

## Exam Questions ANS-C01

AWS Certified Advanced Networking Specialty Exam

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#### NEW QUESTION 1

A company has deployed a web application on AWS. The web application uses an Application Load Balancer (ALB) across multiple Availability Zones. The targets of the ALB are AWS Lambda functions. The web application also uses Amazon CloudWatch metrics for monitoring.

Users report that parts of the web application are not loading properly. A network engineer needs to troubleshoot the problem. The network engineer enables access logging for the ALB.

What should the network engineer do next to determine which errors the ALB is receiving?

- A. Send the logs to Amazon CloudWatch Log
- B. Review the ALB logs in CloudWatch Insights to determine which error messages the ALB is receiving.
- C. Configure the Amazon S3 bucket destination
- D. Use Amazon Athena to determine which error messages the ALB is receiving.
- E. Configure the Amazon S3 bucket destination
- F. After Amazon CloudWatch Logs pulls the ALB logs from the S3 bucket automatically, review the logs in CloudWatch Logs to determine which error messages the ALB is receiving.
- G. Send the logs to Amazon CloudWatch Log
- H. Use the Amazon Athena CloudWatch Connector to determine which error messages the ALB is receiving.

**Answer:** A

#### NEW QUESTION 2

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

A recent design meeting revealed that the customers have IP address overlap with the provider's AWS deployment. The customers have stated that they will not share their internal IP addresses and that they do not want to connect to the provider's SaaS service over the internet.

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

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

**Answer:** AB

#### Explanation:

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

#### NEW QUESTION 3

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

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

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

**Answer:** B

#### NEW QUESTION 4

An organization is using a VPC endpoint for Amazon S3. When the security group rules for a set of instances were initially configured, access was restricted to allow traffic only to the IP addresses of the Amazon S3 API endpoints in the region from the published JSON file. The application was working properly, but now is logging a growing number of timeouts when connecting with Amazon S3. No internet gateway is configured for the VPC.

Which solution will fix the connectivity failures with the LEAST amount of effort?

- A. Create a Lambda function to update the security group based on AmazonIPSpaceChanged notifications.
- B. Update the VPC routing to direct Amazon S3 prefix-list traffic to the VPC endpoint using the route table APIs.
- C. Update the application server's outbound security group to use the prefix-list for Amazon S3 in the same region.
- D. Create an additional VPC endpoint for Amazon S3 in the same route table to scale the concurrent connections to Amazon.

**Answer:** C

#### Explanation:

<https://aws.amazon.com/blogs/aws/subscribe-to-aws-public-ip-address-changes-via-amazon-sns/>

#### NEW QUESTION 5

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 6

A data analytics company has a 100-node high performance computing (HPC) cluster. The HPC cluster is for parallel data processing and is hosted in a VPC in the AWS Cloud. As part of the data processing workflow, the HPC cluster needs to perform several DNS queries to resolve and connect to Amazon RDS databases, Amazon S3 buckets, and on-premises data stores that are accessible through AWS Direct Connect. The HPC cluster can increase in size by five to seven times during the company's peak event at the end of the year.

The company is using two Amazon EC2 instances as primary DNS servers for the VPC. The EC2 instances are configured to forward queries to the default VPC resolver for Amazon Route 53 hosted domains and to the on-premises DNS servers for other on-premises hosted domain names. The company notices job failures and finds that DNS queries from the HPC cluster nodes failed when the nodes tried to resolve RDS and S3 bucket endpoints.

Which architectural change should a network engineer implement to provide the DNS service in the MOST scalable way?

- A. Scale out the DNS service by adding two additional EC2 instances in the VPC
- B. Reconfigure half of the HPC cluster nodes to use these new DNS servers
- C. Plan to scale out by adding additional EC2 instance-based DNS servers in the future as the HPC cluster size grows.
- D. Scale up the existing EC2 instances that the company is using as DNS servers
- E. Change the instance size to the largest possible instance size to accommodate the current DNS load and the anticipated load in the future.
- F. Create Route 53 Resolver outbound endpoint
- G. Create Route 53 Resolver rules to forward queries to on-premises DNS servers for on-premises hosted domain names
- H. Reconfigure the HPC cluster nodes to use the default VPC resolver instead of the EC2 instance-based DNS server
- I. Terminate the EC2 instances.
- J. Create Route 53 Resolver inbound endpoint
- K. Create rules on the on-premises DNS servers to forward queries to the default VPC resolver
- L. Reconfigure the HPC cluster nodes to forward all DNS queries to the on-premises DNS server
- M. Terminate the EC2 instances.

**Answer: C**

#### NEW QUESTION 7

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 8

A company is planning to use Amazon S3 to archive financial data. The data is currently stored in an on-premises data center. The company uses AWS Direct Connect with a Direct Connect gateway and a transit gateway to connect to the on-premises data center. The data cannot be transported over the public internet and must be encrypted in transit.

Which solution will meet these requirements?

- A. Create a Direct Connect public VIF
- B. Set up an IPsec VPN connection over the public VIF to access Amazon S3. Use HTTPS for communication.
- C. Create an IPsec VPN connection over the transit VIF
- D. Create a VPC and attach the VPC to the transit gateway
- E. In the VPC, provision an interface VPC endpoint for Amazon S3. Use HTTPS for communication.
- F. Create a VPC and attach the VPC to the transit gateway
- G. In the VPC, provision an interface VPC endpoint for Amazon S3. Use HTTPS for communication.
- H. Create a Direct Connect public VIF
- I. Set up an IPsec VPN connection over the public VIF to the transit gateway
- J. Create an attachment for Amazon S3. Use HTTPS for communication.

**Answer: B**

#### NEW QUESTION 9

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 NL
- 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 GL
- 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 AL
- 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 10

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 gateway
- 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 entry
- F. Specify the virtual private gateway resource.

**Answer:** D

#### NEW QUESTION 10

A company uses a 4 Gbps AWS Direct Connect dedicated connection with a link aggregation group (LAG) bundle to connect to five VPCs that are deployed in the us-east-1 Region. Each VPC serves a different business unit and uses its own private VIF for connectivity to the on-premises environment. Users are reporting slowness when they access resources that are hosted on AWS.

A network engineer finds that there are sudden increases in throughput and that the Direct Connect connection becomes saturated at the same time for about an hour each business day. The company wants to know which business unit is causing the sudden increase in throughput. The network engineer must find out this information and implement a solution to resolve the problem.

Which solution will meet these requirements?

- A. Review the Amazon CloudWatch metrics for VirtualInterfaceBpsEgress and VirtualInterfaceBpsIngress to determine which VIF is sending the highest throughput during the period in which slowness is observed
- B. Create a new 10 Gbps dedicated connection
- C. Shift traffic from the existing dedicated connection to the new dedicated connection.
- D. Review the Amazon CloudWatch metrics for VirtualInterfaceBpsEgress and VirtualInterfaceBpsIngress to determine which VIF is sending the highest throughput during the period in which slowness is observed
- E. Upgrade the bandwidth of the existing dedicated connection to 10 Gbps.
- F. Review the Amazon CloudWatch metrics for ConnectionBpsIngress and ConnectionPpsEgress to determine which VIF is sending the highest throughput during the period in which slowness is observed
- G. Upgrade the existing dedicated connection to a 5 Gbps hosted connection.
- H. Review the Amazon CloudWatch metrics for ConnectionBpsIngress and ConnectionPpsEgress to determine which VIF is sending the highest throughput during the period in which slowness is observed
- I. Create a new 10 Gbps dedicated connection
- J. Shift traffic from the existing dedicated connection to the new dedicated connection.

**Answer:** A

#### Explanation:

To meet the requirements of finding out which business unit is causing the sudden increase in throughput and resolving the problem, the network engineer should review the Amazon CloudWatch metrics for VirtualInterfaceBpsEgress and VirtualInterfaceBpsIngress to determine which VIF is sending the highest throughput during the period in which slowness is observed (Option B). After identifying the VIF that is causing the issue, they can upgrade the bandwidth of the existing dedicated connection to 10 Gbps to resolve the problem (Option E).

#### NEW QUESTION 11

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 gateway
- B. Create a VPC attachment to each application VPC
- 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. Create VPC endpoints in each application VPC.
- F. Create a central transit VPC with a VPN appliance from AWS Marketplace.
- G. Create a VPN attachment from each VPC to the transit VPC.
- H. 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 16**

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

The security team needs to determine which POD IP addresses are communicating with which services throughout the VPC. The security team wants to limit the number of flow logs and wants to examine the traffic from only the two applications.

Which solution will meet these requirements with the LEAST operational overhead?

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

**Answer: D**

**NEW QUESTION 20**

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 24**

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 gateways.
- 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 26**

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 27

An organization is replacing a tape backup system with a storage gateway. There is currently no connectivity to AWS. Initial testing is needed. What connection option should the organization use to get up and running at minimal cost?

- A. Use an internet connection.
- B. Set up an AWS VPN connection.
- C. Provision an AWS Direct Connection private virtual interface.
- D. Provision a Direct Connect public virtual interface.

**Answer: A**

#### NEW QUESTION 29

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 31

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 36

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 mainservice 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 38

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 quot
- 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 gatewa
- 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 43

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 46

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 VP
- B. Connect the inspection VPC to the transit gateway by using a VPC attachmen
- C. Create a target group, and register the appliances with the target grou
- D. Create a Network Load Balancer (NLB), and set it up to forward to the newly created target grou
- E. Configure a default route in the inspection VPCs transit gateway subnet toward the NLB.

- F. Deploy two clusters that consist of multiple appliances across multiple Availability Zones in a designated inspection VP
- G. Connect the inspection VPC to the transit gateway by using a VPC attachmen
- H. Create a target group, and register the appliances with the target grou
- I. Create a Gateway Load Balancer, and set it up to forward to the newly created target grou
- 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 gatewa
- L. Associate one route table with all the attachments of the application VPC
- M. Associate the other route table with the inspection VPC's attachmen
- N. Propagate all VPC attachments into the inspection route tabl
- O. Define a static default route in the application route tabl
- P. Enable appliance mode on the attachment that connects the inspection VPC.
- Q. Configure two route tables on the transit gatewa
- R. Associate one route table with all the attachments of the application VPC
- S. Associate the other route table with the inspection VPCs attachmen
- T. Propagate all VPC attachments into the application route tabl
- . Define a static default route in the inspection route tabl
- . Enable appliance mode on the attachment that connects the inspection VPC.
- . Configure one route table on the transit gatewa
- . 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 50

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

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

Which solution will meet these requirements?

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

**Answer:** B

#### NEW QUESTION 55

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 zon
- F. Create an AWS Lambda function as the target of the rul
- G. Configure the function to use the event information to update the privatehosted zone.
- H. Add the private IP addresses in the existing Route 53 public hosted zone.

**Answer:** BCD

#### NEW QUESTION 56

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 bucke
- 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 bucke
- 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 58**

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

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

**Answer:** D

**Explanation:**

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

**NEW QUESTION 59**

A company has developed an application on AWS that will track inventory levels of vending machines and initiate the restocking process automatically. The company plans to integrate this application with vending machines and deploy the vending machines in several markets around the world. The application resides in a VPC in the us-east-1 Region. The application consists of an Amazon Elastic Container Service (Amazon ECS) cluster behind an Application Load Balancer (ALB). The communication from the vending machines to the application happens over HTTPS. The company is planning to use an AWS Global Accelerator accelerator and configure static IP addresses of the accelerator in the vending machines for application endpoint access. The application must be accessible only through the accelerator and not through a direct connection over the internet to the ALB endpoint. Which solution will meet these requirements?

- A. Configure the ALB in a private subnet of the VPC
- B. Attach an internet gateway without adding routes in the subnet route tables to point to the internet gateway
- C. Configure the accelerator with endpoint groups that include the ALB endpoint
- D. Configure the ALB's security group to only allow inbound traffic from the internet on the ALB listener port.
- E. Configure the ALB in a private subnet of the VPC
- F. Configure the accelerator with endpoint groups that include the ALB endpoint
- G. Configure the ALB's security group to only allow inbound traffic from the internet on the ALB listener port.
- H. Configure the ALB in a public subnet of the VPC. Attach an internet gateway
- I. Add routes in the subnet route tables to point to the internet gateway
- J. Configure the accelerator with endpoint groups that include the ALB endpoint
- K. Configure the ALB's security group to only allow inbound traffic from the accelerator's IP addresses on the ALB listener port.
- L. Configure the ALB in a private subnet of the VPC
- M. Attach an internet gateway
- N. Add routes in the subnet route tables to point to the internet gateway
- O. Configure the accelerator with endpoint groups that include the ALB endpoint
- P. Configure the ALB's security group to only allow inbound traffic from the accelerator's IP addresses on the ALB listener port.

**Answer:** A

**Explanation:**

Please read the below link typically describing ELB integration with AWS Global accelerator (and the last line of the extract) - <https://docs.aws.amazon.com/global-accelerator/latest/dg/secure-vpc-connections.html> "When you add an internal Application Load Balancer or an Amazon EC2 instance endpoint in AWS Global Accelerator, you enable internet traffic to flow directly to and from the endpoint in Virtual Private Clouds (VPCs) by targeting it in a private subnet. The VPC that contains the load balancer or EC2 instance must have an internet gateway attached to it, to indicate that the VPC accepts internet traffic. However, you don't need public IP addresses on the load balancer or EC2 instance. You also don't need an associated internet gateway route for the subnet."

**NEW QUESTION 64**

You deploy an Amazon EC2 instance that runs a web server into a subnet in a VPC. An Internet gateway is attached, and the main route table has a default route (0.0.0.0/0) configured with a target of the Internet gateway. The instance has a security group configured to allow as follows:

- > Protocol: TCP
- > Port: 80 inbound, nothing outbound

The Network ACL for the subnet is configured to allow as follows:

- > Protocol: TCP

> Port: 80 inbound, nothing outbound

When you try to browse to the web server, you receive no response. Which additional step should you take to receive a successful response?

- A. Add an entry to the security group outbound rules for Protocol: TCP, Port Range: 80
- B. Add an entry to the security group outbound rules for Protocol: TCP, Port Range: 1024-65535
- C. Add an entry to the Network ACL outbound rules for Protocol: TCP, Port Range: 80
- D. Add an entry to the Network ACL outbound rules for Protocol: TCP, Port Range: 1024-65535

**Answer:** D

**Explanation:**

To enable the connection to a service running on an instance, the associated network ACL must allow both inbound traffic on the port that the service is listening on as well as allow outbound traffic from ephemeral ports. When a client connects to a server, a random port from the ephemeral port range (1024-65535) becomes the client's source port. The designated ephemeral port then becomes the destination port for return traffic from the service, so outbound traffic from the ephemeral port must be allowed in the network ACL. <https://aws.amazon.com/premiumsupport/knowledge-center/resolve-connection-sg-acl-inbound/>

**NEW QUESTION 67**

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 68**

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 71**

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 76**

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 77**

A company has created three VPCs: a production VPC, a nonproduction VPC, and a shared services VPC. The production VPC and the nonproduction VPC must each have communication with the shared services VPC. There must be no communication between the production VPC and the nonproduction VPC. A transit gateway is deployed to facilitate communication between VPCs.

Which route table configurations on the transit gateway will meet these requirements?

- A. Configure a route table with the production and nonproduction VPC attachments associated with propagated routes for only the shared services VPC
- B. Create an additional route table with only the shared services VPC attachment associated with propagated routes from the production and nonproduction VPCs.
- C. Configure a route table with the production and nonproduction VPC attachments associated with propagated routes for each VPC
- D. Create an additional route table with only the shared services VPC attachment associated with propagated routes from each VPC.
- E. Configure a route table with all the VPC attachments associated with propagated routes for only the shared services VPC. Create an additional route table with only the shared services VPC attachment associated with propagated routes from the production and nonproduction VPCs.
- F. Configure a route table with the production and nonproduction VPC attachments associated with propagated routes disabled
- G. Create an additional route table with only the shared services VPC attachment associated with propagated routes from the production and nonproduction VPCs.

**Answer:** A

**NEW QUESTION 81**

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