

# Amazon-Web-Services

## Exam Questions ANS-C01

AWS Certified Advanced Networking Specialty Exam



### NEW QUESTION 1

A network engineer needs to update a company's hybrid network to support IPv6 for the upcoming release of a new application. The application is hosted in a VPC in the AWS Cloud. The company's current AWS infrastructure includes VPCs that are connected by a transit gateway. The transit gateway is connected to the on-premises network by AWS Direct Connect and AWS Site-to-Site VPN. The company's on-premises devices have been updated to support the new IPv6 requirements.

The company has enabled IPv6 for the existing VPC by assigning a new IPv6 CIDR block to the VPC and by assigning IPv6 to the subnets for dual-stack support. The company has launched new Amazon EC2 instances for the new application in the updated subnets.

When updating the hybrid network to support IPv6 the network engineer must avoid making any changes to the current infrastructure. The network engineer also must block direct access to the instances' new IPv6 addresses from the internet. However, the network engineer must allow outbound internet access from the instances.

What is the MOST operationally efficient solution that meets these requirements?

- A. Update the Direct Connect transit VIF and configure BGP peering with the AWS assigned IPv6 peering address
- B. Create a new VPN connection that supports IPv6 connectivity
- C. Add an egress-only internet gateway
- D. Update any affected VPC security groups and route tables to provide connectivity within the VPC and between the VPC and the on-premises devices
- E. Update the Direct Connect transit VIF and configure BGP peering with the AWS assigned IPv6 peering address
- F. Update the existing VPN connection to support IPv6 connectivity
- G. Add an egress-only internet gateway
- H. Update any affected VPC security groups and route tables to provide connectivity within the VPC and between the VPC and the on-premises devices.
- I. Create a Direct Connect transit VIF and configure BGP peering with the AWS assigned IPv6 peering address
- J. Create a new VPN connection that supports IPv6 connectivity
- K. Add an egress-only internet gateway
- L. Update any affected VPC security groups and route tables to provide connectivity within the VPC and between the VPC and the on-premises devices.
- M. Create a Direct Connect transit VIF and configure BGP peering with the AWS assigned IPv6 peering address
- N. Create a new VPN connection that supports IPv6 connectivity
- O. Add a NAT gateway
- P. Update any affected VPC security groups and route tables to provide connectivity within the VPC and between the VPC and the on-premises devices.

**Answer: B**

### NEW QUESTION 2

A software-as-a-service (SaaS) provider hosts its solution on Amazon EC2 instances within a VPC in the AWS Cloud. All of the provider's customers also have their environments in the AWS Cloud.

A recent design meeting revealed that the customers have IP address overlap with the provider's AWS

deployment. The customers have stated that they will not share their internal IP addresses and that they do not want to connect to the provider's SaaS service over the internet.

Which combination of steps is part of a solution that meets these requirements? (Choose two.)

- A. Deploy the SaaS service endpoint behind a Network Load Balancer.
- B. Configure an endpoint service, and grant the customers permission to create a connection to the endpoint service.
- C. Deploy the SaaS service endpoint behind an Application Load Balancer.
- D. Configure a VPC peering connection to the customer VPC
- E. Route traffic through NAT gateways.
- F. Deploy an AWS Transit Gateway, and connect the SaaS VPC to it
- G. Share the transit gateway with the customer
- H. Configure routing on the transit gateway.

**Answer: AB**

#### Explanation:

NLB for creating the private link which solves the overlapping IP address issue and the SaaS service endpoint behind it. (the SaaS endpoint could be an ALB)  
<https://aws.amazon.com/about-aws/whats-new/2021/09/application-load-balancer-aws-privatelink-static-ip>

### NEW QUESTION 3

A company is using Amazon Route 53 Resolver DNS Firewall in a VPC to block all domains except domains that are on an approved list. The company is concerned that if DNS Firewall is unresponsive, resources in the VPC might be affected if the network cannot resolve any DNS queries. To maintain application service level agreements, the company needs DNS queries to continue to resolve even if Route 53 Resolver does not receive a response from DNS Firewall.

Which change should a network engineer implement to meet these requirements?

- A. Update the DNS Firewall VPC configuration to disable fail open for the VPC.
- B. Update the DNS Firewall VPC configuration to enable fail open for the VPC.
- C. Create a new DHCP options set with parameter `dns_firewall_fail_open=fals`
- D. Associate the new DHCP options set with the VPC.
- E. Create a new DHCP options set with parameter `dns_firewall_fail_open=tru`
- F. Associate the new DHCP options set with the VPC.

**Answer: B**

### NEW QUESTION 4

A company is using an AWS Site-to-Site VPN connection from the company's on-premises data center to a virtual private gateway in the AWS Cloud. Because of congestion, the company is experiencing availability and performance issues as traffic travels across the internet before the traffic reaches AWS. A network engineer must reduce these issues for the connection as quickly as possible with minimum administration effort.

Which solution will meet these requirements?

- A. Edit the existing Site-to-Site VPN connection by enabling acceleration
- B. Stop and start the VPN service on the customer gateway for the new setting to take effect.
- C. Configure a transit gateway in the same AWS Region as the existing virtual private gateway

- D. Create a new accelerated Site-to-Site VPN connectio
- E. Connect the new connection to the transit gateway by using a VPN attachmen
- F. Update the customer gateway device to use the new Site to Site VPN connectio
- G. Delete the existing Site-to-Site VPN connection
- H. Create a new accelerated Site-to-Site VPN connectio
- I. Connect the new Site-to-Site VPN connection to the existing virtual private gatewa
- J. Update the customer gateway device to use the new Site-to-Site VPN connectio
- K. Delete the existing Site-to-Site VPN connection.
- L. Create a new AWS Direct Connect connection with a private VIF between the on-premises data center and the AWS Clou
- M. Update the customer gateway device to use the new Direct Connect connectio
- N. Delete the existing Site-to-Site VPN connection.

**Answer: B**

#### NEW QUESTION 5

A network engineer must provide additional safeguards to protect encrypted data at Application Load Balancers (ALBs) through the use of a unique random session key.

What should the network engineer do to meet this requirement?

- A. Change the ALB security policy to a policy that supports TLS 1.2 protocol only
- B. Use AWS Key Management Service (AWS KMS) to encrypt session keys
- C. Associate an AWS WAF web ACL with the ALB
- D. and create a security rule to enforce forward secrecy (FS)
- E. Change the ALB security policy to a policy that supports forward secrecy (FS)

**Answer: D**

#### NEW QUESTION 6

A company's network engineer needs to design a new solution to help troubleshoot and detect network anomalies. The network engineer has configured Traffic Mirroring. However, the mirrored traffic is overwhelming the Amazon EC2 instance that is the traffic mirror target. The EC2 instance hosts tools that the company's security team uses to analyze the traffic. The network engineer needs to design a highly available solution that can scale to meet the demand of the mirrored traffic.

Which solution will meet these requirements?

- A. Deploy a Network Load Balancer (NLB) as the traffic mirror targe
- B. Behind the NL
- C. deploy a fleet of EC2 instances in an Auto Scaling grou
- D. Use Traffic Mirroring as necessary.
- E. Deploy an Application Load Balancer (ALB) as the traffic mirror targe
- F. Behind the ALB, deploy a fleet of EC2 instances in an Auto Scaling grou
- G. Use Traffic Mirroring only during non-business hours.
- H. Deploy a Gateway Load Balancer (GLB) as the traffic mirror targe
- I. Behind the GL
- J. deploy a fleet of EC2 instances in an Auto Scaling grou
- K. Use Traffic Mirroring as necessary.
- L. Deploy an Application Load Balancer (ALB) with an HTTPS listener as the traffic mirror targe
- M. Behind the AL
- N. deploy a fleet of EC2 instances in an Auto Scaling grou
- O. Use Traffic Mirroring only during active events or business hours.

**Answer: A**

#### NEW QUESTION 7

A network engineer must develop an AWS CloudFormation template that can create a virtual private gateway, a customer gateway, a VPN connection, and static routes in a route table. During testing of the template, the network engineer notes that the CloudFormation template has encountered an error and is rolling back. What should the network engineer do to resolve the error?

- A. Change the order of resource creation in the CloudFormation template.
- B. Add the DependsOn attribute to the resource declaration for the virtual private gatewa
- C. Specify the route table entry resource.
- D. Add a wait condition in the template to wait for the creation of the virtual private gateway.
- E. Add the DependsOn attribute to the resource declaration for the route table entr
- F. Specify the virtual private gateway resource.

**Answer: D**

#### NEW QUESTION 8

A global company operates all its non-production environments out of three AWS Regions: eu-west-1, us-east-1, and us-west-1. The company hosts all its production workloads in two on-premises data centers. The company has 60 AWS accounts and each account has two VPCs in each Region. Each VPC has a virtual private gateway where two VPN connections terminate for resilient connectivity to the data centers. The company has 360 VPN tunnels to each data center, resulting in high management overhead. The total VPN throughput for each Region is 500 Mbps.

The company wants to migrate the production environments to AWS. The company needs a solution that will simplify the network architecture and allow for future growth. The production environments will generate an additional 2 Gbps of traffic per Region back to the data centers. This traffic will increase over time. Which solution will meet these requirements?

- A. Set up an AWS Direct Connect connection from each data center to AWS in each Regio
- B. Create and attach private VIFs to a single Direct Connect gatewa
- C. Attach the Direct Connect gateway to all the VPC
- D. Remove the existing VPN connections that are attached directly to the virtual private gateways.

- E. Create a single transit gateway with VPN connections from each data center
- F. Share the transit gateway with each account by using AWS Resource Access Manager (AWS RAM). Attach the transit gateway to each VPC
- G. Remove the existing VPN connections that are attached directly to the virtual private gateways.
- H. Create a transit gateway in each Region with multiple newly commissioned VPN connections from each data center
- I. Share the transit gateways with each account by using AWS Resource Access Manager (AWS RAM). In each Region, attach the transit gateway to each VPC
- J. Peer all the VPCs in each Region to a new VPC in each Region that will function as a centralized transit VPC
- K. Create new VPN connections from each data center to the transit VPC
- L. Terminate the original VPN connections that are attached to all the original VPCs
- M. Retain the new VPN connection to the new transit VPC in each Region.

**Answer: C**

#### NEW QUESTION 9

A security team is performing an audit of a company's AWS deployment. The security team is concerned that two applications might be accessing resources that should be blocked by network ACLs and security groups. The applications are deployed across two Amazon Elastic Kubernetes Service (Amazon EKS) clusters that use the Amazon VPC Container Network Interface (CNI) plugin for Kubernetes. The clusters are in separate subnets within the same VPC and have a Cluster Autoscaler configured.

The security team needs to determine which POD IP addresses are communicating with which services throughout the VPC. The security team wants to limit the number of flow logs and wants to examine the traffic from only the two applications. Which solution will meet these requirements with the LEAST operational overhead?

- A. Create VPC flow logs in the default format
- B. Create a filter to gather flow logs only from the EKS nodes. Include the srcaddr field and the dstaddr field in the flow logs.
- C. Create VPC flow logs in a custom format
- D. Set the EKS nodes as the resource. Include the pkt-srcaddr field and the pkt-dstaddr field in the flow logs.
- E. Create VPC flow logs in a custom format
- F. Set the application subnets as resource
- G. Include the pkt-srcaddr field and the pkt-dstaddr field in the flow logs.
- H. Create VPC flow logs in a custom format
- I. Create a filter to gather flow logs only from the EKS nodes. Include the pkt-srcaddr field and the pkt-dstaddr field in the flow logs.

**Answer: D**

#### NEW QUESTION 10

An organization launched an IPv6-only web portal to support IPv6-native mobile clients. Front-end instances launch in an Amazon VPC associated with an appropriate IPv6 CIDR. The VPC IPv4 CIDR is fully utilized. A single subnet exists in each of two Availability Zones with appropriately configured IPv6 CIDR associations.

Auto Scaling is properly configured, and no Elastic Load Balancing is used.

Customers say the service is unavailable during peak load times. The network engineer attempts to launch an instance manually and receives the following message: "There are not enough free addresses in subnet 'subnet-12345677' to satisfy the requested number of instances."

What action will resolve the availability problem?

- A. Create a new subnet using a VPC secondary IPv6 CIDR, and associate an IPv6 CIDR
- B. Include the new subnet in the Auto Scaling group.
- C. Create a new subnet using a VPC secondary IPv4 CIDR, and associate an IPv6 CIDR
- D. Include the new subnet in the Auto Scaling group.
- E. Resize the IPv6 CIDR on each of the existing subnets
- F. Modify the Auto Scaling group maximum number of instances.
- G. Add a secondary IPv4 CIDR to the Amazon VPC
- H. Assign secondary IPv4 address space to each of the existing subnets.

**Answer: B**

#### NEW QUESTION 10

An ecommerce company is hosting a web application on Amazon EC2 instances to handle continuously changing customer demand. The EC2 instances are part of an Auto Scaling group. The company wants to implement a solution to distribute traffic from customers to the EC2 instances. The company must encrypt all traffic at all stages between the customers and the application servers. No decryption at intermediate points is allowed.

Which solution will meet these requirements?

- A. Create an Application Load Balancer (ALB). Add an HTTPS listener to the ALB
- B. Configure the Auto Scaling group to register instances with the ALB's target group.
- C. Create an Amazon CloudFront distribution
- D. Configure the distribution with a custom SSL/TLS certificate
- E. Set the Auto Scaling group as the distribution's origin.
- F. Create a Network Load Balancer (NLB). Add a TCP listener to the NLB
- G. Configure the Auto Scaling group to register instances with the NLB's target group.
- H. Create a Gateway Load Balancer (GLB). Configure the Auto Scaling group to register instances with the GLB's target group.

**Answer: C**

#### Explanation:

To distribute traffic from customers to EC2 instances in an Auto Scaling group and encrypt all traffic at all stages between the customers and the application servers without decryption at intermediate points, the company should create a Network Load Balancer (NLB) with a TCP listener and configure the Auto Scaling group to register instances with the NLB's target group (Option C). This solution allows for end-to-end encryption of traffic without decryption at intermediate points.

#### NEW QUESTION 14

A network engineer is designing the architecture for a healthcare company's workload that is moving to the AWS Cloud. All data to and from the on-premises

environment must be encrypted in transit. All traffic also must be inspected in the cloud before the traffic is allowed to leave the cloud and travel to the on-premises environment or to the internet.

The company will expose components of the workload to the internet so that patients can reserve appointments. The architecture must secure these components and protect them against DDoS attacks. The architecture also must provide protection against financial liability for services that scale out during a DDoS event. Which combination of steps should the network engineer take to meet all these requirements for the workload? (Choose three.)

- A. Use Traffic Mirroring to copy all traffic to a fleet of traffic capture appliances.
- B. Set up AWS WAF on all network components.
- C. Configure an AWS Lambda function to create Deny rules in security groups to block malicious IP addresses.
- D. Use AWS Direct Connect with MACsec support for connectivity to the cloud.
- E. Use Gateway Load Balancers to insert third-party firewalls for inline traffic inspection.
- F. Configure AWS Shield Advanced and ensure that it is configured on all public assets.

**Answer:** DEF

**Explanation:**

To meet the requirements for the healthcare company's workload that is moving to the AWS Cloud, the network engineer should take the following steps:

- > Use AWS Direct Connect with MACsec support for connectivity to the cloud to ensure that all data to and from the on-premises environment is encrypted in transit (Option D).
- > Use Gateway Load Balancers to insert third-party firewalls for inline traffic inspection to inspect all traffic in the cloud before it is allowed to leave (Option E).
- > Configure AWS Shield Advanced and ensure that it is configured on all public assets to secure components exposed to the internet against DDoS attacks and provide protection against financial liability for services that scale out during a DDoS event (Option F).

These steps will help ensure that all data is encrypted in transit, all traffic is inspected before leaving the cloud, and components exposed to the internet are secured against DDoS attacks.

**NEW QUESTION 17**

A banking company is successfully operating its public mobile banking stack on AWS. The mobile banking stack is deployed in a VPC that includes private subnets and public subnets. The company is using IPv4 networking and has not deployed or supported IPv6 in the environment. The company has decided to adopt a third-party service provider's API and must integrate the API with the existing environment. The service provider's API requires the use of IPv6.

A network engineer must turn on IPv6 connectivity for the existing workload that is deployed in a private subnet. The company does not want to permit IPv6 traffic from the public internet and mandates that the company's servers must initiate all IPv6 connectivity. The network engineer turns on IPv6 in the VPC and in the private subnets.

Which solution will meet these requirements?

- A. Create an internet gateway and a NAT gateway in the VP
- B. Add a route to the existing subnet route tables to point IPv6 traffic to the NAT gateway.
- C. Create an internet gateway and a NAT instance in the VP
- D. Add a route to the existing subnet route tables to point IPv6 traffic to the NAT instance.
- E. Create an egress-only Internet gateway in the VPAdd a route to the existing subnet route tables topointIPv6 traffic to the egress-only internet gateway.
- F. Create an egress-only internet gateway in the VP
- G. Configure a security group that denies all inbound traffi
- H. Associate the security group with the egress-only internet gateway.

**Answer:** C

**NEW QUESTION 19**

A company has deployed an AWS Network Firewall firewall into a VPC. A network engineer needs to implement a solution to deliver Network Firewall flow logs to the company's Amazon OpenSearch Service (Amazon Elasticsearch Service) cluster in the shortest possible time.

Which solution will meet these requirements?

- A. Create an Amazon S3 bucke
- B. Create an AWS Lambda function to load logs into the Amazon OpenSearch Service (Amazon Elasticsearch Service) cluste
- C. Enable Amazon Simple Notification Service (Amazon SNS) notifications on the S3 bucket to invoke the Lambda functio
- D. Configure flow logs for the firewal
- E. Set the S3 bucket as the destination.
- F. Create an Amazon Kinesis Data Firehose delivery stream that includes the Amazon OpenSearch Service (Amazon Elasticsearch Service) cluster as the destinatio
- G. Configure flow logs for the firewall Set the Kinesis Data Firehose delivery stream as the destination for the Network Firewall flow logs.
- H. Configure flow logs for the firewal
- I. Set the Amazon OpenSearch Service (Amazon Elasticsearch Service) cluster as the destination for the Network Firewall flow logs.
- J. Create an Amazon Kinesis data stream that includes the Amazon OpenSearch Service (Amazon Elasticsearch Service) cluster as the destinatio
- K. Configure flow logs for the firewal
- L. Set the Kinesis data stream as the destination for the Network Firewall flow logs.

**Answer:** B

**Explanation:**

<https://aws.amazon.com/blogs/networking-and-content-delivery/how-to-analyze-aws-network-firewall-logs-usin>

**NEW QUESTION 21**

A company is planning to create a service that requires encryption in transit. The traffic must not be decrypted between the client and the backend of the service. The company will implement the service by using the gRPC protocol over TCP port 443. The service will scale up to thousands of simultaneous connections. The backend of the service will be hosted on an Amazon Elastic Kubernetes Service (Amazon EKS) duster with the Kubernetes Cluster Autoscaler and the Horizontal Pod Autoscaler configured. The company needs to use mutual TLS for two-way authentication between the client and the backend.

Which solution will meet these requirements?

- A. Install the AWS Load Balancer Controller for Kubernete
- B. Using that controller, configure a Network Load Balancer with a TCP listener on port 443 to forward traffic to the IP addresses of the backend service Pods.
- C. Install the AWS Load Balancer Controller for Kubernete

- D. Using that controller, configure an Application Load Balancer with an HTTPS listener on port 443 to forward traffic to the IP addresses of the backend service Pods.
- E. Create a target group
- F. Add the EKS managed node group's Auto Scaling group as a target Create an Application Load Balancer with an HTTPS listener on port 443 to forward traffic to the target group.
- G. Create a target group
- H. Add the EKS managed node group's Auto Scaling group as a target
- I. Create a Network Load Balancer with a TLS listener on port 443 to forward traffic to the target group.

**Answer: B**

**Explanation:**

<https://docs.aws.amazon.com/elasticloadbalancing/latest/application/load-balancer-target-groups.html#target-gro>

**NEW QUESTION 24**

A government contractor is designing a multi-account environment with multiple VPCs for a customer. A network security policy requires all traffic between any two VPCs to be transparently inspected by a third-party appliance.

The customer wants a solution that features AWS Transit Gateway. The setup must be highly available across multiple Availability Zones, and the solution needs to support automated failover. Furthermore, asymmetric routing is not supported by the inspection appliances.

Which combination of steps is part of a solution that meets these requirements? (Choose two.)

- A. Deploy two clusters that consist of multiple appliances across multiple Availability Zones in a designated inspection VPC
- B. Connect the inspection VPC to the transit gateway by using a VPC attachment
- C. Create a target group, and register the appliances with the target group
- D. Create a Network Load Balancer (NLB), and set it up to forward to the newly created target group
- E. Configure a default route in the inspection VPCs transit gateway subnet toward the NLB.
- F. Deploy two clusters that consist of multiple appliances across multiple Availability Zones in a designated inspection VPC
- G. Connect the inspection VPC to the transit gateway by using a VPC attachment
- H. Create a target group, and register the appliances with the target group
- I. Create a Gateway Load Balancer, and set it up to forward to the newly created target group
- J. Configure a default route in the inspection VPC's transit gateway subnet toward the Gateway Load Balancer endpoint.
- K. Configure two route tables on the transit gateway
- L. Associate one route table with all the attachments of the application VPC
- M. Associate the other route table with the inspection VPC's attachments
- N. Propagate all VPC attachments into the inspection route table
- O. Define a static default route in the application route table
- P. Enable appliance mode on the attachment that connects the inspection VPC.
- Q. Configure two route tables on the transit gateway
- R. Associate one route table with all the attachments of the application VPC
- S. Associate the other route table with the inspection VPCs attachments
- T. Propagate all VPC attachments into the application route table
- . Define a static default route in the inspection route table
- . Enable appliance mode on the attachment that connects the inspection VPC.
- . Configure one route table on the transit gateway
- . Associate the route table with all the VPC
- . Propagate all VPC attachments into the route table
- . Define a static default route in the route table.

**Answer: BC**

**NEW QUESTION 25**

A company's network engineer is designing an active-passive connection to AWS from two on-premises data centers. The company has set up AWS Direct Connect connections between the on-premises data centers and AWS. From each location, the company is using a transit VIF that connects to a Direct Connect gateway that is associated with a transit gateway.

The network engineer must ensure that traffic from AWS to the data centers is routed first to the primary data center. The traffic should be routed to the failover data center only in the case of an outage.

Which solution will meet these requirements?

- A. Set the BGP community tag for all prefixes from the primary data center to 7224:7100. Set the BGP community tag for all prefixes from the failover data center to 7224:7300
- B. Set the BGP community tag for all prefixes from the primary data center to 7224:7300. Set the BGP community tag for all prefixes from the failover data center to 7224:7100
- C. Set the BGP community tag for all prefixes from the primary data center to 7224:9300. Set the BGP community tag for all prefixes from the failover data center to 7224:9100
- D. Set the BGP community tag for all prefixes from the primary data center to 7224:9100. Set the BGP community tag for all prefixes from the failover data center to 7224:9300

**Answer: B**

**NEW QUESTION 28**

A company delivers applications over the internet. An Amazon Route 53 public hosted zone is the authoritative DNS service for the company and its internet applications, all of which are offered from the same domain name.

A network engineer is working on a new version of one of the applications. All the application's components are hosted in the AWS Cloud. The application has a three-tier design. The front end is delivered through Amazon EC2 instances that are deployed in public subnets with Elastic IP addresses assigned. The backend components are deployed in private subnets from RFC1918.

Components of the application need to be able to access other components of the application within the application's VPC by using the same host names as the host names that are used over the public internet. The network engineer also needs to accommodate future DNS changes, such as the introduction of new host names or the retirement of DNS entries.

Which combination of steps will meet these requirements? (Choose three.)

- A. Add a geoproximity routing policy in Route 53.
- B. Create a Route 53 private hosted zone for the same domain name Associate the application's VPC with the new private hosted zone.
- C. Enable DNS hostnames for the application's VPC.
- D. Create entries in the private hosted zone for each name in the public hosted zone by using the corresponding private IP addresses.
- E. Create an Amazon EventBridge (Amazon CloudWatch Events) rule that runs when AWS CloudTrail logs a Route 53 API call to the public hosted zone.
- F. Create an AWS Lambda function as the target of the rule.
- G. Configure the function to use the event information to update the private hosted zone.
- H. Add the private IP addresses in the existing Route 53 public hosted zone.

**Answer:** BCD

#### NEW QUESTION 30

A network engineer needs to set up an Amazon EC2 Auto Scaling group to run a Linux-based network appliance in a highly available architecture. The network engineer is configuring the new launch template for the Auto Scaling group. In addition to the primary network interface the network appliance requires a second network interface that will be used exclusively by the application to exchange traffic with hosts over the internet. The company has set up a Bring Your Own IP (BYOIP) pool that includes an Elastic IP address that should be used as the public IP address for the second network interface. How can the network engineer implement the required architecture?

- A. Configure the two network interfaces in the launch template.
- B. Define the primary network interface to be created in one of the private subnets.
- C. For the second network interface, select one of the public subnets.
- D. Choose the BYOIP pool ID as the source of public IP addresses.
- E. Configure the primary network interface in a private subnet in the launch template.
- F. Use the user data option to run a cloud-init script after boot to attach the second network interface from a subnet with auto-assign public IP addressing enabled.
- G. Create an AWS Lambda function to run as a lifecycle hook of the Auto Scaling group when an instance is launching.
- H. In the Lambda function, assign a network interface to an AWS Global Accelerator endpoint.
- I. During creation of the Auto Scaling group, select subnets for the primary network interface.
- J. Use the user data option to run a cloud-init script to allocate a second network interface and to associate an Elastic IP address from the BYOIP pool.

**Answer:** D

#### Explanation:

During creation of the Auto Scaling group, select subnets for the primary network interface. Use the user data option to run a cloud-init script to allocate a second network interface and to associate an Elastic IP address from the BYOIP pool. This solution meets all of the requirements stated in the question. The primary network interface can be configured in a private subnet during creation of the Auto Scaling group. The user data option can be used to run a cloud-init script that will allocate a second network interface and associate an Elastic IP address from the BYOIP pool with it.

#### NEW QUESTION 35

All IP addresses within a 10.0.0.0/16 VPC are fully utilized with application servers across two Availability Zones. The application servers need to send frequent UDP probes to a single central authentication server on the Internet to confirm that it is running up-to-date packages. The network is designed for application servers to use a single NAT gateway for internal access. Testing reveals that a few of the servers are unable to communicate with the authentication server.

- A. The NAT gateway does not support UDP traffic.
- B. The authentication server is not accepting traffic.
- C. The NAT gateway cannot allocate more ports.
- D. The NAT gateway is launched in a private subnet.

**Answer:** C

#### Explanation:

Ref: <https://docs.aws.amazon.com/vpc/latest/userguide/vpc-nat-gateway.html>

"A NAT gateway can support up to 55,000 simultaneous connections to each unique destination. This limit also applies if you create approximately 900 connections per second to a single destination (about 55,000 connections per minute). If the destination IP address, the destination port, or the protocol (TCP/UDP/ICMP) changes, you can create an additional 55,000 connections. For more than 55,000 connections, there is an increased chance of connection errors due to port allocation errors. These errors can be monitored by viewing the ErrorPortAllocation CloudWatch metric for your NAT gateway. For more information, see [Monitoring NAT Gateways Using Amazon CloudWatch](#)."

#### NEW QUESTION 37

A Network Engineer is provisioning a subnet for a load balancer that will sit in front of a fleet of application servers in a private subnet. There is limited IP space left in the VPC CIDR. The application has few users now but is expected to grow quickly to millions of users. What design will use the LEAST amount of IP space, while allowing for this growth?

- A. Use two /29 subnets for an Application Load Balancer in different Availability Zones.
- B. Use one /29 subnet for the Network Load Balance.
- C. Add another VPC CIDR to the VPC to allow for future growth.
- D. Use two /28 subnets for a Network Load Balancer in different Availability Zones.
- E. Use one /28 subnet for an Application Load Balance.
- F. Add another VPC CIDR to the VPC to allow for future growth.

**Answer:** C

#### NEW QUESTION 40

A company has an AWS Direct Connect connection between its on-premises data center in the United States (US) and workloads in the us-east-1 Region. The connection uses a transit VIF to connect the data center to a transit gateway in us-east-1. The company is opening a new office in Europe with a new on-premises data center in England. A Direct Connect connection will connect the new data center with some workloads that are running in a single VPC in the eu-west-2 Region. The company needs to connect the US data center and us-east-1 with the Europe data center and eu-west-2. A network engineer must establish full connectivity between the data centers and Regions with the lowest possible latency.

How should the network engineer design the network architecture to meet these requirements?

- A. Connect the VPC in eu-west-2 with the Europe data center by using a Direct Connect gateway and a private VIF
- B. Associate the transit gateway in us-east-1 with the same Direct Connect gateway
- C. Enable SiteLink for the transit VIF and the private VIF.
- D. Connect the VPC in eu-west-2 to a new transit gateway
- E. Connect the Europe data center to the new transit gateway by using a Direct Connect gateway and a new transit VIF
- F. Associate the transit gateway in us-east-1 with the same Direct Connect gateway
- G. Enable SiteLink for both transit VIF
- H. Peer the two transit gateways.
- I. Connect the VPC in eu-west-2 to a new transit gateway
- J. Connect the Europe data center to the new transit gateway by using a Direct Connect gateway and a new transit VIF
- K. Create a new Direct Connect gateway
- L. Associate the transit gateway in us-east-1 with the new Direct Connect gateway
- M. Enable SiteLink for both transit VIF
- N. Peer the two transit gateways.
- O. Connect the VPC in eu-west-2 with the Europe data center by using a Direct Connect gateway and a private VIF
- P. Create a new Direct Connect gateway
- Q. Associate the transit gateway in us-east-1 with the new Direct Connect gateway
- R. Enable SiteLink for the transit VIF and the private VIF.

**Answer: C**

#### NEW QUESTION 43

An AWS CloudFormation template is being used to create a VPC peering connection between two existing operational VPCs, each belonging to a different AWS account. All necessary components in the 'Remote' (receiving) account are already in place.

The template below creates the VPC peering connection in the Originating account. It contains these components:

AWSTemplateFormatVersion: 2010-09-09 Parameters:

OriginatingVPCId: Type: String RemoteVPCId: Type: String

RemoteVPCAccountID: Type: String Resources:

newVPCPeeringConnection:

Type: 'AWS::EC2::VPCPeeringConnection' Properties:

VpcId: !Ref OriginatingVPCId PeerVpcId: !Ref RemoteVPCId PeerOwnerId: !Ref RemoteVPCAccountID

Which additional AWS CloudFormation components are necessary in the Originating account to create an operational cross-account VPC peering connection with AWS CloudFormation? (Select two.)

- A. Resources:NewEC2SecurityGroup:Type: AWS::EC2::SecurityGroup
- B. Resources:NetworkInterfaceToRemoteVPC:Type: "AWS::EC2::NetworkInterface"
- C. Resources:newEC2Route:Type: AWS::EC2::Route
- D. Resources:VPCGatewayToRemoteVPC:Type: "AWS::EC2::VPCGatewayAttachment"
- E. Resources:newVPCPeeringConnection:Type: 'AWS::EC2::VPCPeeringConnection'PeerRoleArn: !Ref PeerRoleArn

**Answer: CE**

#### Explanation:

[https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/AWS\\_EC2.html](https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/AWS_EC2.html)

#### NEW QUESTION 46

A network engineer is designing a hybrid architecture that uses a 1 Gbps AWS Direct Connect connection between the company's data center and two AWS Regions: us-east-1 and eu-west-1. The VPCs in us-east-1 are connected by a transit gateway and need to access several on-premises databases. According to company policy, only one VPC in eu-west-1 can be connected to one on-premises server. The on-premises network segments the traffic between the databases and the server.

How should the network engineer set up the Direct Connect connection to meet these requirements?

- A. Create one hosted connectio
- B. Use a transit VIF to connect to the transit gateway in us-east-1. Use a private VIF to connect to the VPC in eu-west-1. Use one Direc
- C. Connect gateway for both VIFs to route from the Direct Connect locations to the corresponding AWS Region along the path that has the lowest latency.
- D. Create one hosted connectio
- E. Use a transit VIF to connect to the transit gateway in us-east-1. Use a private VIF to connect to the VPC in eu-west-1. Use two Direct Connect gateways, one for each VIF, to route from the Direct Connect locations to the corresponding AWS Region along the path that has the lowest latency.
- F. Create one dedicated connectio
- G. Use a transit VIF to connect to the transit gateway in us-east-1. Use a private VIF to connect to the VPC in eu-west-1. Use one Direct Connect gateway for both VIFs to route from the Direct Connect locations to the corresponding AWS Region along the path that has the lowest latency.
- H. Create one dedicated connectio
- I. Use a transit VIF to connect to the transit gateway in us-east-1. Use a private VIF to connect to the VPC in eu-west-1. Use two Direct Connect gateways, one for each VIF, to route from the Direct Connect locations to the corresponding AWS Region along the path that has the lowest latency.

**Answer: B**

#### Explanation:

This solution meets the requirements of the company by using a single Direct Connect connection with two VIFs, one connected to the transit gateway in us-east-1 and the other connected to the VPC in eu-west-1. Two Direct Connect gateways are used, one for each VIF, to route traffic from the Direct Connect location to the corresponding AWS Region along the path that has the lowest latency. This setup ensures that traffic between the VPCs in us-east-1 and on-premises databases is routed through the transit gateway, while traffic between the VPC in eu-west-1 and the on-premises server is routed directly through the private VIF.

#### NEW QUESTION 48

A bank built a new version of its banking application in AWS using containers that content to an on-premises database over VPN connection. This application version requires users to also update their client application. The bank plans to deprecate the earlier client version. However, the company wants to keep supporting earlier clients through their on-premises version of the application to serve a small portion of the customers who haven't yet upgraded.

What design will allow the company to serve both newer and earlier clients in the MOST efficient way?

- A. Use an Amazon Route 53 multivalue answer routing policy to route older client traffic to the on-premises application version and the rest of the traffic to the new AWS based version.
- B. Use a Classic Load Balancer for the new applicatio
- C. Route all traffic to the new application by using an Elastic Load Balancing (ELB) load balancer DN
- D. Define a user-agent-based rule on the backend servers to redirect earlier clients to the on-premises application.
- E. Use an Application Load Balancer for the new applicatio
- F. Register both the new and earlier applications as separate target groups and use path-based routing to route traffic based on the application version.
- G. Use an Application Load Balancer for the new applicatio
- H. Register both the new and earlier application backends as separate target group
- I. Use header-based routing to route traffic based on the application version.

**Answer: D**

#### **NEW QUESTION 49**

A company is planning a migration of its critical workloads from an on-premises data center to Amazon EC2 instances. The plan includes a new 10 Gbps AWS Direct Connect dedicated connection from the on-premises data center to a VPC that is attached to a transit gateway. The migration must occur over encrypted paths between the on-premises data center and the AWS Cloud.

Which solution will meet these requirements while providing the HIGHEST throughput?

- A. Configure a public VIF on the Direct Connect connectio
- B. Configure an AWS Site-to-Site VPN connection to the transit gateway as a VPN attachment.
- C. Configure a transit VIF on the Direct Connect connectio
- D. Configure an IPsec VPN connection to an EC2 instance that is running third-party VPN software.
- E. Configure MACsec for the Direct Connect connectio
- F. Configure a transit VIF to a Direct Connect gateway that is associated with the transit gateway.
- G. Configure a public VIF on the Direct Connect connectio
- H. Configure two AWS Site-to-Site VPN connections to the transit gatewa
- I. Enable equal-cost multi-path (ECMP) routing.

**Answer: C**

#### **Explanation:**

<https://aws.amazon.com/blogs/networking-and-content-delivery/adding-macsec-security-to-aws-direct-connect-c>

#### **NEW QUESTION 51**

A company hosts a web application on Amazon EC2 instances behind an Application Load Balancer (ALB). The ALB is the origin in an Amazon CloudFront distribution. The company wants to implement a custom authentication system that will provide a token for its authenticated customers.

The web application must ensure that the GET/POST requests come from authenticated customers before it delivers the content. A network engineer must design a solution that gives the web application the ability to identify authorized customers.

What is the MOST operationally efficient solution that meets these requirements?

- A. Use the ALB to inspect the authorized token inside the GET/POST request payloa
- B. Use an AWS Lambda function to insert a customized header to inform the web application of an authenticated customer request.
- C. Integrate AWS WAF with the ALB to inspect the authorized token inside the GET/POST request payloa
- D. Configure the ALB listener to insert a customized header to inform the web application of an authenticated customer request.
- E. Use an AWS Lambda@Edge function to inspect the authorized token inside the GET/POST request payloa
- F. Use the Lambda@Edge function also to insert a customized header to inform the web application of an authenticated customer request.
- G. Set up an EC2 instance that has a third-party packet inspection tool to inspect the authorized token inside the GET/POST request payloa
- H. Configure the tool to insert a customized header to inform the web application of an authenticated customer request.

**Answer: C**

#### **NEW QUESTION 56**

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