



# Amazon-Web-Services

## Exam Questions ANS-C01

AWS Certified Advanced Networking Specialty Exam

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#### NEW QUESTION 1

A company has an AWS Site-to-Site VPN connection between its existing VPC and on-premises network. The default DHCP options set is associated with the VPC. The company has an application that is running on an Amazon Linux 2 Amazon EC2 instance in the VPC. The application must retrieve an Amazon RDS database secret that is stored in AWS Secrets Manager through a private VPC endpoint. An on-premises application provides internal RESTful API service that can be reached by URL (<https://api.example.internal>). Two on-premises Windows DNS servers provide internal DNS resolution. The application on the EC2 instance needs to call the internal API service that is deployed in the on-premises environment. When the application on the EC2 instance attempts to call the internal API service by referring to the hostname that is assigned to the service, the call fails. When a network engineer tests the API service call from the same EC2 instance by using the API service's IP address, the call is successful. What should the network engineer do to resolve this issue and prevent the same problem from affecting other resources in the VPC?

- A. Create a new DHCP options set that specifies the on-premises Windows DNS server
- B. Associate the new DHCP options set with the existing VP
- C. Reboot the Amazon Linux 2 EC2 instance.
- D. Create an Amazon Route 53 Resolver rul
- E. Associate the rule with the VP
- F. Configure the rule to forward DNS queries to the on-premises Windows DNS servers if the domain name matches example.internal.
- G. Modify the local host file in the Amazon Linux 2 EC2 instance in the VPMap the service domain name (api.example.internal) to the IP address of the internal API service.
- H. Modify the local /etc/resolv.conf file in the Amazon Linux 2 EC2 instance in the VP
- I. Change the IP addresses of the name servers in the file to the IP addresses of the company's on-premises Windows DNS servers.

**Answer: B**

#### Explanation:

Creating an Amazon Route 53 Resolver rule and associating it with the VPC would enable forwarding of DNS queries for a specified domain name (example.internal) to a specified IP address (the on-premises Windows DNS servers)<sup>3</sup>. This would allow EC2 instances in the VPC to resolve the internal API service by using its hostname. Configuring the rule to forward DNS queries only if the domain name matches example.internal would also allow EC2 instances to use the Amazon Route 53 Resolver server for other DNS queries, such as those for AWS services through private VPC endpoints<sup>2</sup>.

#### NEW QUESTION 2

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 3

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 i
- 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 4

Your company runs an application for the US market in the us-east-1 AWS region. This application uses proprietary TCP and UDP protocols on Amazon Elastic Compute Cloud (EC2) instances. End users run a

real-time, front-end application on their local PCs. This front-end application knows the DNS hostname of the service.

You must prepare the system for global expansion. The end users must access the application with lowest latency.

How should you use AWS services to meet these requirements?

- A. Register the IP addresses of the service hosts as "A" records with latency-based routing policy in Amazon Route 53, and set a Route 53 health check for these hosts.
- B. Set the Elastic Load Balancing (ELB) load balancer in front of the hosts of the service, and register the ELB name of the main service host as an ALIAS record with a latency-based routing policy in Route 53.
- C. Set Amazon CloudFront in front of the host of the service, and register the CloudFront name of the main service as an ALIAS record in Route 53.
- D. Set the Amazon API gateway in front of the service, and register the API gateway name of the main service as an ALIAS record in Route 53.

Answer: B

#### NEW QUESTION 5

A company has two AWS accounts one for Production and one for Connectivity. A network engineer needs to connect the Production account VPC to a transit gateway in the Connectivity account. The feature to auto accept shared attachments is not enabled on the transit gateway. Which set of steps should the network engineer follow in each AWS account to meet these requirements?

- A. \* 1. In the Production account: Create a resource share in AWS Resource Access Manager for the transit gateway
- B. Provide the Connectivity account ID
- C. Enable the feature to allow external accounts\* 2. In the Connectivity account: Accept the resource.\* 3. In the Connectivity account: Create an attachment to the VPC subnets.\* 4. In the Production account: Accept the attachment
- D. Associate a route table with the attachment.
- E. \* 1. In the Production account: Create a resource share in AWS Resource Access Manager for the VPC subnet
- F. Provide the Connectivity account ID
- G. Enable the feature to allow external accounts.\* 2. In the Connectivity account: Accept the resource.\* 3. In the Production account: Create an attachment on the transit gateway to the VPC subnets.\* 4. In the Connectivity account: Accept the attachment
- H. Associate a route table with the attachment.
- I. \* 1. In the Connectivity account: Create a resource share in AWS Resource Access Manager for the VPC subnet
- J. Provide the Production account ID
- K. Enable the feature to allow external accounts.\* 2. In the Production account: Accept the resource.\* 3. In the Connectivity account: Create an attachment on the transit gateway to the VPC subnets.\* 4. In the Production account: Accept the attachment
- L. Associate a route table with the attachment.
- M. \* 1. In the Connectivity account: Create a resource share in AWS Resource Access Manager for the transit gateway
- N. Provide the Production account ID Enable the feature to allow external accounts.\* 2. In the Production account: Accept the resource.\* 3. In the Production account: Create an attachment to the VPC subnets.\* 4. In the Connectivity account: Accept the attachment
- O. Associate a route table with the attachment.

Answer: A

#### Explanation:

step 1: In the Production account, create a resource share in AWS Resource Access Manager for the transit gateway and provide the Connectivity account ID. Enabling the feature to allow external accounts is also required to share resources between accounts. Step 2: In the Connectivity account, accept the shared resource. This action will allow the Production account to use the transit gateway in the Connectivity account. Step 3: In the Connectivity account, create an attachment to the VPC subnets. This attachment will enable communication between the VPC in the Production account and the transit gateway in the Connectivity account. Step 4: In the Production account, accept the attachment and associate a route table with the attachment. This will enable the VPC to route traffic through the transit gateway to other resources in the Connectivity account.

#### NEW QUESTION 6

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 7

A company is building its website on AWS in a single VPC. The VPC has public subnets and private subnets in two Availability Zones. The website has static content such as images. The company is using Amazon S3 to store the content.

The company has deployed a fleet of Amazon EC2 instances as web servers in a private subnet. The EC2 instances are in an Auto Scaling group behind an Application Load Balancer. The EC2 instances will serve traffic, and they must pull content from an S3 bucket to render the webpages. The company is using AWS Direct Connect with a public VIF for on-premises connectivity to the S3 bucket.

A network engineer notices that traffic between the EC2 instances and Amazon S3 is routing through a NAT gateway. As traffic increases, the company's costs are increasing. The network engineer needs to change the connectivity to reduce the NAT gateway costs that result from the traffic between the EC2 instances and Amazon S3.

Which solution will meet these requirements?

- A. Create a Direct Connect private VIF

- B. Migrate the traffic from the public VIF to the private VIF.
- C. Create an AWS Site-to-Site VPN tunnel over the existing public VIF.
- D. Implement interface VPC endpoints for Amazon S3. Update the VPC route table.
- E. Implement gateway VPC endpoints for Amazon S3. Update the VPC route table.

**Answer:** D

#### NEW QUESTION 8

A global company runs business applications in the us-east-1 Region inside a VPC. One of the company's regional offices in London uses a virtual private gateway for an AWS Site-to-Site VPN connection to the VPC. The company has configured a transit gateway and has set up peering between the VPC and other VPCs that various departments in the company use.

Employees at the London office are experiencing latency issues when they connect to the business applications.

What should a network engineer do to reduce this latency?

- A. Create a new Site-to-Site VPN connection
- B. Set the transit gateway as the target gateway
- C. Enable acceleration on the new Site-to-Site VPN connection
- D. Update the VPN device in the London office with the new connection details.
- E. Modify the existing Site-to-Site VPN connection by setting the transit gateway as the target gateway. Enable acceleration on the existing Site-to-Site VPN connection.
- F. Create a new transit gateway in the eu-west-2 (London) Region
- G. Peer the new transit gateway with the existing transit gateway
- H. Modify the existing Site-to-Site VPN connection by setting the new transit gateway as the target gateway.
- I. Create a new AWS Global Accelerator standard accelerator that has an endpoint of the Site-to-Site VPN connection
- J. Update the VPN device in the London office with the new connection details.

**Answer:** A

#### Explanation:

Enabling acceleration for a Site-to-Site VPN connection uses AWS Global Accelerator to route traffic from the on-premises network to an AWS edge location that is closest to the customer gateway device<sup>1</sup>. AWS Global Accelerator optimizes the network path, using the congestion-free AWS global network to route traffic to the endpoint that provides the best application performance<sup>2</sup>. Setting the transit gateway as the target gateway enables connectivity between the on-premises network and multiple VPCs that are attached to the transit gateway<sup>3</sup>.

#### NEW QUESTION 9

A company is deploying an application. The application is implemented in a series of containers in an Amazon Elastic Container Service (Amazon ECS) cluster. The company will use the Fargate launch type for its tasks. The containers will run workloads that require connectivity initiated over an SSL connection. Traffic must be able to flow to the application from other AWS accounts over private connectivity. The application must scale in a manageable way as more consumers use the application.

Which solution will meet these requirements?

- A. Choose a Gateway Load Balancer (GLB) as the type of load balancer for the ECS service
- B. Create a lifecycle hook to add new tasks to the target group from Amazon ECS as required to handle scaling
- C. Specify the GLB in the service definition
- D. Create a VPC peer for external AWS account
- E. Update the route tables so that the AWS accounts can reach the GLB.
- F. Choose an Application Load Balancer (ALB) as the type of load balancer for the ECS service
- G. Create path-based routing rules to allow the application to target the containers that are registered in the target group
- H. Specify the ALB in the service definition
- I. Create a VPC endpoint service for the ALB. Share the VPC endpoint service with other AWS accounts.
- J. Choose an Application Load Balancer (ALB) as the type of load balancer for the ECS service
- K. Create path-based routing rules to allow the application to target the containers that are registered in the target group
- L. Specify the ALB in the service definition
- M. Create a VPC peer for the external AWS account
- N. Update the route tables so that the AWS accounts can reach the ALB.
- O. Choose a Network Load Balancer (NLB) as the type of load balancer for the ECS service
- P. Specify the NLB in the service definition
- Q. Create a VPC endpoint service for the NLB
- R. Share the VPC endpoint service with other AWS accounts.

**Answer:** D

#### NEW QUESTION 10

A company is using a NAT gateway to allow internet connectivity for private subnets in a VPC in the us-west-2 Region. After a security audit, the company needs to remove the NAT gateway.

In the private subnets, the company has resources that use the unified Amazon CloudWatch agent. A network engineer must create a solution to ensure that the unified CloudWatch agent continues to work after the removal of the NAT gateway.

Which combination of steps should the network engineer take to meet these requirements? (Choose three.)

- A. Validate that private DNS is enabled on the VPC by setting the enableDnsHostnames VPC attribute and the enableDnsSupport VPC attribute to true.
- B. Create a new security group with an entry to allow outbound traffic that uses the TCP protocol on port 443 to destination 0.0.0.0/0
- C. Create a new security group with entries to allow inbound traffic that uses the TCP protocol on port 443 from the IP prefixes of the private subnets.
- D. Create the following interface VPC endpoints in the VPC: com.amazonaws.us-west-2.logs and com.amazonaws.us-west-2.monitoring
- E. Associate the new security group with the endpoint network interfaces.
- F. Create the following interface VPC endpoint in the VPC: com.amazonaws.us-west-2.cloudwatch. Associate the new security group with the endpoint network interfaces.
- G. Associate the VPC endpoint or endpoints with route tables that the private subnets use.

**Answer:** BDF

#### NEW QUESTION 10

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 connection
- E. Connect the new connection to the transit gateway by using a VPN attachment
- F. Update the customer gateway device to use the new Site-to-Site VPN connection
- G. Delete the existing Site-to-Site VPN connection
- H. Create a new accelerated Site-to-Site VPN connection
- I. Connect the new Site-to-Site VPN connection to the existing virtual private gateway
- J. Update the customer gateway device to use the new Site-to-Site VPN connection
- 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 Cloud
- M. Update the customer gateway device to use the new Direct Connect connection
- N. Delete the existing Site-to-Site VPN connection.

**Answer: B**

#### NEW QUESTION 12

A company's development team has created a new product recommendation web service. The web service is hosted in a VPC with a CIDR block of 192.168.224.0/19. The company has deployed the web service on Amazon EC2 instances and has configured an Auto Scaling group as the target of a Network Load Balancer (NLB).

The company wants to perform testing to determine whether users who receive product recommendations spend more money than users who do not receive product recommendations. The company has a big sales event in 5 days and needs to integrate its existing production environment with the recommendation engine by then. The existing production environment is hosted in a VPC with a CIDR block of 192.168.128.0/17.

A network engineer must integrate the systems by designing a solution that results in the least possible disruption to the existing environments.

Which solution will meet these requirements?

- A. Create a VPC peering connection between the web service VPC and the existing production VPC
- B. Add a routing rule to the appropriate route table to allow data to flow to 192.168.224.0/19 from the existing production environment and to flow to 192.168.128.0/17 from the web service environment
- C. Configure the relevant security groups and ACLs to allow the systems to communicate.
- D. Ask the development team of the web service to redeploy the web service into the production VPC and integrate the systems there.
- E. Create a VPC endpoint service
- F. Associate the VPC endpoint service with the NLB for the web service. Create an interface VPC endpoint for the web service in the existing production VPC.
- G. Create a transit gateway in the existing production environment
- H. Create attachments to the production VPC and the web service VPC
- I. Configure appropriate routing rules in the transit gateway and VPC route tables for 192.168.224.0/19 and 192.168.128.0/17. Configure the relevant security groups and ACLs to allow the systems to communicate.

**Answer: C**

#### NEW QUESTION 13

A company hosts an application on Amazon EC2 instances behind an Application Load Balancer (ALB). The company recently experienced a network security breach. A network engineer must collect and analyze logs that include the client IP address, target IP address, target port, and user agent of each user that accesses the application.

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

- A. Configure the ALB to store logs in an Amazon S3 bucket
- B. Download the files from Amazon S3, and use a spreadsheet application to analyze the logs.
- C. Configure the ALB to push logs to Amazon Kinesis Data Stream
- D. Use Amazon Kinesis Data Analytics to analyze the logs.
- E. Configure Amazon Kinesis Data Streams to stream data from the ALB to Amazon OpenSearch Service (Amazon Elasticsearch Service). Use search operations in Amazon OpenSearch Service (Amazon Elasticsearch Service) to analyze the data.
- F. Configure the ALB to store logs in an Amazon S3 bucket
- G. Use Amazon Athena to analyze the logs in Amazon S3.

**Answer: D**

#### Explanation:

The most operationally efficient solution to collect and analyze logs that include the client IP address, target IP address, target port, and user agent of each user that accesses the application would be to configure the ALB to store logs in an Amazon S3 bucket and use Amazon Athena to analyze the logs in Amazon S3 (Option D). This solution allows for quick and easy analysis of log data without requiring manual download or manipulation of log files.

#### NEW QUESTION 15

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 17

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 Region
- B. Create and attach private VIFs to a single Direct Connect gateway
- 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. Remove the existing VPN connections that are attached directly to the virtual private gateways.
- K. Peer all the VPCs in each Region to a new VPC in each Region that will function as a centralized transit VPC
- L. Create new VPN connections from each data center to the transit VPC
- M. Terminate the original VPN connections that are attached to all the original VPC
- N. Retain the new VPN connection to the new transit VPC in each Region.

**Answer:** C

#### NEW QUESTION 20

A company has two on-premises data center locations. There is a company-managed router at each data center. Each data center has a dedicated AWS Direct Connect connection to a Direct Connect gateway through a private virtual interface. The router for the first location is advertising 110 routes to the Direct Connect gateway by using BGP, and the router for the second location is advertising 60 routes to the Direct Connect gateway by using BGP. The Direct Connect gateway is attached to a company VPC through a virtual private gateway.

A network engineer receives reports that resources in the VPC are not reachable from various locations in either data center. The network engineer checks the VPC route table and sees that the routes from the first data center location are not being populated into the route table. The network engineer must resolve this issue in the most operationally efficient manner.

What should the network engineer do to meet these requirements?

- A. Remove the Direct Connect gateway, and create a new private virtual interface from each company router to the virtual private gateway of the VPC.
- B. Change the router configurations to summarize the advertised routes.
- C. Open a support ticket to increase the quota on advertised routes to the VPC route table.
- D. Create an AWS Transit Gateway
- E. Attach the transit gateway to the VPC, and connect the Direct Connect gateway to the transit gateway.

**Answer:** B

#### Explanation:

"If you advertise more than 100 routes each for IPv4 and IPv6 over the BGP session, the BGP session will go into an idle state with the BGP session DOWN." <https://docs.aws.amazon.com/directconnect/latest/UserGuide/limits.html>

#### NEW QUESTION 25

A company has deployed its AWS environment in a single AWS Region. The environment consists of a few hundred application VPCs, a shared services VPC, and a VPN connection to the company's on-premises environment. A network engineer needs to implement a transit gateway with the following requirements:

- Application VPCs must be isolated from each other.
- Bidirectional communication must be allowed between the application VPCs and the on-premises network.
- Bidirectional communication must be allowed between the application VPCs and the shared services VPC. The network engineer creates the transit gateway with options disabled for default route table association and default route table propagation. The network engineer also creates the VPN attachment for the on-premises network and creates the VPC attachments for the application VPCs and the shared services VPC. The network engineer must meet all the requirements for the transit gateway by designing a solution that needs the least number of transit gateway route tables. Which combination of actions should the network engineer perform to accomplish this goal?(Choose two.)

- A. Configure a separate transit gateway route table for on-premise
- B. Associate the VPN attachment with this transit gateway route table
- C. Propagate all application VPC attachments to this transit gateway route table.
- D. Configure a separate transit gateway route table for each application VPC
- E. Associate each application VPC attachment with its respective transit gateway route table
- F. Propagate the shared services VPC attachment and the VPN attachment to this transit gateway route table.
- G. Configure a separate transit gateway route table for all application VPC
- H. Associate all application VPCs with this transit gateway route table
- I. Propagate the shared services VPC attachment and the VPN attachment to this transit gateway route table.
- J. Configure a separate transit gateway route table for the shared services VPC
- K. Associate the shared services VPC attachment with this transit gateway route table
- L. Propagate all application VPC attachments to this transit gateway route table.
- M. Configure a separate transit gateway route table for on-premises and the shared services VPC
- N. Associate the VPN attachment and the shared services VPC attachment with this transit gateway route table
- O. Propagate all application VPC attachments to this transit gateway route table.

**Answer:** BD

#### NEW QUESTION 28

A company has a global network and is using transit gateways to connect AWS Regions together. The company finds that two Amazon EC2 instances in different Regions are unable to communicate with each other. A network engineer needs to troubleshoot this connectivity issue. What should the network engineer do to meet this requirement?

- A. Use AWS Network Manager Route Analyzer to analyze routes in the transit gateway route tables and in the VPC route table
- B. Use VPC flow logs to analyze the IP traffic that security group rules and network ACL rules accept or reject in the VPC.
- C. Use AWS Network Manager Route Analyzer to analyze routes in the transit gateway route tables. Verify that the VPC route tables are correct
- D. Use AWS Firewall Manager to analyze the IP traffic that security group rules and network ACL rules accept or reject in the VPC.
- E. Use AWS Network Manager Route Analyzer to analyze routes in the transit gateway route tables. Verify that the VPC route tables are correct
- F. Use VPC flow logs to analyze the IP traffic that security group rules and network ACL rules accept or reject in the VPC.
- G. Use VPC Reachability Analyzer to analyze routes in the transit gateway route table
- H. Verify that the VPC route tables are correct
- I. Use VPC flow logs to analyze the IP traffic that security group rules and network ACL rules accept or reject in the VPC.

**Answer: C**

#### Explanation:

Using AWS Network Manager Route Analyzer to analyze routes in the transit gateway route tables would enable identification of routing issues between VPCs and transit gateways<sup>1</sup>. Verifying that the VPC route tables are correct would enable identification of routing issues within a VPC. Using VPC flow logs to analyze the IP traffic that security group rules and network ACL rules accept or reject in the VPC would enable identification of traffic filtering issues within a VPC<sup>2</sup>. Additionally, using VPC Reachability Analyzer to analyze routes in the transit gateway route tables would enable identification of routing issues between transit gateways in different Regions. VPC Reachability Analyzer is a configuration analysis tool that enables connectivity testing between a source resource and a destination resource in your VPCs.

#### NEW QUESTION 29

A software company offers a software-as-a-service (SaaS) accounting application that is hosted in the AWS Cloud. The application requires connectivity to the company's on-premises network. The company has two redundant 10 GB AWS Direct Connect connections between AWS and its on-premises network to accommodate the growing demand for the application.

The company already has encryption between its on-premises network and the colocation. The company needs to encrypt traffic between AWS and the edge routers in the colocation within the next few months. The company must maintain its current bandwidth.

What should a network engineer do to meet these requirements with the LEAST operational overhead?

- A. Deploy a new public VIF with encryption on the existing Direct Connect connection
- B. Reroute traffic through the new public VIF.
- C. Create a virtual private gateway. Deploy new AWS Site-to-Site VPN connections from on premises to the virtual private gateway. Reroute traffic from the Direct Connect private VIF to the new VPNs.
- D. Deploy a new pair of 10 GB Direct Connect connections with MACsec
- E. Configure MACsec on the edge router
- F. Reroute traffic to the new Direct Connect connection
- G. Decommission the original Direct Connect connections
- H. Deploy a new pair of 10 GB Direct Connect connections with MACsec
- I. Deploy a new public VIF on the new Direct Connect connection
- J. Deploy two AWS Site-to-Site VPN connections on top of the new public VIF
- K. Reroute traffic from the existing private VIF to the new Site-to-Site connection
- L. Decommission the original Direct Connect connections.

**Answer: C**

#### NEW QUESTION 33

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 36

A company is planning to deploy many software-defined WAN (SD-WAN) sites. The company is using AWS Transit Gateway and has deployed a transit gateway in the required AWS Region. A network engineer needs to deploy the SD-WAN hub virtual appliance into a VPC that is connected to the transit gateway. The solution must support at least 5 Gbps of throughput from the SD-WAN hub virtual appliance to other VPCs that are attached to the transit gateway.

Which solution will meet these requirements?

- A. Create a new VPC for the SD-WAN hub virtual appliance
- B. Create two IPsec VPN connections between the SD-WAN hub virtual appliance and the transit gateway
- C. Configure BGP over the IPsec VPN connections
- D. Assign a new CIDR block to the transit gateway
- E. Create a new VPC for the SD-WAN hub virtual appliance
- F. Attach the new VPC to the transit gateway with a VPC attachment

- G. Add a transit gateway Connect attachmen
- H. Create a Connect peer and specify the GRE and BGP parameter
- I. Create a route in the appropriate VPC for the SD-WAN hub virtual appliance to route to the transit gateway.
- J. Create a new VPC for the SD-WAN hub virtual applianc
- K. Attach the new VPC to the transit gateway with a VPC attachmen
- L. Create two IPsec VPN connections between the SD-WAN hub virtual appliance and the transit gatewa
- M. Configure BGP over the IPsec VPN connections.
- N. Assign a new CIDR block to the transit gatewa
- O. Create a new VPC for the SD-WAN hub virtual applianc
- P. Attach the new VPC to the transit gateway with a VPC attachmen
- Q. Add a transit gateway Connect attachmen
- R. Create a Connect peer and specify the VXLAN and BGP parameter
- S. Create a route in the appropriate VPC for the SD-WAN hub virtual appliance to route to the transit gateway.

**Answer:** D

#### NEW QUESTION 38

An international company provides early warning about tsunamis. The company plans to use IoT devices to monitor sea waves around the world. The data that is collected by the IoT devices must reach the company's infrastructure on AWS as quickly as possible. The company is using three operation centers around the world. Each operation center is connected to AWS through its own AWS Direct Connect connection. Each operation center is connected to the internet through at least two upstream internet service providers.

The company has its own provider-independent (PI) address space. The IoT devices use TCP protocols for reliable transmission of the data they collect. The IoT devices have both landline and mobile internet connectivity. The infrastructure and the solution will be deployed in multiple AWS Regions. The company will use Amazon Route 53 for DNS services.

A network engineer needs to design connectivity between the IoT devices and the services that run in the AWS Cloud.

Which solution will meet these requirements with the HIGHEST availability?

- A. Set up an Amazon CloudFront distribution with origin failover
- B. Create an origin group for each Region where the solution is deployed.
- C. Set up Route 53 latency-based routing
- D. Add latency alias record
- E. For the latency alias records, set the value of Evaluate Target Health to Yes.
- F. Set up an accelerator in AWS Global Accelerator
- G. Configure Regional endpoint groups and health checks.
- H. Set up Bring Your Own IP (BYOIP) addresses
- I. Use the same PI addresses for each Region where the solution is deployed.

**Answer:** B

#### Explanation:

<https://aws.amazon.com/blogs/iot/automate-global-device-provisioning-with-aws-iot-core-and-amazon-route-53>

#### NEW QUESTION 41

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

**Answer:** A

#### NEW QUESTION 44

A company operates its IT services through a multi-site hybrid infrastructure. The company deploys resources on AWS in the us-east-1 Region and in the eu-west-2 Region. The company also deploys resources in its own data centers that are located in the United States (US) and in the United Kingdom (UK). In both AWS Regions, the company uses a transit gateway to connect 15 VPCs to each other. The company has created a transit gateway peering connection between the two transit gateways. The VPC CIDR blocks do not overlap with each other or with IP addresses used within the data centers. The VPC CIDR prefixes can also be aggregated either on a Regional level or for the company's entire AWS environment.

The data centers are connected to each other by a private WAN connection. IP routing information is exchanged dynamically through Interior BGP (iBGP) sessions. The data centers maintain connectivity to AWS through one AWS Direct Connect connection in the US and one Direct Connect connection in the UK. Each Direct Connect connection is terminated on a Direct Connect gateway and is associated with a local transit gateway through a transit VIF.

Traffic follows the shortest geographical path from source to destination. For example, packets from the UK data center that are targeted to resources in eu-west-2 travel across the local Direct Connect connection. In cases of cross-Region data transfers, such as from the UK data center to VPCs in us-east-1, the private WAN connection must be used to minimize costs on AWS. A network engineer has configured each transit gateway association on the Direct Connect gateway to advertise VPC-specific CIDR IP prefixes only from the local Region. The routes toward the other Region must be learned through BGP from the routers in the other

data center in the original, non-aggregated form.

The company recently experienced a problem with cross-Region data transfers because of issues with its private WAN connection. The network engineer needs to modify the routing setup to prevent similar interruptions in the future. The solution cannot modify the original traffic routing goal when the network is operating normally.

Which modifications will meet these requirements? (Choose two.)

- A. Remove all the VPC CIDR prefixes from the list of subnets advertised through the local Direct Connect connectio
- B. Add the company's entire AWS environment aggregate route to the list of subnets advertised through the local Direct Connect connection.
- C. Add the CIDR prefixes from the other Region VPCs and the local VPC CIDR blocks to the list of subnets advertised through the local Direct Connect connectio
- D. Configure data center routers to make routing decisions based on the BGP communities received.
- E. Add the aggregate IP prefix for the other Region and the local VPC CIDR blocks to the list of subnets advertised through the local Direct Connect connection.
- F. Add the aggregate IP prefix for the company's entire AWS environment and the local VPC CIDR blocks to the list of subnets advertised through the local Direct Connect connection.
- G. Remove all the VPC CIDR prefixes from the list of subnets advertised through the local Direct Connect connectio
- H. Add both Regional aggregate IP prefixes to the list of subnets advertised through the Direct Connect connection on both sides of the networ
- I. Configure data center routers to make routing decisions based on the BGP communities received.

**Answer:** AD

#### NEW QUESTION 48

A company deploys a new web application on Amazon EC2 instances. The application runs in private subnets in three Availability Zones behind an Application Load Balancer (ALB). Security auditors require encryption of all connections. The company uses Amazon Route 53 for DNS and uses AWS Certificate Manager (ACM) to automate SSL/TLS certificate provisioning. SSL/TLS connections are terminated on the ALB.

The company tests the application with a single EC2 instance and does not observe any problems. However, after production deployment, users report that they can log in but that they cannot use the application. Every new web request restarts the login process.

What should a network engineer do to resolve this issue?

- A. Modify the ALB listener configuratio
- B. Edit the rule that forwards traffic to the target grou
- C. Change the rule to enable group-level stickines
- D. Set the duration to the maximum application session length.
- E. Replace the ALB with a Network Load Balance
- F. Create a TLS listene
- G. Create a new target group with the protocol type set to TLS Register the EC2 instance
- H. Modify the target group configuration by enabling the stickiness attribute.
- I. Modify the ALB target group configuration by enabling the stickiness attribut
- J. Use an application-based cooki
- K. Set the duration to the maximum application session length.
- L. Remove the AL
- M. Create an Amazon Route 53 rule with a failover routing policy for the application nam
- N. Configure ACM to issue certificates for each EC2 instance.

**Answer:** C

#### NEW QUESTION 53

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 56

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 58

A company wants to improve visibility into its AWS environment. The AWS environment consists of multiple VPCs that are connected to a transit gateway. The transit gateway connects to an on-premises data center through an AWS Direct Connect gateway and a pair of redundant Direct Connect connections that use transit VIFs. The company must receive notification each time a new route is advertised to AWS from on premises over Direct Connect. What should a network engineer do to meet these requirements?

- A. Enable Amazon CloudWatch metrics on Direct Connect to track the received route
- B. Configure a CloudWatch alarm to send notifications when routes change.
- C. Onboard Transit Gateway Network Manager to Amazon CloudWatch Logs Insight
- D. Use Amazon EventBridge (Amazon CloudWatch Events) to send notifications when routes change.
- E. Configure an AWS Lambda function to periodically check the routes on the Direct Connect gateway and to send notifications when routes change.
- F. Enable Amazon CloudWatch Logs on the transit VIFs to track the received route
- G. Create a metric filter Set an alarm on the filter to send notifications when routes change.

**Answer:** B

#### Explanation:

<https://docs.aws.amazon.com/network-manager/latest/cloudwan/cloudwan-cloudwatch-events.html>

To receive notification each time a new route is advertised to AWS from on premises over Direct Connect, a network engineer should onboard Transit Gateway Network Manager to Amazon CloudWatch Logs Insights and use Amazon EventBridge (Amazon CloudWatch Events) to send notifications when routes change (Option B). This solution allows for real-time monitoring of route changes and automatic notification when new routes are advertised.

#### NEW QUESTION 61

A company is deploying a new application on AWS. The application uses dynamic multicasting. The company has five VPCs that are all attached to a transit gateway Amazon EC2 instances in each VPC need to be able to register dynamically to receive a multicast transmission. How should a network engineer configure the AWS resources to meet these requirements?

- A. Create a static source multicast domain within the transit gatewa
- B. Associate the VPCs and applicable subnets with the multicast domai
- C. Register the multicast senders' network interface with the multicast domai
- D. Adjust the network ACLs to allow UDP traffic from the source to all receivers and to allow UDP traffic that is sent to the multicast group address.
- E. Create a static source multicast domain within the transit gatewa
- F. Associate the VPCs and applicable subnets with the multicast domai
- G. Register the multicast senders' network interface with the multicast domai
- H. Adjust the network ACLs to allow TCP traffic from the source to all receivers and to allow TCP traffic that is sent to the multicast group address.
- I. Create an Internet Group Management Protocol (IGMP) multicast domain within the transit gateway. Associate the VPCs and applicable subnets with the multicast domai
- J. Register the multicast senders' network interface with the multicast domai
- K. Adjust the network ACLs to allow UDP traffic from the source to all receivers and to allow UDP traffic that is sent to the multicast group address.
- L. Create an Internet Group Management Protocol (IGMP) multicast domain within the transit gateway. Associate the VPCs and applicable subnets with the multicast domai
- M. Register the multicast senders' network interface with the multicast domai
- N. Adjust the network ACLs to allow TCP traffic from the source to all receivers and to allow TCP traffic that is sent to the multicast group address.

**Answer:** C

#### NEW QUESTION 63

A company's AWS architecture consists of several VPCs. The VPCs include a shared services VPC and several application VPCs. The company has established network connectivity from all VPCs to the on-premises DNS servers.

Applications that are deployed in the application VPCs must be able to resolve DNS for internally hosted domains on premises. The applications also must be able to resolve local VPC domain names and domains that are hosted in Amazon Route 53 private hosted zones.

What should a network engineer do to meet these requirements?

- A. Create a new Route 53 Resolver inbound endpoint in the shared services VP
- B. Create forwarding rules for the on-premises hosted domain
- C. Associate the rules with the new Resolver endpoint and each application VP
- D. Update each application VPC's DHCP configuration to point DNS resolution to the new Resolver endpoint.
- E. Create a new Route 53 Resolver outbound endpoint in the shared services VP
- F. Create forwarding rules for the on-premises hosted domain
- G. Associate the rules with the new Resolver endpoint and each application VPC.
- H. Create a new Route 53 Resolver outbound endpoint in the shared services VPC Create forwarding rules for the on-premises hosted domain
- I. Associate the rules with the new Resolver endpoint and each application VP Update each application VPC's DHCP configuration to point DNS resolution to the new Resolver endpoint.
- J. Create a new Route 53 Resolver inbound endpoint in the shared services VP
- K. Create forwarding rules for the on-premises hosted domain
- L. Associate the rules with the new Resolver endpoint and each application VPC.

**Answer:** B

**Explanation:**

Creating a new Route 53 Resolver outbound endpoint in the shared services VPC would enable forwarding of DNS queries from the VPC to on-premises1. Creating forwarding rules for the on-premises hosted domains would enable specifying which domain names are forwarded to the on-premises DNS servers2. Associating the rules with the new Resolver endpoint and each application VPC would enable applying the rules to the VPCs2. This solution would not affect the default DNS resolution behavior of Route 53 Resolver for local VPC domain names and domains that are hosted in Route 53 private hosted zones3.

**NEW QUESTION 68**

A company is migrating an application from on premises to AWS. The company will host the application on Amazon EC2 instances that are deployed in a single VPC. During the migration period, DNS queries from the EC2 instances must be able to resolve names of on-premises servers. The migration is expected to take 3 months After the 3-month migration period, the resolution of on-premises servers will no longer be needed. What should a network engineer do to meet these requirements with the LEAST amount of configuration?

- A. Set up an AWS Site-to-Site VPN connection between on premises and AW
- B. Deploy an Amazon Route 53 Resolver outbound endpoint in the Region that is hosting the VPC.
- C. Set up an AWS Direct Connect connection with a private VI
- D. Deploy an Amazon Route 53 Resolver inbound endpoint and a Route 53 Resolver outbound endpoint in the Region that is hosting the VPC.
- E. Set up an AWS Client VPN connection between on premises and AW
- F. Deploy an Amazon Route 53 Resolver inbound endpoint in the VPC.
- G. Set up an AWS Direct Connect connection with a public VI
- H. Deploy an Amazon Route 53 Resolver inbound endpoint in the Region that is hosting the VP
- I. Use the IP address that is assigned to the endpoint for connectivity to the on-premises DNS servers.

**Answer:** A

**Explanation:**

Setting up an AWS Site-to-Site VPN connection between on premises and AWS would enable a secure and encrypted connection over the public internet1. Deploying an Amazon Route 53 Resolver outbound endpoint in the Region that is hosting the VPC would enable forwarding of DNS queries for on-premises servers to the on-premises DNS servers2. This would allow EC2 instances in the VPC to resolve names of on-premises servers during the migration period. After the migration period, the Route 53 Resolver outbound endpoint can be deleted with minimal configuration changes.

**NEW QUESTION 72**

A company has several production applications across different accounts in the AWS Cloud. The company operates from the us-east-1 Region only. Only certain partner companies can access the applications. The applications are running on Amazon EC2 instances that are in an Auto Scaling group behind an Application Load Balancer (ALB). The EC2 instances are in private subnets and allow traffic only from the ALB. The ALB is in a public subnet and allows inbound traffic only from partner network IP address ranges over port 80.

When the company adds a new partner, the company must allow the IP address range of the partner network in the security group that is associated with the ALB in each account. A network engineer must implement a solution to centrally manage the partner network IP address ranges. Which solution will meet these requirements in the MOST operationally efficient manner?

- A. Create an Amazon DynamoDB table to maintain all IP address ranges and security groups that need to be update
- B. Update the DynamoDB table with the new IP address range when the company adds a new partne
- C. Invoke an AWS Lambda function to read new IP address ranges and security groups from the DynamoDB table to update the security group
- D. Deploy this solution in all accounts.
- E. Create a new prefix lis
- F. Add all allowed IP address ranges to the prefix lis
- G. Use Amazon EventBridge (Amazon CloudWatch Events) rules to invoke an AWS Lambda function to update security groups whenever a new IP address range is added to the prefix lis
- H. Deploy this solution in all accounts.
- I. Create a new prefix lis
- J. Add all allowed IP address ranges to the prefix lis
- K. Share the prefix list across different accounts by using AWS Resource Access Manager (AWS RAM). Update security groups to use the prefix list instead of the partner IP address rang
- L. Update the prefix list with the new IP address range when the company adds a new partner.
- M. Create an Amazon S3 bucket to maintain all IP address ranges and security groups that need to be update
- N. Update the S3 bucket with the new IP address range when the company adds a new partne
- O. Invoke an AWS Lambda function to read new IP address ranges and security groups from the S3 bucket to update the security group
- P. Deploy this solution in all accounts.

**Answer:** C

**Explanation:**

Creating a new prefix list and adding all allowed IP address ranges to the prefix list would enable grouping of CIDR blocks that can be referenced in security group rules3. Sharing the prefix list across different accounts by using AWS Resource Access Manager (AWS RAM)would enable central management of the partner network IP address ranges5. Updating security groups to use the prefix list instead of the partner IP address range would enable simplification of security group rules3. Updating the prefix list with the new IP address range when the company adds a new partner would enable automatic propagation of the changes to all security groups that use the prefix list3.

**NEW QUESTION 76**

A company uses a hybrid architecture and has an AWS Direct Connect connection between its on-premises data center and AWS. The company has production applications that run in the on-premises data center. The company also has production applications that run in a VPC. The applications that run in the on-premises data center need to communicate with the applications that run in the VPC. The company is using corp.example.com as the domain name for the on-premises resources and is using an Amazon Route 53 private hosted zone for aws.example.com to host the VPC resources.

The company is using an open-source recursive DNS resolver in a VPC subnet and is using a DNS resolver in the on-premises data center. The company's on-premises DNS resolver has a forwarder that directs requests for the aws.example.com domain name to the DNS resolver in the VPC. The DNS resolver in the VPC has a forwarder that directs requests for the corp.example.com domain name to the DNS resolver in the on-premises data center. The company has deekled to replace the open-source recursive DNS resolver with Amazon Route 53 Resolver endpoints.

Which combination of steps should a network engineer take to make this replacement? (Choose three.)

- A. Create a Route 53 Resolver rule to forward aws.example.com domain queries to the IP addresses of the outbound endpoint.
- B. Configure the on-premises DNS resolver to forward aws.example.com domain queries to the IP addresses of the inbound endpoint.

- C. Create a Route 53 Resolver inbound endpoint and a Route 53 Resolver outbound endpoint.
- D. Create a Route 53 Resolver rule to forward aws.example.com domain queries to the IP addresses of the inbound endpoint.
- E. Create a Route 53 Resolver rule to forward corp.example.com domain queries to the IP address of the on-premises DNS resolver.
- F. Configure the on-premises DNS resolver to forward aws.example.com queries to the IP addresses of the outbound endpoint.

**Answer:** BCE

**Explanation:**

To replace the open-source recursive DNS resolver with Amazon Route 53 Resolver endpoints in a hybrid architecture where on-premises applications need to communicate with applications running in a VPC, a network engineer should take the following steps:

- Create a Route 53 Resolver inbound endpoint and a Route 53 Resolver outbound endpoint. (Option C)
- Configure the on-premises DNS resolver to forward aws.example.com domain queries to the IP addresses of the inbound endpoint. (Option B)
- Create a Route 53 Resolver rule to forward corp.example.com domain queries to the IP address of the on-premises DNS resolver. (Option E)

These steps will allow for seamless replacement of the open-source recursive DNS resolver with Amazon Route 53 Resolver endpoints and enable communication between on-premises and VPC applications.

**NEW QUESTION 80**

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 forma
- 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 forma
- 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 forma
- 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 forma
- 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 85**

A company is hosting an application on Amazon EC2 instances behind a Network Load Balancer (NLB). A solutions architect added EC2 instances in a second Availability Zone to improve the availability of the application. The solutions architect added the instances to the NLB target group.

The company's operations team notices that traffic is being routed only to the instances in the first Availability Zone.

What is the MOST operationally efficient solution to resolve this issue?

- A. Enable the new Availability Zone on the NLB
- B. Create a new NLB for the instances in the second Availability Zone
- C. Enable proxy protocol on the NLB
- D. Create a new target group with the instances in both Availability Zones

**Answer:** A

**Explanation:**

When adding instances in a new Availability Zone to an existing Network Load Balancer (NLB), it is important to ensure that the new Availability Zone is enabled on the NLB. This will allow traffic to be routed to instances in both Availability Zones. This can be done by editing the settings of the NLB and selecting the new Availability Zone from the list of available zones.

**NEW QUESTION 89**

A company recently migrated its Amazon EC2 instances to VPC private subnets to satisfy a security compliance requirement. The EC2 instances now use a NAT gateway for internet access. After the migration, some long-running database queries from private EC2 instances to a publicly accessible third-party database no longer receive responses. The database query logs reveal that the queries successfully completed after 7 minutes but that the client EC2 instances never received the response.

Which configuration change should a network engineer implement to resolve this issue?

- A. Configure the NAT gateway timeout to allow connections for up to 600 seconds.
- B. Enable enhanced networking on the client EC2 instances.
- C. Enable TCP keepalive on the client EC2 instances with a value of less than 300 seconds.
- D. Close idle TCP connections through the NAT gateway.

**Answer:** C

**Explanation:**

When a TCP connection is idle for a long time, it may be terminated by network devices, including the NAT gateway. By enabling TCP keepalive, the client EC2 instances can periodically send packets to the third-party database to indicate that the connection is still active, preventing it from being terminated prematurely.

**NEW QUESTION 94**

A retail company is running its service on AWS. The company's architecture includes Application Load Balancers (ALBs) in public subnets. The ALB target groups are configured to send traffic to backend Amazon EC2 instances in private subnets. These backend EC2 instances can call externally hosted services over the internet by using a NAT gateway.

The company has noticed in its billing that NAT gateway usage has increased significantly. A network engineer needs to find out the source of this increased

usage.

Which options can the network engineer use to investigate the traffic through the NAT gateway? (Choose two.)

- A. Enable VPC flow logs on the NAT gateway's elastic network interface
- B. Publish the logs to a log group in Amazon CloudWatch Log
- C. Use CloudWatch Logs Insights to query and analyze the logs.
- D. Enable NAT gateway access log
- E. Publish the logs to a log group in Amazon CloudWatch Log
- F. Use CloudWatch Logs Insights to query and analyze the logs.
- G. Configure Traffic Mirroring on the NAT gateway's elastic network interface
- H. Send the traffic to an additional EC2 instance
- I. Use tools such as tcpdump and Wireshark to query and analyze the mirrored traffic.
- J. Enable VPC flow logs on the NAT gateway's elastic network interface
- K. Publish the logs to an Amazon S3 bucket
- L. Create a custom table for the S3 bucket in Amazon Athena to describe the log structure
- M. Use Athena to query and analyze the logs.
- N. Enable NAT gateway access log
- O. Publish the logs to an Amazon S3 bucket
- P. Create a custom table for the S3 bucket in Amazon Athena to describe the log structure
- Q. Use Athena to query and analyze the logs.

**Answer:** AD

**Explanation:**

To investigate the increased usage of a NAT gateway in a VPC architecture with ALBs and backend EC2 instances, a network engineer can use the following options:

➤ Enable VPC flow logs on the NAT gateway's elastic network interface and publish the logs to a log group in Amazon CloudWatch Logs. Use CloudWatch Logs Insights to query and analyze the logs.

(Option A)

➤ Enable VPC flow logs on the NAT gateway's elastic network interface and publish the logs to an Amazon S3 bucket. Create a custom table for the S3 bucket in Amazon Athena to describe the log structure and use Athena to query and analyze the logs. (Option D)

These options allow for detailed analysis of traffic through the NAT gateway to identify the source of increased usage.

**NEW QUESTION 98**

A network engineer has deployed an Amazon EC2 instance in a private subnet in a VPC. The VPC has no public subnet. The EC2 instance hosts application code that sends messages to an Amazon Simple Queue Service (Amazon SQS) queue. The subnet has the default network ACL with no modification applied. The EC2 instance has the default security group with no modification applied.

The SQS queue is not receiving messages.

Which of the following are possible causes of this problem? (Choose two.)

- A. The EC2 instance is not attached to an IAM role that allows write operations to Amazon SQS.
- B. The security group is blocking traffic to the IP address range used by Amazon SQS
- C. There is no interface VPC endpoint configured for Amazon SQS
- D. The network ACL is blocking return traffic from Amazon SQS
- E. There is no route configured in the subnet route table for the IP address range used by Amazon SQS

**Answer:** CE

**NEW QUESTION 101**

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 VPC's 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 VPC's 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 tabl
- . Define a static default route in the route table.

**Answer:** BC

#### NEW QUESTION 104

A company is migrating an existing application to a new AWS account. The company will deploy the application in a single AWS Region by using one VPC and multiple Availability Zones. The application will run on Amazon EC2 instances. Each Availability Zone will have several EC2 instances. The EC2 instances will be deployed in private subnets.

The company's clients will connect to the application by using a web browser with the HTTPS protocol. Inbound connections must be distributed across the Availability Zones and EC2 instances. All connections from the same client session must be connected to the same EC2 instance. The company must provide end-to-end encryption for all connections between the clients and the application by using the application SSL certificate.

Which solution will meet these requirements?

- A. Create a Network Load Balance
- B. Create a target grou
- C. Set the protocol to TCP and the port to 443 for the target grou
- D. Turn on session affinity (sticky sessions). Register the EC2 instances as target
- E. Create a listene
- F. Set the protocol to TCP and the port to 443 for the listene
- G. Deploy SSL certificates to the EC2 instances.
- H. Create an Application Load Balance
- I. Create a target grou
- J. Set the protocol to HTTP and the port to 80 for the target grou
- K. Turn on session affinity (sticky sessions) with an application-based cookie polic
- L. Register the EC2 instances as target
- M. Create an HTTPS listene
- N. Set the default action to forward to the target grou
- O. Use AWS Certificate Manager (ACM) to create a certificatefor the listener.
- P. Create a Network Load Balance
- Q. Create a target grou
- R. Set the protocol to TLS and the port to 443 for the target grou
- S. Turn on session affinity (sticky sessions). Register the EC2 instances as target
- T. Create a listene
- . Set the protocol to TLS and the port to 443 for the listene
- . Use AWS Certificate Manager (ACM) to create a certificate for the application.
- . Create an Application Load Balance
- . Create a target grou
- . Set the protocol to HTTPS and the port to 443 for the target grou
- . Turn on session affinity (sticky sessions) with an application-based cookie polic
- . Register the EC2 instances as target
- . Create an HTTP listene
- . Set the port to 443 for the listene
- . Set the default action to forward to the target group.

**Answer:** A

#### NEW QUESTION 109

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