

## ANS-C01 Dumps

### AWS Certified Advanced Networking Specialty Exam

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**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 company has deployed a software-defined WAN (SD-WAN) solution to interconnect all of its offices. The company is migrating workloads to AWS and needs to extend its SD-WAN solution to support connectivity to these workloads.

A network engineer plans to deploy AWS Transit Gateway Connect and two SD-WAN virtual appliances to provide this connectivity. According to company policies, only a single SD-WAN virtual appliance can handle traffic from AWS workloads at a given time.

How should the network engineer configure routing to meet these requirements?

- A. Add a static default route in the transit gateway route table to point to the secondary SD-WAN virtual appliance
- B. Add routes that are more specific to point to the primary SD-WAN virtual appliance.
- C. Configure the BGP community tag 7224:7300 on the primary SD-WAN virtual appliance for BGP routes toward the transit gateway.
- D. Configure the AS\_PATH prepend attribute on the secondary SD-WAN virtual appliance for BGP routes toward the transit gateway.
- E. Disable equal-cost multi-path (ECMP) routing on the transit gateway for Transit Gateway Connect.

**Answer: A**

**NEW QUESTION 3**

A company has deployed an application in a VPC that uses a NAT gateway for outbound traffic to the internet. A network engineer notices a large quantity of suspicious network traffic that is traveling from the VPC over the internet to IP addresses that are included on a deny list. The network engineer must implement a solution to determine which AWS resources are generating the suspicious traffic. The solution must minimize cost and administrative overhead.

Which solution will meet these requirements?

- A. Launch an Amazon EC2 instance in the VPC
- B. Use Traffic Mirroring by specifying the NAT gateway as the source and the EC2 instance as the destination
- C. Analyze the captured traffic by using open-source tools to identify the AWS resources that are generating the suspicious traffic.
- D. Use VPC flow log
- E. Launch a security information and event management (SIEM) solution in the VPC
- F. Configure the SIEM solution to ingest the VPC flow log
- G. Run queries on the SIEM solution to identify the AWS resources that are generating the suspicious traffic.
- H. Use VPC flow log
- I. Publish the flow logs to a log group in Amazon CloudWatch Log
- J. Use CloudWatch Logs Insights to query the flow logs to identify the AWS resources that are generating the suspicious traffic.
- K. Configure the VPC to stream the network traffic directly to an Amazon Kinesis data stream
- L. Send the data from the Kinesis data stream to an Amazon Kinesis Data Firehose delivery stream to store the data in Amazon S3. Use Amazon Athena to query the data to identify the AWS resources that are generating the suspicious traffic.

**Answer: C**

**NEW QUESTION 4**

An IoT company sells hardware sensor modules that periodically send out temperature, humidity, pressure, and location data through the MQTT messaging protocol. The hardware sensor modules send this data to the company's on-premises MQTT brokers that run on Linux servers behind a load balancer. The hardware sensor modules have been hardcoded with public IP addresses to reach the brokers.

The company is growing and is acquiring customers across the world. The existing solution can no longer scale and is introducing additional latency because of the company's global presence. As a result, the company decides to migrate its entire infrastructure from on premises to the AWS Cloud. The company needs to migrate without reconfiguring the hardware sensor modules that are already deployed across the world. The solution also must minimize latency.

The company migrates the MQTT brokers to run on Amazon EC2 instances. What should the company do next to meet these requirements?

- A. Place the EC2 instances behind a Network Load Balancer (NLB). Configure TCP listener

- B. Use Bring Your Own IP (BYOIP) from the on-premises network with the NLB.
- C. Place the EC2 instances behind a Network Load Balancer (NLB). Configure TCP listener
- D. Create an AWS Global Accelerator accelerator in front of the NLB
- E. Use Bring Your Own IP (BYOIP) from the on-premises network with Global Accelerator.
- F. Place the EC2 instances behind an Application Load Balancer (ALB). Configure TCP listener
- G. Create an AWS Global Accelerator accelerator in front of the ALB
- H. Use Bring Your Own IP (BYOIP) from the on-premises network with Global Accelerator
- I. Place the EC2 instances behind an Amazon CloudFront distributio
- J. Use Bring Your Own IP (BYOIP) from the on-premises network with CloudFront.

**Answer: B**

#### NEW QUESTION 5

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 6

A global delivery company is modernizing its fleet management system. The company has several business units. Each business unit designs and maintains applications that are hosted in its own AWS account in separate application VPCs in the same AWS Region. Each business unit's applications are designed to get data from a central shared services VPC.

The company wants the network connectivity architecture to provide granular security controls. The architecture also must be able to scale as more business units consume data from the central shared services VPC in the future.

Which solution will meet these requirements in the MOST secure manner?

- A. Create a central transit gatewa
- B. Create a VPC attachment to each application VP
- C. Provide full mesh connectivity between all the VPCs by using the transit gateway.
- D. Create VPC peering connections between the central shared services VPC and each application VPC in each business unit's AWS account.
- E. Create VPC endpoint services powered by AWS PrivateLink in the central shared services VPC
- F. Create VPC endpoints in each application VPC.
- G. Create a central transit VPC with a VPN appliance from AWS Marketplac
- H. Create a VPN attachment from each VPC to the transit VP
- I. Provide full mesh connectivity among all the VPCs.

**Answer: C**

#### Explanation:

Option C provides a secure and scalable solution using VPC endpoint services powered by AWS PrivateLink. AWS PrivateLink enables private connectivity between VPCs and services without exposing the data to the public internet or using a VPN connection. By creating VPC endpoints in each application VPC, the company can securely access the central shared services VPC without the need for complex network configurations. Furthermore, PrivateLink supports cross-account connectivity, which makes it a scalable solution as more business units consume data from the central shared services VPC in the future.

#### NEW QUESTION 7

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 8

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 9

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 10

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 10

An Australian ecommerce company hosts all of its services in the AWS Cloud and wants to expand its customer base to the United States (US). The company is targeting the western US for the expansion.

The company's existing AWS architecture consists of four AWS accounts with multiple VPCs deployed in the ap-southeast-2 Region. All VPCs are attached to a transit gateway in ap-southeast-2. There are dedicated VPCs for each application service. The company also has VPCs for centralized security features such as proxies, firewalls, and logging.

The company plans to duplicate the infrastructure from ap-southeast-2 to the us-west-1 Region. A network engineer must establish connectivity between the various applications in the two Regions. The solution must maximize bandwidth, minimize latency and minimize operational overhead.

Which solution will meet these requirements?



- A. Create VPN attachments between the two transit gateway
- B. Configure the VPN attachments to use BGP routing between the two transit gateways.
- C. Peer the transit gateways in each Region
- D. Configure routing between the two transit gateways for each Region's IP addresses.
- E. Create a VPN server in a VPC in each Region
- F. Update the routing to point to the VPN servers for the IP addresses in alternate Regions.
- G. Attach the VPCs in us-west-1 to the transit gateway in ap-southeast-2.

**Answer: B**

**Explanation:**

Peering the transit gateways in each region would establish a private network connection between the two regions, allowing the company to route traffic between the VPCs in different regions without going over the public internet. This would help minimize latency and maximize bandwidth while reducing the operational overhead of managing multiple VPN connections.

**NEW QUESTION 14**

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 to point IPv6 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 traffic
- H. Associate the security group with the egress-only internet gateway.

**Answer: C**

**NEW QUESTION 16**

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 21**

A company has multiple AWS accounts. Each account contains one or more VPCs. A new security guideline requires the inspection of all traffic between VPCs. The company has deployed a transit gateway that provides connectivity between all VPCs. The company also has deployed a shared services VPC with Amazon EC2 instances that include IDS services for stateful inspection. The EC2 instances are deployed across three Availability Zones. The company has set up VPC associations and routing on the transit gateway. The company has migrated a few test VPCs to the new solution for traffic inspection.

Soon after the configuration of routing, the company receives reports of intermittent connections for traffic that crosses Availability Zones.

What should a network engineer do to resolve this issue?

- A. Modify the transit gateway VPC attachment on the shared services VPC by enabling cross-Availability Zone load balancing.
- B. Modify the transit gateway VPC attachment on the shared services VPC by enabling appliance mode support.
- C. Modify the transit gateway by selecting VPN equal-cost multi-path (ECMP) routing support.
- D. Modify the transit gateway by selecting multicast support.

**Answer: B**

**Explanation:**

To resolve the issue of intermittent connections for traffic that crosses Availability Zones after configuring routing for traffic inspection between VPCs using a transit gateway and EC2 instances with IDS services in a shared services VPC, a network engineer should modify the transit gateway VPC attachment on the shared services VPC by enabling appliance mode support (Option B). This will ensure that traffic is routed to the same EC2 instance for stateful inspection and prevent intermittent connections.

**NEW QUESTION 26**

An IoT company sells hardware sensor modules that periodically send out temperature, humidity, pressure, and location data through the MQTT messaging protocol. The hardware sensor modules send this data to the company's on-premises MQTT brokers that run on Linux servers behind a load balancer. The hardware sensor modules have been hardcoded with public IP addresses to reach the brokers.

The company is growing and is acquiring customers across the world. The existing solution can no longer scale and is introducing additional latency because of the company's global presence. As a result, the company decides to migrate its entire infrastructure from on premises to the AWS Cloud. The company needs to migrate without reconfiguring the hardware sensor modules that are already deployed across the world. The solution also must minimize latency. The company migrates the MQTT brokers to run on Amazon EC2 instances. What should the company do next to meet these requirements?

- A. Place the EC2 instances behind a Network Load Balancer (NLB). Configure TCP listener
- B. Use Bring Your Own IP (BYOIP) from the on-premises network with the NLB.
- C. Place the EC2 instances behind a Network Load Balancer (NLB). Configure TCP listener
- D. Create an AWS Global Accelerator accelerator in front of the NLB. Use Bring Your Own IP (BYOIP) from the on-premises network with Global Accelerator.
- E. Place the EC2 instances behind an Application Load Balancer (ALB). Configure TCP listener
- F. Create an AWS Global Accelerator accelerator in front of the ALB
- G. Use Bring Your Own IP (BYOIP) from the on-premises network with Global Accelerator
- H. Place the EC2 instances behind an Amazon CloudFront distribution
- I. Use Bring Your Own IP (BYOIP) from the on-premises network with CloudFront.

**Answer: B**

**NEW QUESTION 29**

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 34**

A company uses AWS Direct Connect to connect its corporate network to multiple VPCs in the same AWS account and the same AWS Region. Each VPC uses its own private VIF and its own virtual LAN on the Direct Connect connection. The company has grown and will soon surpass the limit of VPCs and private VIFs for each connection.

What is the MOST scalable way to add VPCs with on-premises connectivity?

- A. Provision a new Direct Connect connection to handle the additional VPC
- B. Use the new connection to connect additional VPCs.
- C. Create virtual private gateways for each VPC that is over the service quota
- D. Use AWS Site-to-Site VPN to connect the virtual private gateways to the corporate network.
- E. Create a Direct Connect gateway, and add virtual private gateway associations to the VPC
- F. Configure a private VIF to connect to the corporate network.
- G. Create a transit gateway, and attach the VPC
- H. Create a Direct Connect gateway, and associate it with the transit gateway
- I. Create a transit VIF to the Direct Connect gateway.

**Answer: D**

**Explanation:**

When a company requires connectivity to multiple VPCs over AWS Direct Connect, a scalable solution is to use a transit gateway. A transit gateway is a hub that can interconnect multiple VPCs and VPN connections. The VPCs can communicate with each other over the transit gateway, and on-premises networks can communicate with the VPCs through the Direct Connect gateway. This solution provides a central point of management and simplifies the configuration of network routing. By associating the Direct Connect gateway with the transit gateway, traffic between the VPCs and the on-premises network can be routed through the Direct Connect connection.

**NEW QUESTION 39**

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 decided 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 42**

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 table
- . Define a static default route in the route table.

**Answer:** BC

**NEW QUESTION 45**

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 47

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 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 48

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:

AWSTemplateFormation Version: 2010-09-09 Parameters:

Originating VPCId: 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 50

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 55

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 58**

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.monitorin
- 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 59**

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 62**

Your security team implements a host-based firewall on all of your Amazon Elastic Compute Cloud (EC2) instances to block all outgoing traffic. Exceptions must be requested for each specific requirement. Until you request a new rule, you cannot access the instance metadata service. Which firewall rule should you request to be added to your instances to allow instance metadata access?

- A. Inbound; Protocol tcp; Source [Instance's EIP]; Destination 169.254.169.254
- B. Inbound; Protocol tcp; Destination 169.254.169.254; Destination port 80
- C. Outbound; Protocol tcp; Destination 169.254.169.254; Destination port 80
- D. Outbound; Protocol tcp; Destination 169.254.169.254; Destination port 443

**Answer:** C

**Explanation:**

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/instancedata-data-retrieval.html>

To view all categories of instance metadata from within a running instance, use the following URI.

<http://169.254.169.254/latest/meta-data/>

**NEW QUESTION 67**

Your organization has a newly installed 1-Gbps AWS Direct Connect connection. You order the cross-connect from the Direct Connect location provider to the port on your router in the same facility. To enable the use of your first virtual interface, your router must be configured appropriately.

What are the minimum requirements for your router?

- A. 1-Gbps Multi Mode Fiber Interface, 802.1Q VLAN, Peer IP Address, BGP Session with MD5.
- B. 1-Gbps Single Mode Fiber Interface, 802.1Q VLAN, Peer IP Address, BGP Session with MD5.
- C. IPsec Parameters, Pre-Shared key, Peer IP Address, BGP Session with MD5
- D. BGP Session with MD5, 802.1Q VLAN, Route-Map, Prefix List, IPsec encrypted GRE Tunnel

**Answer:** B

**NEW QUESTION 70**

A company has expanded its network to the AWS Cloud by using a hybrid architecture with multiple AWS accounts. The company has set up a shared AWS account for the connection to its on-premises data centers and the company offices. The workloads consist of private web-based services for internal use. These services run in different AWS accounts. Office-based employees consume these services by using a DNS name in an on-premises DNS zone that is named example.internal.

The process to register a new service that runs on AWS requires a manual and complicated change request to the internal DNS. The process involves many teams.

The company wants to update the DNS registration process by giving the service creators access that will allow them to register their DNS records. A network engineer must design a solution that will achieve this goal. The solution must maximize cost-effectiveness and must require the least possible number of configuration changes.

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

- A. Create a record for each service in its local private hosted zone (serviceA.account1.aws.example.internal). Provide this DNS record to the employees who need access.
- B. Create an Amazon Route 53 Resolver inbound endpoint in the shared account VPC
- C. Create a conditional forwarder for a domain named aws.example.internal on the on-premises DNS server
- D. Set the forwarding IP addresses to the inbound endpoint's IP addresses that were created.
- E. Create an Amazon Route 53 Resolver rule to forward any queries made to onprem.example.internal to the on-premises DNS servers.
- F. Create an Amazon Route 53 private hosted zone named aws.example.internal in the shared AWS account to resolve queries for this domain.
- G. Launch two Amazon EC2 instances in the shared AWS account
- H. Install BIND on each instance
- I. Create a DNS conditional forwarder on each BIND server to forward queries for each subdomain under aws.example.internal to the appropriate private hosted zone in each AWS account
- J. Create a conditional forwarder for a domain named aws.example.internal on the on-premises DNS server
- K. Set the forwarding IP addresses to the IP addresses of the BIND servers.
- L. Create a private hosted zone in the shared AWS account for each account that runs the service. Configure the private hosted zone to contain aws.example.internal in the domain (account1.aws.example.internal). Associate the private hosted zone with the VPC that runs the service and the shared account VPC.

**Answer:** ABD

**Explanation:**

To meet the requirements of updating the DNS registration process while maximizing cost-effectiveness and minimizing configuration changes, the network engineer should take the following steps:

- Create an Amazon Route 53 Resolver inbound endpoint in the shared account VPC. Create a conditional forwarder for a domain named aws.example.internal on the on-premises DNS servers. Set the forwarding IP addresses to the inbound endpoint's IP addresses that were created (Option B).
- Create an Amazon Route 53 private hosted zone named aws.example.internal in the shared AWS account to resolve queries for this domain (Option D).
- Create a record for each service in its local private hosted zone (serviceA.account1.aws.example.internal). Provide this DNS record to the employees who need access (Option A).

These steps will allow service creators to register their DNS records while keeping costs low and minimizing configuration changes.

**NEW QUESTION 71**

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 connection
- 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 connection
- 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 connection
- H. Add both Regional aggregate IP prefixes to the list of subnets advertised through the Direct Connect connection on both sides of the network
- I. Configure data center routers to make routing decisions based on the BGP communities received.

**Answer:** AD

**NEW QUESTION 74**

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