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Exam : **ANS-C01**

Title : Amazon AWS Certified
Advanced Networking -
Specialty

Version : DEMO

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

Answer: C

2. A media company is implementing a news website for a global audience. The website uses Amazon CloudFront as its content delivery network. The backend runs on Amazon EC2 Windows instances behind an Application Load Balancer (ALB). The instances are part of an Auto Scaling group. The company's customers access the website by using service.example.com as the CloudFront custom domain name. The CloudFront origin points to an ALB that uses service-alb.example.com as the domain name.

The company's security policy requires the traffic to be encrypted in transit at all times between the users and the backend.

Which combination of changes must the company make to meet this security requirement? (Choose three.)

- A. Create a self-signed certificate for service.example.com. Import the certificate into AWS Certificate Manager (ACM). Configure CloudFront to use this imported SSL/TLS certificate. Change the default behavior to redirect HTTP to HTTPS.
- B. Create a certificate for service.example.com by using AWS Certificate Manager (ACM). Configure CloudFront to use this custom SSL/TLS certificate. Change the default behavior to redirect HTTP to HTTPS.

- C. Create a certificate with any domain name by using AWS Certificate Manager (ACM) for the EC2 instances. Configure the backend to use this certificate for its HTTPS listener. Specify the instance target type during the creation of a new target group that uses the HTTPS protocol for its targets. Attach the existing Auto Scaling group to this new target group.
- D. Create a public certificate from a third-party certificate provider with any domain name for the EC2 instances. Configure the backend to use this certificate for its HTTPS listener. Specify the instance target type during the creation of a new target group that uses the HTTPS protocol for its targets. Attach the existing Auto Scaling group to this new target group.
- E. Create a certificate for service-alb.example.com by using AWS Certificate Manager (ACM). On the ALB add a new HTTPS listener that uses the new target group and the service-alb.example.com ACM certificate. Modify the CloudFront origin to use the HTTPS protocol only. Delete the HTTP listener on the ALB.
- F. Create a self-signed certificate for service-alb.example.com. Import the certificate into AWS Certificate Manager (ACM). On the ALB add a new HTTPS listener that uses the new target group and the imported service-alb.example.com ACM certificate. Modify the CloudFront origin to use the HTTPS protocol only. Delete the HTTP listener on the ALB.

Answer: BDE

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

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

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

- A. Deploy two clusters that consist of multiple appliances across multiple Availability Zones in a designated inspection VPC. Connect the inspection VPC to the transit gateway by using a VPC attachment. Create a target group, and register the appliances with the target group. Create a Network Load Balancer (NLB), and set it up to forward to the newly created target group. Configure a default route in the inspection VPCs transit gateway subnet toward the NLB.
- B. Deploy two clusters that consist of multiple appliances across multiple Availability Zones in a designated inspection VPC. Connect the inspection VPC to the transit gateway by using a VPC attachment. Create a target group, and register the appliances with the target group. Create a Gateway Load Balancer, and set it up to forward to the newly created target group. Configure a default route in the inspection VPC's transit gateway subnet toward the Gateway Load Balancer endpoint.
- C. Configure two route tables on the transit gateway. Associate one route table with all the attachments of the application VPCs. Associate the other route table with the inspection VPC's attachment. Propagate all VPC attachments into the inspection route table. Define a static default route in the application route table. Enable appliance mode on the attachment that connects the inspection VPC.
- D. Configure two route tables on the transit gateway. Associate one route table with all the attachments of the application VPCs. Associate the other route table with the inspection VPCs attachment. Propagate all VPC attachments into the application route table. Define a static default route in the inspection route table. Enable appliance mode on the attachment that connects the inspection VPC.
- E. Configure one route table on the transit gateway. Associate the route table with all the VPCs.

Propagate all VPC attachments into the route table. Define a static default route in the route table.

Answer: BC

4. A company's network engineer is designing a hybrid DNS solution for an AWS Cloud workload. Individual teams want to manage their own DNS hostnames for their applications in their development environment. The solution must integrate the application-specific hostnames with the centrally managed DNS hostnames from the on-premises network and must provide bidirectional name resolution. The solution also must minimize management overhead.

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

- A. Use an Amazon Route 53 Resolver inbound endpoint.
- B. Modify the DHCP options set by setting a custom DNS server value.
- C. Use an Amazon Route 53 Resolver outbound endpoint.
- D. Create DNS proxy servers.
- E. Create Amazon Route 53 private hosted zones.
- F. Set up a zone transfer between Amazon Route 53 and the on-premises DNS.

Answer: A,C,E

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

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

What should the network engineer do to meet these requirements?

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

Answer: B

Explanation:

"If you advertise more than 100 routes each for IPv4 and IPv6 over the BGP session, the BGP session will go into an idle state with the BGP session

DOWN."<https://docs.aws.amazon.com/directconnect/latest/UserGuide/limits.html>