

# Amazon-Web-Services

## Exam Questions ANS-C01

AWS Certified Advanced Networking Specialty Exam



### NEW QUESTION 1

A company is using custom DNS servers that run BIND for name resolution in its VPCs. The VPCs are deployed across multiple AWS accounts that are part of the same organization in AWS Organizations. All the VPCs are connected to a transit gateway. The BIND servers are running in a central VPC and are configured to forward all queries for an on-premises DNS domain to DNS servers that are hosted in an on-premises data center. To ensure that all the VPCs use the custom DNS servers, a network engineer has configured a VPC DHCP options set in all the VPCs that specifies the custom DNS servers to be used as domain name servers.

Multiple development teams in the company want to use Amazon Elastic File System (Amazon EFS). A development team has created a new EFS file system but cannot mount the file system to one of its Amazon EC2 instances. The network engineer discovers that the EC2 instance cannot resolve the IP address for the EFS mount point fs-33444567d.efs.us-east-1.amazonaws.com. The network engineer needs to implement a solution so that development teams throughout the organization can mount EFS file systems.

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

- A. Configure the BIND DNS servers in the central VPC to forward queries forefs.us-east-1.amazonaws.com to the Amazon provided DNS server (169.254.169.253).
- B. Create an Amazon Route 53 Resolver outbound endpoint in the central VP
- C. Update all the VPC DHCP options sets to use AmazonProvidedDNS for name resolution.
- D. Create an Amazon Route 53 Resolver inbound endpoint in the central VPCUpdate all the VPC DHCP options sets to use the Route 53 Resolver inbound endpoint in the central VPC for name resolution.
- E. Create an Amazon Route 53 Resolver rule to forward queries for the on-premises domain to the on-premises DNS server
- F. Share the rule with the organization by using AWS Resource Access Manager (AWS RAM). Associate the rule with all the VPCs.
- G. Create an Amazon Route 53 private hosted zone for the efs.us-east-1.amazonaws.com domain.Associate the private hosted zone with the VPC where the EC2 instance is deploye
- H. Create an A record for fs-33444567d.efs.us-east-1.amazonaws.com in the private hosted zon
- I. Configure the A record to return the mount target of the EFS mount point.

**Answer: BD**

#### Explanation:

Option B suggests using Amazon Route 53 Resolver outbound endpoint, which would replace the existing BIND DNS servers with the AmazonProvidedDNS for name resolution. However, the scenario specifically mentions that the company is using custom DNS servers that run BIND for name resolution in its VPCs, so this solution would not work. Option D suggests creating a Route 53 Resolver rule to forward queries for the on-premises domain to the on-premises DNS servers, which would not address the issue of resolving the EFS mount point. The problem is not with resolving queries for the on-premises domain, but rather with resolving the IP address for the EFS mount point.

### NEW QUESTION 2

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

**Answer: B**

#### Explanation:

<https://docs.aws.amazon.com/vpn/latest/s2svpn/private-ip-dx.html>

An IPsec VPN connection over the transit VIF can encrypt traffic between the on-premises network and AWS without using public IP addresses or the internet2. A VPC endpoint for Amazon S3 can enable private access to S3 buckets within the same region.HTTPS can provide additional encryption for communication.

### NEW QUESTION 3

A company has an AWS Direct Connect connection between its on-premises data center in the United States (US) and workloads in the us-east-1 Region. The connection uses a transit VIF to connect the data center to a transit gateway in us-east-1.

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

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

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

- N. Peer the two transit gateways.
- O. Connect the VPC in eu-west-2 with the Europe data center by using a Direct Connect gateway and a private VIF
- P. Create a new Direct Connect gateway
- Q. Associate the transit gateway in us-east-1 with the new Direct Connect gateway
- R. Enable SiteLink for the transit VIF and the private VIF.

**Answer: C**

#### NEW QUESTION 4

A company has hundreds of VPCs on AWS. All the VPCs access the public endpoints of Amazon S3 and AWS Systems Manager through NAT gateways. All the traffic from the VPCs to Amazon S3 and Systems Manager travels through the NAT gateways. The company's network engineer must centralize access to these services and must eliminate the need to use public endpoints.

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

- A. Create a central egress VPC that has private NAT gateway
- B. Connect all the VPCs to the central egress VPC by using AWS Transit Gateway
- C. Use the private NAT gateways to connect to Amazon S3 and Systems Manager by using private IP addresses.
- D. Create a central shared services VPC
- E. In the central shared services VPC, create interface VPC endpoints for Amazon S3 and Systems Manager to access
- F. Ensure that private DNS is turned off
- G. Connect all the VPCs to the central shared services VPC by using AWS Transit Gateway
- H. Create an Amazon Route 53 forwarding rule for each interface VPC endpoint
- I. Associate the forwarding rules with all the VPC
- J. Forward DNS queries to the interface VPC endpoints in the shared services VPC.
- K. Create a central shared services VPC. In the central shared services VPC, create interface VPC endpoints for Amazon S3 and Systems Manager to access
- L. Ensure that private DNS is turned off
- M. Connect all the VPCs to the central shared services VPC by using AWS Transit Gateway
- N. Create an Amazon Route 53 private hosted zone with a full service endpoint name for Amazon S3 and Systems Manager
- O. Associate the private hosted zones with all the VPC
- P. Create an alias record in each private hosted zone with the full AWS service endpoint pointing to the interface VPC endpoint in the shared services VPC.
- Q. Create a central shared services VPC
- R. In the central shared services VPC, create interface VPC endpoints for Amazon S3 and Systems Manager to access
- S. Connect all the VPCs to the central shared services VPC by using AWS Transit Gateway
- T. Ensure that private DNS is turned on for the interface VPC endpoints and that the transit gateway is created with DNS support turned on.

**Answer: B**

#### Explanation:

Interface VPC endpoints enable private connectivity between VPCs and supported AWS services without requiring an internet gateway, NAT device, VPN connection, or AWS Direct Connect connection. Interface VPC endpoints are powered by AWS PrivateLink, a technology that enables private access to AWS services. Amazon S3 and AWS Systems Manager support interface VPC endpoints. By turning off private DNS, the interface VPC endpoints can be accessed by using their private IP addresses. By using Amazon Route 53 forwarding rules, DNS queries can be resolved to the interface VPC endpoints in the shared services VPC.

#### NEW QUESTION 5

A company is deploying third-party firewall appliances for traffic inspection and NAT capabilities in its VPC. The VPC is configured with private subnets and public subnets. The company needs to deploy the firewall appliances behind a load balancer.

Which architecture will meet these requirements MOST cost-effectively?

- A. Deploy a Gateway Load Balancer with the firewall appliances as target
- B. Configure the firewall appliances with a single network interface in a private subnet
- C. Use a NAT gateway to send the traffic to the internet after inspection.
- D. Deploy a Gateway Load Balancer with the firewall appliances as target
- E. Configure the firewall appliances with two network interfaces: one network interface in a private subnet and another network interface in a public subnet
- F. Use the NAT functionality on the firewall appliances to send the traffic to the internet after inspection.
- G. Deploy a Network Load Balancer with the firewall appliances as target
- H. Configure the firewall appliances with a single network interface in a private subnet
- I. Use a NAT gateway to send the traffic to the internet after inspection.
- J. Deploy a Network Load Balancer with the firewall appliances as target
- K. Configure the firewall appliances with two network interfaces: one network interface in a private subnet and another network interface in a public subnet
- L. Use the NAT functionality on the firewall appliances to send the traffic to the internet after inspection.

**Answer: B**

#### NEW QUESTION 6

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 7

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 8**

A company uses a 1 Gbps AWS Direct Connect connection to connect its AWS environment to its on-premises data center. The connection provides employees with access to an application VPC that is hosted on AWS. Many remote employees use a company-provided VPN to connect to the data center. These employees are reporting slowness when they access the application during business hours. On-premises users have started to report similar slowness while they are in the office.

The company plans to build an additional application on AWS. On-site and remote employees will use the additional application. After the deployment of this additional application, the company will need 20% more bandwidth than the company currently uses. With the increased usage, the company wants to add resiliency to the AWS connectivity. A network engineer must review the current implementation and must make improvements within a limited budget.

What should the network engineer do to meet these requirements MOST cost-effectively?

- A. Set up a new 1 Gbps Direct Connect dedicated connection to accommodate the additional traffic load from remote employees and the additional applicatio
- B. Create a link aggregation group (LAG).
- C. Deploy an AWS Site-to-Site VPN connection to the application VP
- D. Configure the on-premises routing for the remote employees to connect to the Site-to-Site VPN connection.
- E. Deploy Amazon Workspaces into the application VPI
- F. Replace the existing 1 Gbps Direct Connect connection with two new 2 Gbps Direct Connect hosted connection
- G. Create an AWS Client VPN endpoint in the application VP
- H. Instruct the remote employees to connect to the Client VPN endpoint.

**Answer: A**

**Explanation:**

Setting up a new 1 Gbps Direct Connect dedicated connection to accommodate the additional trafficload from remote employees and the additional application would provide more bandwidth and lower latency than a VPN connection over the public internet1. Creating a link aggregation group (LAG) with the existing and new Direct Connect connections would provide resiliency and redundancy for the AWS connectivity2.

**NEW QUESTION 9**

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 applianc
- 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 10**

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 VP
- 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 VP
- 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
- F. Create an additional route table with only the shared services VPC attachment associated with propagated routes from the production and nonproduction VPCs.
- G. Configure a route table with the production and nonproduction VPC attachments associated with propagated routes disable
- H. 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 10**

A company is hosting an application on Amazon EC2 instances behind an Application Load Balancer. The instances are in an Amazon EC2 Auto Scaling group. Because of a recent change to a security group, external users cannot access the application.

A network engineer needs to prevent this downtime from happening again. The network engineer must implement a solution that remediates noncompliant changes to security groups.

Which solution will meet these requirements?

- A. Configure Amazon GuardDuty to detect inconsistencies between the desired security group configuration and the current security group configuration
- B. Create an AWS Systems Manager Automation runbook to remediate noncompliant security groups.
- C. Configure an AWS Config rule to detect inconsistencies between the desired security group configuration and the current security group configuration
- D. Configure AWS OpsWorks for Chef to remediate noncompliant security groups.
- E. Configure Amazon GuardDuty to detect inconsistencies between the desired security group configuration and the current security group configuration
- F. Configure AWS OpsWorks for Chef to remediate noncompliant security groups.
- G. Configure an AWS Config rule to detect inconsistencies between the desired security group configuration and the current security group configuration
- H. Create an AWS Systems Manager Automation runbook to remediate noncompliant security groups.

**Answer: D**

**Explanation:**

Configuring an AWS Config rule to detect inconsistencies between the desired security group configuration and the current security group configuration would enable evaluation of the compliance status of the security groups based on predefined or custom rules<sup>3</sup>. Creating an AWS Systems Manager Automation runbook to remediate noncompliant security groups would enable automation of the remediation process<sup>2</sup>. Additionally, configuring AWS Config to trigger the runbook when a noncompliant change is detected would enable timely and consistent remediation of security group changes.

**NEW QUESTION 11**

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 14**

A company has deployed a critical application on a fleet of Amazon EC2 instances behind an Application Load Balancer. The application must always be reachable on port 443 from the public internet. The application recently had an outage that resulted from an incorrect change to the EC2 security group.

A network engineer needs to automate a way to verify the network connectivity between the public internet and the EC2 instances whenever a change is made to the security group. The solution also must notify the network engineer when the change affects the connection.

Which solution will meet these requirements?

- A. Enable VPC Flow Logs on the elastic network interface of each EC2 instance to capture REJECT traffic on port 443. Publish the flow log records to a log group in Amazon CloudWatch Log
- B. Create a CloudWatch Logs metric filter for the log group for rejected traffic
- C. Create an alarm to notify the network engineer.
- D. Enable VPC Flow Logs on the elastic network interface of each EC2 instance to capture all traffic on port 443. Publish the flow log records to a log group in Amazon CloudWatch Log
- E. Create a CloudWatch Logs metric filter for the log group for all traffic
- F. Create an alarm to notify the network engineer
- G. Create a VPC Reachability Analyzer path on port 443. Specify the security group as the source
- H. Specify the EC2 instances as the destination
- I. Create an Amazon Simple Notification Service (Amazon SNS) topic to notify the network engineer when a change to the security group affects the connection
- J. Create an AWS Lambda function to start Reachability Analyzer and to publish a message to the SNS topic in case the analyses fail. Create an Amazon EventBridge (Amazon CloudWatch Events) rule to invoke the Lambda function when a change to the security group occurs.
- K. Create a VPC Reachability Analyzer path on port 443. Specify the internet gateway of the VPC as the source
- L. Specify the EC2 instances as the destination
- M. Create an Amazon Simple Notification Service (Amazon SNS) topic to notify the network engineer when a change to the security group affects the connection
- N. Create an AWS Lambda function to start Reachability Analyzer and to publish a message to the SNS topic in case the analyses fail
- O. Create an Amazon EventBridge (Amazon CloudWatch Events) rule to invoke the Lambda function when a change to the security group occurs.

**Answer: C**

**NEW QUESTION 16**

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

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

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

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

**Answer: C**

#### NEW QUESTION 18

A company has been using an outdated application layer protocol for communication among applications. The company decides not to use this protocol anymore and must migrate all applications to support a new protocol. The old protocol and the new protocol are TCP-based, but the protocols use different port numbers. After several months of work, the company has migrated dozens of applications that run on Amazon EC2 instances and in containers. The company believes that all the applications have been migrated, but the company wants to verify this belief. A network engineer needs to verify that no application is still using the old protocol.

Which solution will meet these requirements without causing any downtime?

- A. Use Amazon Inspector and its Network Reachability rules packag
- B. Wait until the analysis has finished running to find out which EC2 instances are still listening to the old port.
- C. Enable Amazon GuardDut
- D. Use the graphical visualizations to filter for traffic that uses the port of the old protoco
- E. Exclude all internet traffic to filter out occasions when the same port is used as an ephemeral port.
- F. Configure VPC flow logs to be delivered into an Amazon S3 bucke
- G. Use Amazon Athena to query the data and to filter for the port number that is used by the old protocol.
- H. Inspect all security groups that are assigned to the EC2 instances that host the application
- I. Remove the port of the old protocol if that port is in the list of allowed port
- J. Verify that the applications are operating properly after the port is removed from the security groups.

**Answer: C**

#### Explanation:

Configuring VPC flow logs to be delivered into an Amazon S3 bucket would enable capture of information about the IP traffic going to and from network interfaces within the VPC3. Using Amazon Athena to query the data and to filter for the port number that is used by the old protocol would enable identification of applications that are still using the old protocol.

#### NEW QUESTION 21

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 observe
- B. Create a new 10 Gbps dedicated connectio
- 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 observe
- 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 observe
- 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.Create a new 10 Gbps dedicated connectio
- I. 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 B).

#### NEW QUESTION 26

A company is developing an application in which IoT devices will report measurements to the AWS Cloud. The application will have millions of end users. The company observes that the IoT devices cannot support DNS resolution. The company needs to implement an Amazon EC2 Auto Scaling solution so that the IoT devices can connect to an application endpoint without using DNS.

Which solution will meet these requirements MOST cost-effectively?

- A. Use an Application Load Balancer (ALB)-type target group for a Network Load Balancer (NLB). Create an EC2 Auto Scaling grou
- B. Attach the Auto Scaling group to the AL
- C. Set up the IoT devices to connect to the IP addresses of the NLB.
- D. Use an AWS Global Accelerator accelerator with an Application Load Balancer (ALB) endpoint
- E. Create an EC2 Auto Scaling grou
- F. Attach the Auto Scaling group to the ALSet up the IoT devices to connect to the IP addresses of the accelerator.

- G. Use a Network Load Balancer (NLB). Create an EC2 Auto Scaling group
- H. Attach the Auto Scaling group to the NL
- I. Set up the IoT devices to connect to the IP addresses of the NLB.
- J. Use an AWS Global Accelerator accelerator with a Network Load Balancer (NLB) endpoint
- K. Create an EC2 Auto Scaling group
- L. Attach the Auto Scaling group to the NL
- M. Set up the IoT devices to connect to the IP addresses of the accelerator.

**Answer: D**

**Explanation:**

AWS Global Accelerator can provide static IP addresses that the IoT devices can connect to without using DNS. It can also route traffic over the AWS global network and improve performance and availability for the IoT devices. An NLB can provide end-to-end encryption for HTTPS traffic by using TLS as a target group protocol and terminating SSL connections at the load balancer level. An NLB can also support session affinity (sticky sessions) with TCP connections.

**NEW QUESTION 29**

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

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

**Answer: D**

**NEW QUESTION 32**

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 Connect private virtual interface.
- D. Provision a Direct Connect public virtual interface.

**Answer: A**

**NEW QUESTION 36**

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

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

**Answer: A**

**Explanation:**

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

**NEW QUESTION 37**

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

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

- A. Create an Amazon DynamoDB table to maintain all IP address ranges and security groups that need to be updated

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

**Answer: C**

**Explanation:**

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

**NEW QUESTION 39**

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 42**

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