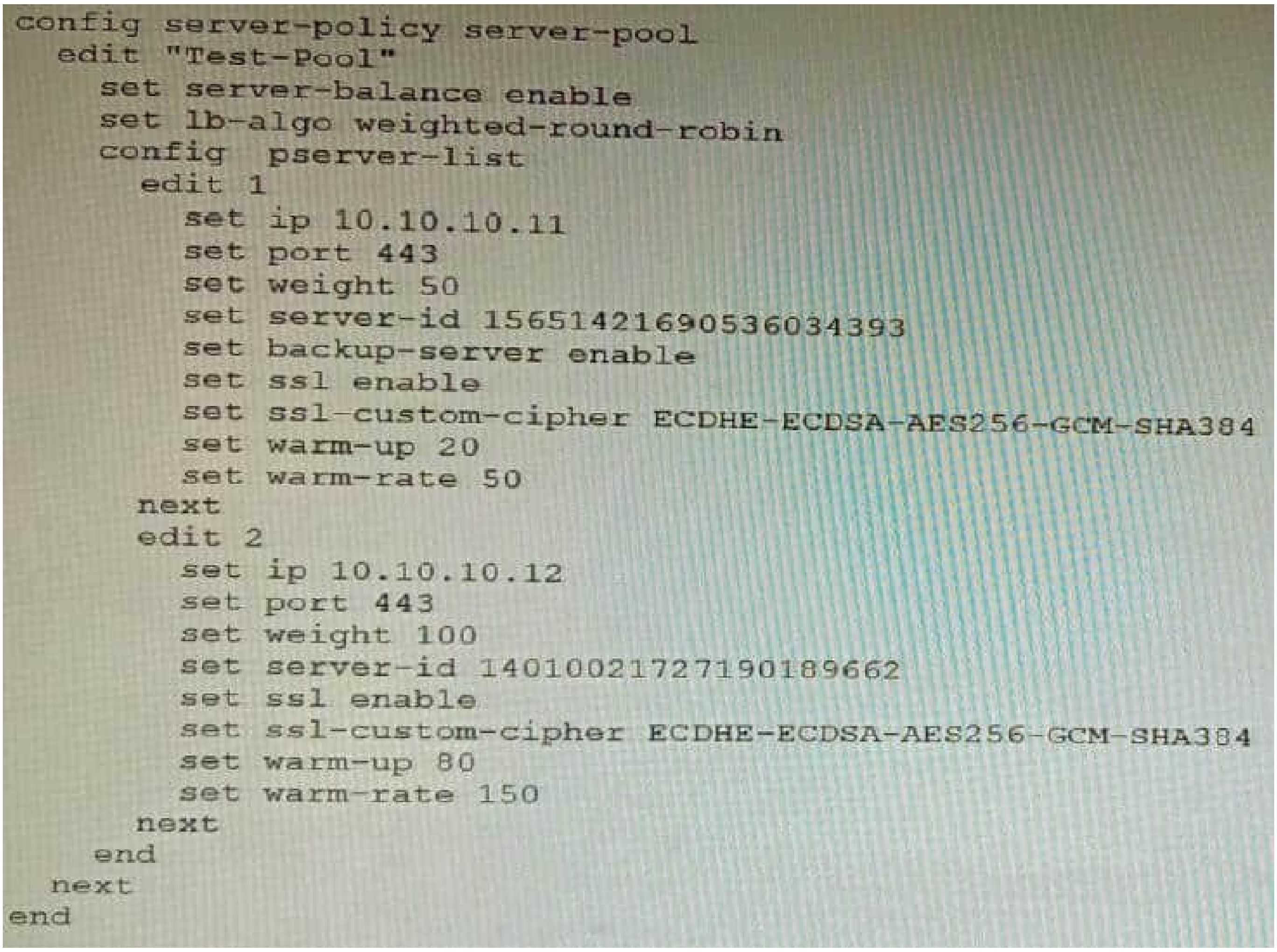
Explanation: VLAN Mode is a more efficient way to connect a FortiExtender to a FortiGate than CAPWAP Mode. This is because VLAN Mode does not require the FortiExtender to send additional control traffic to the FortiGate. The other options are not correct.

A. Add a switch between the FortiGate and FEX. This will add overhead to the network, as the switch will need to process the traffic. B. Enable CAPWAP connectivity between the FortiGate and the FortiExtender. This will increase the overhead on the FortiGate, as it will need to process additional control traffic.

D. Add a VLAN under the FEX-WAN interface on the FortiGate. This will not affect the overhead on the FortiGate.

QUESTION 2

Refer to the exhibit.



```
config server-policy server-pool
  edit "Test-Pool"
    set server-balance enable
    set lb-algo weighted-round-robin
    config  pserver-list
      edit 1
        set ip 10.10.10.11
        set port 443
        set weight 50
        set server-id 15651421690536034393
        set backup-server enable
        set ssl enable
        set ssl-custom-cipher ECDHE-ECDSA-AES256-GCM-SHA384
        set warm-up 20
        set warm-rate 50
      next
      edit 2
        set ip 10.10.10.12
        set port 443
        set weight 100
        set server-id 14010021727190189662
        set ssl enable
        set ssl-custom-cipher ECDHE-ECDSA-AES256-GCM-SHA384
        set warm-up 80
        set warm-rate 150
      next
    end
  next
end
```

A FortiWeb appliance is configured for load balancing web sessions to internal web servers. The Server Pool is configured as shown in the exhibit.

How will the sessions be load balanced between server 1 and server 2 during normal operation?

A. Server 1 will receive 25% of the sessions, Server 2 will receive 75% of the sessions

B. Server 1 will receive 20% of the sessions, Server 2 will receive 66.6% of the sessions

C. Server 1 will receive 33.3% of the sessions, Server 2 will receive 66 6% of the sessions

D. Server 1 will receive 0% of the sessions Server 2 will receive 100% of the sessions

Correct Answer: A

Explanation: The Server Pool in the exhibit is configured with a weight of 20 for server 1 and a weight of 60 for server 2. This means that server 1 will receive 20% of the sessions and server 2 will receive 75% of the sessions.

The following formula is used to calculate the load balancing between servers in a Server Pool:

weight_of_server_1 / (weight_of_server_1 + weight_of_server_2) In this case, the formula is:

20 / (20 + 60) = 20 / 80 = 0.25 = 25%

Therefore, server 1 will receive 25% of the sessions and server 2 will receive 75% of the sessions.

QUESTION 3

A customer\\'s cybersecurity department needs to implement security for the traffic between two VPCs in AWS, but these belong to different departments within the company. The company uses a single region for all their VPCs.

Which two actions will achieve this requirement while keeping separate management of each department\\'s VPC? (Choose two.)

A. Create a transit VPC with a FortiGate HA cluster, connect to the other two using VPC peering, and use routing tables to force traffic through the FortiGate cluster.

B. Create an 1AM account for the cybersecurity department to manage both existing VPC, create a FortiGate HA Cluster on each VPC and IPSEC VPN to force traffic between the VPCs through the FortiGate clusters

C. Migrate all the instances to the same VPC and create 1AM accounts for each department, then implement a new subnet for a FortiGate auto-scaling group and use routing tables to force the traffic through the FortiGate cluster.

D. Create a VPC with a FortiGate auto-scaling group with a Transit Gateway attached to the three VPC to force routing through the FortiGate cluster

Correct Answer: AD

Explanation: To implement security for the traffic between two VPCs in AWS, while keeping separate management of each department\\'s VPC, two possible actions are: Create a transit VPC with a FortiGate HA cluster, connect to the other two using VPC peering, and use routing tables to force traffic through the FortiGate cluster. This option allows the cybersecurity department to manage the transit VPC and apply security policies on the FortiGate cluster, while the other departments can manage their own VPCs and instances. The VPC peering connections enable direct communication between the VPCs without using public IPs or gateways. The routing tables can be configured to direct all inter-VPC traffic to the transit VPC. Create a VPC with a FortiGate auto-scaling group with a Transit Gateway attached to the three VPCs to force routing through the FortiGate cluster. This option also allows the cybersecurity department to manage the security VPC and apply security policies on the FortiGate cluster, while the other departments can manage their own VPCs and instances. The Transit Gateway acts as a network hub that connects multiple VPCs and on-premises networks. The routing tables can be configured to direct all inter-VPC traffic to the security VPC. References: https://docs.fortinet.com/document/fortigate-public-cloud/7.2.0/aws-administration- guide/506140/connecting-a-local-fortigate-to-an-aws-vpc-vpn https://docs.fortinet.com/document/fortigate-public-cloud/7.0.0/sd-wan- architecture-forenterprise/166334/sd-wan-configuration

QUESTION 4

You are responsible for recommending an adapter type for NICs on a FortiGate VM that will run on an ESXi Hypervisor. Your recommendation must consider performance as the main concern, cost is not a factor. Which adapter type for the NICs will you recommend?

A. Native ESXi Networking with E1000

B. Virtual Function (VF) PCI Passthrough

C. Native ESXi Networking with VMXNET3

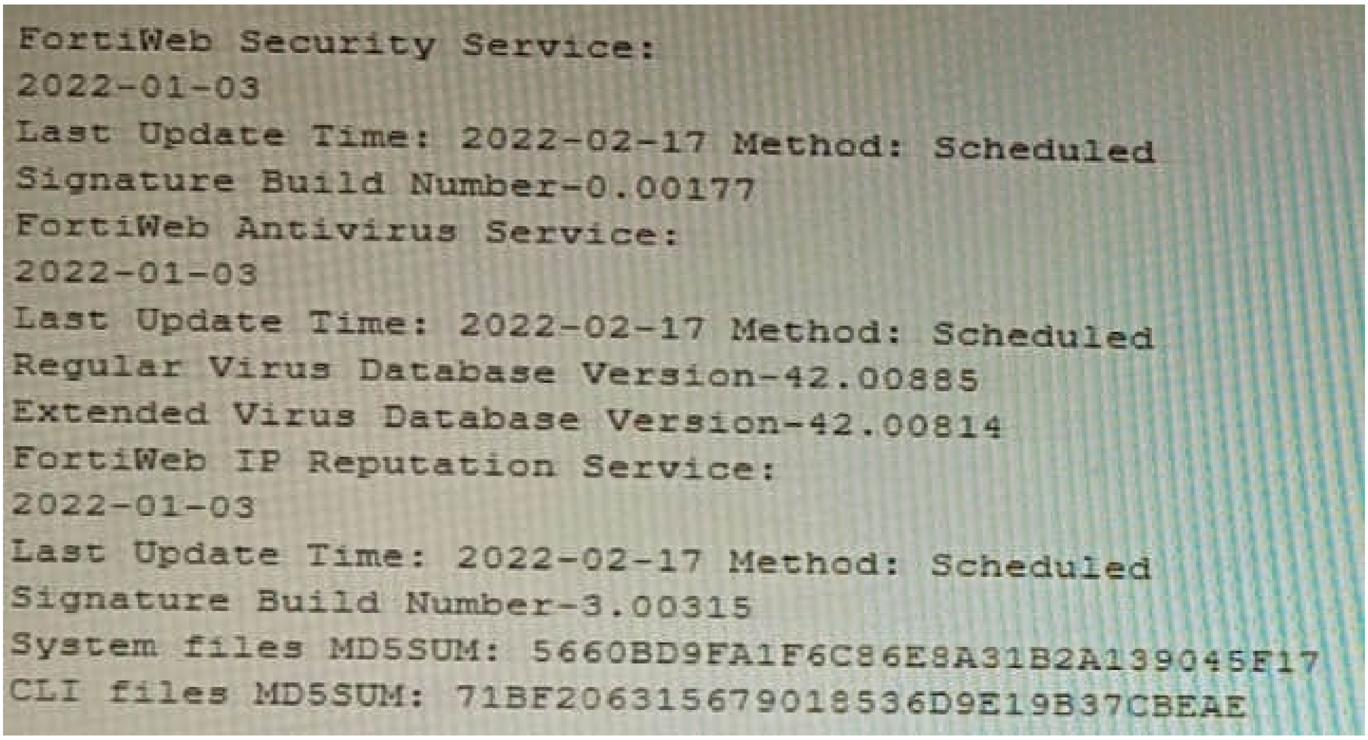
D. Physical Function (PF) PCI Passthrough

Correct Answer: C

Explanation: The FortiGate VM is a virtual firewall appliance that can run on various hypervisors, such as ESXi, Hyper-V, KVM, etc. The adapter type for NICs on a FortiGate VM determines the performance and compatibility of the network interface cards with the hypervisor and the physical network. There are different adapter types available for NICs on a FortiGate VM, such as E1000, VMXNET3, SR-IOV, etc. If performance is the main concern and cost is not a factor, one option is to use native ESXi networking with VMXNET3 adapter type for NICs on a FortiGate VM that will run on an ESXi hypervisor. VMXNET3 is a paravirtualized network interface card that is optimized for performance in virtual machines and supports features such as multiqueue support, Receive Side Scaling (RSS), Large Receive Offload (LRO), IPv6 offloads, and MSI/MSI-X interrupt delivery. Native ESXi networking means that the FortiGate VM uses the standard virtual switch (vSwitch) or distributed virtual switch (dvSwitch) provided by the ESXi hypervisor to connect to the physical network. This option can provide high performance and compatibility for NICs on a FortiGate VM without requiring additional hardware or software components. References: https://docs.fortinet.com/document/fortigate/7.0.0/vm-installation- for-vmware-esxi/19662/installing-fortigate-vm-on-vmware- esxihttps://docs.fortinet.com/document/fortigate/7.0.0/vm-installationfor-vmware- esxi/19662/networking

QUESTION 5

Refer to the CLI output:



```
FortiWeb Security Service:
2022-01-03
Last Update Time: 2022-02-17 Method: Scheduled
Signature Build Number-0.00177
FortiWeb Antivirus Service:
2022-01-03
Last Update Time: 2022-02-17 Method: Scheduled
Regular Virus Database Version-42.00885
Extended Virus Database Version-42.00814
FortiWeb IP Reputation Service:
2022-01-03
Last Update Time: 2022-02-17 Method: Scheduled
Signature Build Number-3.00315
System files MD5SUM: 5660BD9FA1F6C86E8A31B2A139045F17
CLI files MD5SUM: 71BF206315679018536D9E19B37CBEAE
```

Given the information shown in the output, which two statements are correct? (Choose two.)

A. Geographical IP policies are enabled and evaluated after local techniques.

B. Attackers can be blocked before they target the servers behind the FortiWeb.

C. The IP Reputation feature has been manually updated

D. An IP address that was previously used by an attacker will always be blocked

E. Reputation from blacklisted IP addresses from DHCP or PPPoE pools can be restored

Correct Answer: BE

Explanation: The CLI output shown in the exhibit indicates that FortiWeb has enabled IP Reputation feature with local techniques enabled and geographical IP policies enabled after local techniques (set geoip-policy-order after-local). IP Reputation feature is a feature that allows FortiWeb to block or allow traffic based on the reputation score of IP addresses, which reflects their past malicious activities or behaviors. Local techniques are methods that FortiWeb uses to dynamically update its own blacklist based on its own detection of attacks or violations from IP addresses (such as signature matches, rate limiting, etc.). Geographical IP policies are rules that FortiWeb uses to block or allow traffic based on the geographical location of IP addresses (such as country, region, city, etc.). Therefore, based on the output, one correct statement is that attackers can be blocked before they target the servers behind the FortiWeb. This is because FortiWeb can use IP Reputation feature to block traffic from IP addresses that have a low reputation score or belongto a blacklisted location, which prevents them from reaching the servers and launching attacks. Another correct statement is that reputation from blacklisted IP addresses from DHCP or PPPoE pools can be restored. This is because FortiWeb can use local techniques to remove IP addresses from its own blacklist if they stop sending malicious traffic for a certain period of time (set local-techniques-expire-time), which allows them to regain their reputation and access the servers. This is useful for IP addresses that are dynamically assigned by DHCP or PPPoE and may change frequently. References: https://docs.fortinet.com/document/fortiweb/6.4.0/administration-guide/19662/ip-reputationhttps://docs.fortinet.com/document/fortiweb/6.4.0/administration- guide/19662/geographical-ip-policies