

Exam Questions SAP-C01

AWS Certified Solutions Architect- Professional

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NEW QUESTION 1

A company is currently running a production workload on AWS that is very I/O intensive. Its workload consists of a single tier with 10 c4.8xlarge instances, each with 2 TB gp2 volumes. The number of processing jobs has recently increased, and latency has increased as well. The team realizes that they are constrained on the IOPS. For the application to perform efficiently, they need to increase the IOPS by 3,000 for each of the instances. Which of the following designs will meet the performance goal MOST cost effectively?

- A. Change the type of Amazon EBS volume from gp2 to io1 and set provisioned IOPS to 9,000.
- B. Increase the size of the gp2 volumes in each instance to 3 TB.
- C. Create a new Amazon EFS file system and move all the data to this new file system
- D. Mount this file system to all 10 instances.
- E. Create a new Amazon S3 bucket and move all the data to this new bucket
- F. Allow each instance to access this S3 bucket and use it for storage.

Answer: B

NEW QUESTION 2

A Solutions Architect is building a containerized .NET Core application that will run in AWS Fargate. The backend of the application requires Microsoft SQL Server with high availability. All tiers of the application must be highly available. The credentials used for the connection string to SQL Server should not be stored on disk within the .NET Core front-end containers.

Which strategies should the Solutions Architect use to meet these requirements?

- A. Set up SQL Server to run in Fargate with Service Auto Scaling. Create an Amazon ECS task execution role that allows the Fargate task definition to get the secret value for the credentials to SQL Server running in Fargate. Specify the ARN of the secret in AWS Secrets Manager in the secrets section of the Fargate task definition so the sensitive data can be injected into the containers as environment variables on startup for reading into the application to construct the connection string. Set up the .NET Core service using Service Auto Scaling behind an Application Load Balancer in multiple Availability Zones.
- B. Create a Multi-AZ deployment of SQL Server on Amazon RDS. Create a secret in AWS Secrets Manager for the credentials to the RDS database. Create an Amazon ECS task execution role that allows the Fargate task definition to get the secret value for the credentials to the RDS database in Secrets Manager. Specify the ARN of the secret in Secrets Manager in the secrets section of the Fargate task definition so the sensitive data can be injected into the containers as environment variables on startup for reading into the application to construct the connection string. Set up the .NET Core service in Fargate using Service Auto Scaling behind an Application Load Balancer in multiple Availability Zones.
- C. Create an Auto Scaling group to run SQL Server on Amazon EC2. Create a secret in AWS Secrets Manager for the credentials to SQL Server running on EC2. Create an Amazon ECS task execution role that allows the Fargate task definition to get the secret value for the credentials to SQL Server on EC2. Specify the ARN of the secret in Secrets Manager in the secrets section of the Fargate task definition so the sensitive data can be injected into the containers as environment variables on startup for reading into the application to construct the connection string. Set up the .NET Core service using Service Auto Scaling behind an Application Load Balancer in multiple Availability Zones.
- D. Create a Multi-AZ deployment of SQL Server on Amazon RDS. Create a secret in AWS Secrets Manager for the credentials to the RDS database. Create non-persistent empty storage for the .NET Core containers in the Fargate task definition to store the sensitive information. Create an Amazon ECS task execution role that allows the Fargate task definition to get the secret value for the credentials to the RDS database in Secrets Manager. Specify the ARN of the secret in Secrets Manager in the secrets section of the Fargate task definition so the sensitive data can be written to the non-persistent empty storage on startup for reading into the application to construct the connection.

Answer: C

NEW QUESTION 3

A group of Amazon EC2 instances have been configured as high performance computing (HPC) cluster. The instances are running in a placement group, and are able to communicate with each other at network of up to 20 Gbps.

The cluster needs to communicate with a control EC2 instance outside of the placement group. The control instance has the same instance type and AMI as the other instances, and is configured with a public IP address.

How can the Solutions Architect improve the network speeds between the control instance and the instances in the placement group?

- A. Terminate the control instance and relaunch in the placement group.
- B. Ensure that the instances are communicating using the private IP addresses.
- C. Ensure that the control instance is using an Elastic Network Adapter.
- D. Move the control instance inside the placement group.

Answer: D

Explanation:

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/placement-groups.html>

NEW QUESTION 4

A company wants to follow its website on AWS using serverless architecture design patterns for global customers. The company has outlined its requirements as follow:

- The website should be responsive.
- The website should offer minimal latency.
- The website should be highly available.
- Users should be able to authenticate through social identity providers such as Google, Facebook, and Amazon.
- There should be baseline DDoS protections for spikes in traffic.

How can the design requirements be met?

- A. Use Amazon CloudFront with Amazon ECS for hosting the website
- B. Use AWS Secrets Manager for provide user management and authentication function
- C. Use ECS Docker containers to build an API.
- D. Use Amazon Route 53 latency routing with an Application Load Balancer and AWS Fargate in different regions for hosting the website
- E. Use Amazon Cognito to provide user management and authentication function

- F. Use Amazon EKS containers.
- G. Use Amazon CloudFront with Amazon S3 for hosting static web resource
- H. Use Amazon Cognito to provide user management authentication function
- I. Use Amazon API Gateway with AWS Lambda to build an API.
- J. Use AWS Direct Connect with Amazon CloudFront and Amazon S3 for hosting static web resource. Use Amazon Cognito to provide user management authentication function
- K. Use AWS Lambda to build an API.

Answer: C

NEW QUESTION 5

A company is designing a new highly available web application on AWS. The application requires consistent and reliable connectivity from the application servers in AWS to a backend REST API hosted in the company's on-premises environment. The backend connection between AWS and on-premises will be routed over an AWS Direct Connect connection through a private virtual interface. Amazon Route 53 will be used to manage private DNS records for the application to resolve the IP address on the backend REST API.

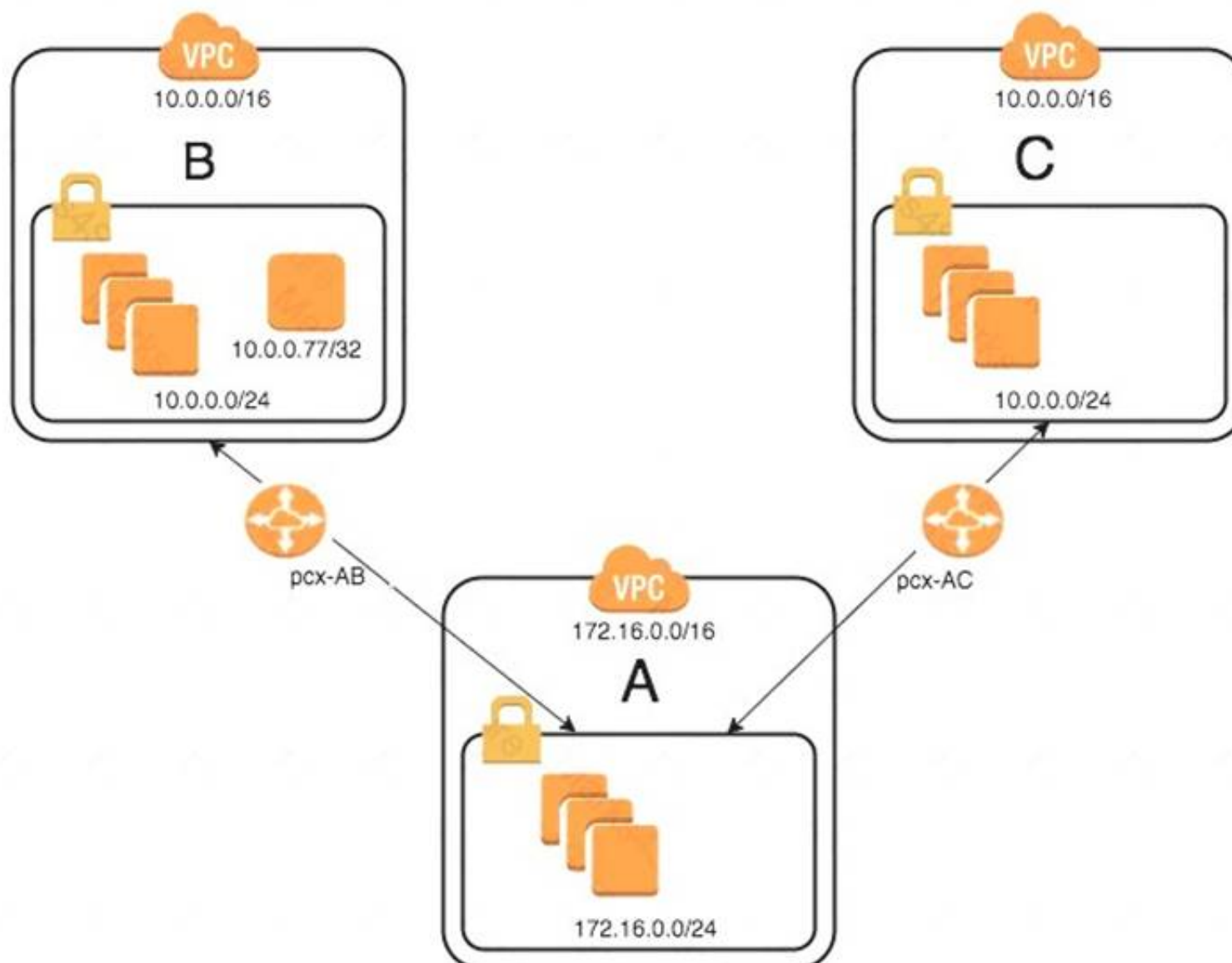
Which design would provide a reliable connection to the backend API?

- A. Implement at least two backend endpoints for the backend REST API, and use Route 53 health checks to monitor the availability of each backend endpoint and perform DNS-level failover.
- B. Install a second Direct Connect connection from a different network carrier and attach it to the same virtual private gateway as the first Direct Connect connection.
- C. Install a second cross connect for the same Direct Connect connection from the same network carrier, and join both connections to the same link aggregation group (LAG) on the same private virtual interface.
- D. Create an IPsec VPN connection routed over the public internet from the on-premises data center to AWS and attach it to the same virtual private gateway as the Direct Connect connection.

Answer: A

NEW QUESTION 6

An organization has recently grown through acquisitions. Two of the purchased companies use the same IP CIDR range. There is a new short-term requirement to allow AnyCompany A (VPC-A) to communicate with a server that has the IP address 10.0.0.77 in AnyCompany B (VPC-B). AnyCompany A must also communicate with all resources in AnyCompany C (VPC-C). The Network team has created the VPC peer links, but it is having issues with communications between VPC-A and VPC-B. After an investigation, the team believes that the routing tables in the VPCs are incorrect.



What configuration will allow AnyCompany A to communicate with AnyCompany C in addition to the database in AnyCompany B?

- A. On VPC-A, create a static route for the VPC-B CIDR range (10.0.0.0/24) across VPC peer pcx-AB. Create a static route of 10.0.0.0/16 across VPC peer pcx-AC. On VPC-B, create a static route for VPC-A CIDR (172.16.0.0/24) on peer pcx-AB. On VPC-C, create a static route for VPC-A CIDR (172.16.0.0/24) across peer pcx-AC.
- B. On VPC-A, enable dynamic route propagation on pcx-AB and pcx-AC. On VPC-B, enable dynamic route propagation and use security groups to allow only the IP address 10.0.0.77/32 on VPC peer pcx-AB. On VPC-C, enable dynamic route propagation with VPC-A on peer pcx-AC.
- C. On VPC-A, create network access control lists that block the IP address 10.0.0.77/32 on VPC peer pcx-AC. On VPC-A, create a static route for VPC-B CIDR (10.0.0.0/24) on pcx-AB and a static route for VPC-C CIDR (10.0.0.0/24) on pcx-AC. On VPC-B, create a static route for VPC-A CIDR (172.16.0.0/24) across peer pcx-AB. On VPC-C, create a static route for VPC-A CIDR (172.16.0.0/24) across peer pcx-AC.
- D. On VPC-A, create a static route for the VPC-B CIDR (10.0.0.77/32) database across VPC peer pcx-AB. Create a static route for the VPC-C CIDR on VPC peer pcx-AC. On VPC-B, create a static route for VPC-A CIDR (172.16.0.0/24) on peer pcx-AB. On VPC-C, create a static route for VPC-A CIDR (172.16.0.0/24) across peer pcx-AC.

Answer: D

NEW QUESTION 7

A company runs a memory-intensive analytics application using on-demand Amazon EC2 compute optimized instance. The application is used continuously and application demand doubles during working hours. The application currently scales based on CPU usage. When scaling in occurs, a lifecycle hook is used because the instance requires 4 minutes to clean the application state before terminating.

Because users reported poor performance during working hours, scheduled scaling actions were implemented so additional instances would be added during working hours. The Solutions Architect has been asked to reduce the cost of the application.

Which solution is MOST cost-effective?

- A. Use the existing launch configuration that uses C5 instances, and update the application AMI to include the Amazon CloudWatch agent
- B. Change the Auto Scaling policies to scale based on memory utilization
- C. Use Reserved Instances for the number of instances required after working hours, and use Spot Instances to cover the increased demand during working hours.
- D. Update the existing launch configuration to use R5 instances, and update the application AMI to include SSM Agent
- E. Change the Auto Scaling policies to scale based on memory utilization
- F. Use Reserved instances for the number of instances required after working hours, and use Spot Instances with On-Demand instances to cover the increased demand during working hours.
- G. Use the existing launch configuration that uses C5 instances, and update the application AMI to include SSM Agent
- H. Leave the Auto Scaling policies to scale based on CPU utilization
- I. Use scheduled Reserved Instances for the number of instances required after working hours, and use Spot Instances to cover the increased demand during work hours.
- J. Create a new launch configuration using R5 instances, and update the application AMI to include the Amazon CloudWatch agent
- K. Change the Auto Scaling policies to scale based on memory utilization
- L. Use Reserved Instances for the number of instances required after working hours, and use Standard Reserved Instances with On-Demand Instances to cover the increased demand during working hours.

Answer: D

Explanation:

https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/monitoring_ec2.html

NEW QUESTION 8

While debugging a backend application for an IoT system that supports globally distributed devices a Solutions Architect notices that stale data is occasionally being sent to user devices. Devices often share data, and stale data does not cause issues in most cases. However, device operations are disrupted when a device reads the stale data after an update.

The global system has multiple identical application stacks deployed in different AWS Regions. If a user device travels out of its home geographic region, it will always connect to the geographically closest AWS Region to write or read data. The same data is available in all supported AWS Regions using an Amazon DynamoDB global table.

What change should be made to avoid causing disruptions in device operations?

- A. Update the backend to use strongly consistent read
- B. Update the devices to always write to and read from their home AWS Region
- C. Enable strong consistency globally on a DynamoDB global table. Update the backend to use strongly consistent reads
- D. Switch the backend data store to Amazon Aurora MySQL with cross-region replicas. Update the backend to always write to the master endpoint
- E. Select one AWS Region as a master and perform all writes in that AWS Region only. Update the backend to use strongly consistent reads

Answer: B

NEW QUESTION 9

A company runs an application on a fleet of Amazon EC2 instances. The application requires low latency and random access to 100 GB of data. The application must be able to access the data at up to 3,000 IOPS. A Development team has configured the EC2 launch template to provision a 100-GB Provisioned IOPS (PIOPS) Amazon EBS volume with 3,000 IOPS provisioned. A Solutions Architect is tasked with lowering costs without impacting performance and durability. Which action should be taken?

- A. Create an Amazon EFS file system with the performance mode set to Max I/O. Configure the EC2 operating system to mount the EFS file system.
- B. Create an Amazon EFS file system with the throughput mode set to Provisioned. Configure the EC2 operating system to mount the EFS file system.
- C. Update the EC2 launch template to allocate a new 1-TB EBS General Purpose SSD (gp2) volume.
- D. Update the EC2 launch template to exclude the PIOPS volume. Configure the application to use local instance storage.

Answer: A

NEW QUESTION 10

As a part of building large applications in the AWS Cloud, the Solutions Architect is required to implement the perimeter security protection. Applications running on AWS have the following endpoints:

- Application Load Balancer
- Amazon API Gateway regional endpoint
- Elastic IP address-based EC2 instances.
- Amazon S3 hosted websites.
- Classic Load Balancer

The Solutions Architect must design a solution to protect all of the listed web front ends and provide the following security capabilities:

- DDoS protection
- SQL injection protection
- IP address whitelist/blacklist

- HTTP flood protection
- Bad bot scraper protection

How should the Solutions Architect design the solution?

- A. Deploy AWS WAF and AWS Shield Advanced on all web endpoint
- B. Add AWS WAF rules to enforce the company's requirements.
- C. Deploy Amazon CloudFront in front of all the endpoint
- D. The CloudFront distribution provides perimeter protectio
- E. Add AWS Lambda-based automation to provide additional security.
- F. Deploy Amazon CloudFront in front of all the endpoint
- G. Deploy AWS WAF and AWS Shield Advance
- H. Add AWS WAF rules to enforce the company's requirement
- I. Use AWS Lambda to automate and enhance the security posture.
- J. Secure the endpoints by using network ACLs and security groups and adding rules to enforce the company's requirement
- K. Use AWS Lambda to automatically update the rules.

Answer: C

NEW QUESTION 10

A company CFO recently analyzed the company's AWS monthly bill and identified an opportunity to reduce the cost for AWS Elastic Beanstalk environments in use. The CFO has asked a Solutions Architect to design a highly available solution that will spin up an Elastic Beanstalk environment in the morning and terminate it at the end of the day.

The solution should be designed with minimal operational overhead and to minimize costs. It should also be able to handle the increased use of Elastic Beanstalk environments among different teams, and must provide a one-stop scheduler solution for all teams to keep the operational costs low.

What design will meet these requirements?

- A. Set up a Linux EC2 Micro instanc
- B. Configure an IAM role to allow the start and stop of the Elastic Beanstalk environment and attach it to the instanc
- C. Create scripts on the instance to start and stop the Elastic Beanstalk environmen
- D. Configure cron jobs on the instance to execute the scripts.
- E. Develop AWS Lambda functions to start and stop the Elastic Beanstalk environmen
- F. Configure a Lambda execution role granting Elastic Beanstalk environment start/stop permissions, and assign the role to the Lambda function
- G. Configure cron expression Amazon CloudWatch Events rules to trigger the Lambda functions.
- H. Develop an AWS Step Functions state machine with "wait" as its type to control the start and stop time. Use the activity task to start and stop the Elastic Beanstalk environmen
- I. Create a role for Step Functionsto allow it to start and stop the Elastic Beanstalk environmen
- J. Invoke Step Functions daily.
- K. Configure a time-based Auto Scaling grou
- L. In the morning, have the Auto Scaling group scale up an Amazon EC2 instance and put the Elastic Beanstalk environment start command in the EC2 instance user dat
- M. At the end of the day, scale down the instance number to 0 to terminate the EC2 instance.

Answer: B

Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/schedule-elastic-beanstalk-stop-restart/>

NEW QUESTION 14

A company is migrating its marketing website and content management system from an on-premises data center to AWS. The company wants the AWS application to be developed in a VPC with Amazon EC2 instances used for the web servers and an Amazon RDS instance for the database.

The company has a runbook document that describes the installation process of the on-premises system. The company would like to base the AWS system on the processes referenced in the runbook document. The runbook document describes the installation and configuration of the operating systems, network settings, the website, and content management system software on the servers. After the migration is complete, the company wants to be able to make changes quickly to take advantage of other AWS features.

How can the application and environment be deployed and automated in AWS, while allowing for future changes?

- A. Update the runbook to describe how to create the VPC, the EC2 instances, and the RDS instance for the application by using the AWS Consol
- B. Make sure that the rest of the steps in the runbook are updated to reflect any changes that may come from the AWS migration.
- C. Write a Python script that uses the AWS API to create the VPC, the EC2 instances, and the RDS instance for the applicatio
- D. Write shell scripts that implement the rest of the steps in the runboo
- E. Have the Python script copy and run the shell scripts on the newly created instances to complete the installation.
- F. Write an AWS CloudFormation template that creates the VPC, the EC2 instances, and the RDS instance for the applicatio
- G. Ensure that the rest of the steps in the runbook are updated to reflect any changes that may come from the AWS migration.
- H. Write an AWS CloudFormation template that creates the VPC, the EC2 instances, and the RDS instance for the applicatio
- I. Include EC2 user data in the AWS CloudFormation template to install and configure the software.

Answer: D

NEW QUESTION 18

A large company has increased its utilization of AWS over time in an unmanaged way. As such, they have a large number of independent AWS accounts across different business units, projects, and environments. The company has created a Cloud Center of Excellence team, which is responsible for managing all aspects of the AWS Cloud, including their AWS accounts.

Which of the following should the Cloud Center of Excellence team do to BEST address their requirements in a centralized way? (Select two.)

- A. Control all AWS account root user credential
- B. Assign AWS IAM users in the account of each user who needs to access AWS resource
- C. Follow the policy of least privilege in assigning permissions to each user.
- D. Tag all AWS resources with details about the business unit, project, and environmen

- E. Send all AWS Cost and Usage reports to a central Amazon S3 bucket, and use tools such as Amazon Athena and Amazon QuickSight to collect billing details by business unit.
- F. Use the AWS Marketplace to choose and deploy a Cost Management tool.
- G. Tag all AWS resources with details about the business unit, project, and environment.
- H. Send all AWS Cost and Usage reports for the AWS accounts to this tool for analysis.
- I. Set up AWS Organization.
- J. Enable consolidated billing, and link all existing AWS accounts to a master billing account.
- K. Tag all AWS resources with details about the business unit, project and environment.
- L. Analyze Cost and Usage reports using tools such as Amazon Athena and Amazon QuickSight to collect billing details by business unit.
- M. Using a master AWS account, create IAM users within the master account.
- N. Define IAM roles in the other AWS accounts, which cover each of the required functions in the account.
- O. Follow the policy of least privilege in assigning permissions to each role, then enable the IAM users to assume the roles that they need to use.

Answer: DE

NEW QUESTION 20

A company is using AWS CloudFormation to deploy its infrastructure. The company is concerned that, if a production CloudFormation stack is deleted, important data stored in Amazon RDS databases or Amazon EBS volumes might also be deleted. How can the company prevent users from accidentally deleting data in this way?

- A. Modify the CloudFormation templates to add a DeletionPolicy attribute to RDS and EBS resources.
- B. Configure a stack policy that disallows the deletion of RDS and EBS resources.
- C. Modify IAM policies to deny deleting RDS and EBS resources that are tagged with an "aws:cloudformation:stack-name" tag.
- D. Use AWS Config rules to prevent deleting RDS and EBS resources.

Answer: A

Explanation:

With the DeletionPolicy attribute you can preserve or (in some cases) backup a resource when its stack is deleted. You specify a DeletionPolicy attribute for each resource that you want to control. If a resource has no DeletionPolicy attribute, AWS CloudFormation deletes the resource by default. To keep a resource when its stack is deleted, specify Retain for that resource. You can use retain for any resource. For example, you can retain a nested stack, Amazon S3 bucket, or EC2 instance so that you can continue to use or modify those resources after you delete their stacks.

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-attribute-deletionpolicy.html>

NEW QUESTION 24

A company has developed a new billing application that will be released in two weeks. Developers are testing the application running on 10 EC2 instances managed by an Auto Scaling group in subnet 172.31.0.0/24 within VPC A with CIDR block 172.31.0.0/16. The Developers noticed connection timeout errors in the application logs while connecting to an Oracle database running on an Amazon EC2 instance in the same region within VPC B with CIDR block 172.50.0.0/16. The IP of the database instance is hard-coded in the application instances.

Which recommendations should a Solutions Architect present to the Developers to solve the problem in a secure way with minimal maintenance and overhead?

- A. Disable the SrcDestCheck attribute for all instances running the application and Oracle Database. Change the default route of VPC A to point ENI of the Oracle Database that has an IP address assigned within the range of 172.50.0.0/26
- B. Create and attach internet gateways for both VPC
- C. Configure default routes to the Internet gateways for both VPC
- D. Assign an Elastic IP for each Amazon EC2 instance in VPC A
- E. Create a VPC peering connection between the two VPCs and add a route to the routing table of VPC A that points to the IP address range of 172.50.0.0/16
- F. Create an additional Amazon EC2 instance for each VPC as a customer gateway; create one virtual private gateway (VGW) for each VPC, configure an end-to-end VPC, and advertise the routes for 172.50.0.0/16

Answer: C

NEW QUESTION 26

A company has an existing on-premises three-tier web application. The Linux web servers serve content from a centralized file share on a NAS server because the content is refreshed several times a day from various sources. The existing infrastructure is not optimized and the company would like to move to AWS in order to gain the ability to scale resources up and down in response to load. On-premises and AWS resources are connected using AWS Direct Connect.

How can the company migrate the web infrastructure to AWS without delaying the content refresh process?

- A. Create a cluster of web server Amazon EC2 instances behind a Classic Load Balancer on AWS
- B. Share an Amazon EBS volume among all instances for the content
- C. Schedule a periodic synchronization of this volume and the NAS server.
- D. Create an on-premises file gateway using AWS Storage Gateway to replace the NAS server and replicate content to AWS
- E. On the AWS side, mount the same Storage Gateway bucket to each web server Amazon EC2 instance to serve the content.
- F. Expose an Amazon EFS share to on-premises users to serve as the NAS server
- G. Mount the same EFS share to the web server Amazon EC2 instances to serve the content.
- H. Create web server Amazon EC2 instances on AWS in an Auto Scaling group
- I. Configure a nightly process where the web server instances are updated from the NAS server.

Answer: C

Explanation:

File gateway is limited by performance its gateway instance, whether EC2 or On-premises, Cache will get filled up fast if not properly configured, For large number of EC2 instances EFS scales better. So, bottom line is File Storage gateway is for legacy applications and you have to add cost of large gateway instances before comparing it to same quantity of EFS storage. https://www.reddit.com/r/aws/comments/82pyop/storage_gateway_vs_efs/
<https://docs.aws.amazon.com/efs/latest/ug/efs-onpremises.html>

NEW QUESTION 29

A company is running an email application across multiple AWS Regions. The company uses Ohio (us-east-2) as the primary Region and Northern Virginia (us-east-1) as the Disaster Recovery (DR) Region. The data is continuously replicated from the primary Region to the DR Region by a single instance on the public

subnet in both Regions. The replication messages between the Regions have a significant backlog during certain times of the day. The backlog clears on its own after a short time, but it affects the application's RPO.

Which of the following solutions should help remediate this performance problem? (Select TWO)

- A. Increase the size of the instances.
- B. Have the instance in the primary Region write the data to an Amazon SQS queue in the primary Region instead, and have the instance in the DR Region poll from this queue.
- C. Use multiple instances on the primary and DR Regions to send and receive the replication data.
- D. Change the DR Region to Oregon (us-west-2) instead of the current DR Region.
- E. Attach an additional elastic network interface to each of the instances in both Regions and set up load balancing between the network interfaces.

Answer: AC

NEW QUESTION 32

A company had a tight deadline to migrate its on-premises environment to AWS. It moved over Microsoft SQL Servers and Microsoft Windows Servers using the virtual machine import/export service and rebuild other applications native to the cloud. The team created both Amazon EC2 databases and used Amazon RDS. Each team in the company was responsible for migrating their applications, and they have created individual accounts for isolation of resources. The company did not have much time to consider costs, but now it would like suggestions on reducing its AWS spend.

Which steps should a Solutions Architect take to reduce costs?

- A. Enable AWS Business Support and review AWS Trusted Advisor's cost check
- B. Create Amazon EC2 Auto Scaling groups for applications that experience fluctuating demand
- C. Save AWS Simple Monthly Calculator reports in Amazon S3 for trend analysis
- D. Create a master account under Organizations and have teams join for consolidating billing.
- E. Enable Cost Explorer and AWS Business Support Reserve Amazon EC2 and Amazon RDS DB instance
- F. Use Amazon CloudWatch and AWS Trusted Advisor for monitoring and to receive cost-savings suggestion
- G. Create a master account under Organizations and have teams join for consolidated billing.
- H. Create an AWS Lambda function that changes the instance size based on Amazon CloudWatch alarms. Reserve instances based on AWS Simple Monthly Calculator suggestion
- I. Have an AWS Well-Architected framework review and apply recommendation
- J. Create a master account under Organizations and have teams join for consolidated billing.
- K. Create a budget and monitor for costs exceeding the budget
- L. Create Amazon EC2 Auto Scaling groups for applications that experience fluctuating demand
- M. Create an AWS Lambda function that changes instance sizes based on Amazon CloudWatch alarm
- N. Have each team upload their bill to an Amazon S3 bucket for analysis of team spending
- O. Use Spot instances on nightly batch processing jobs.

Answer: B

Explanation:

Import/Export supports importing and exporting data into and out of Amazon S3 buckets. For significant data sets, AWS Import/Export is often faster than Internet transfer and more cost effective than upgrading your connectivity.

NEW QUESTION 37

A company runs a public-facing application that uses a Java-based web service via a RESTful API. It is hosted on Apache Tomcat on a single server in a data center that runs consistently at 30% CPU utilization. Use of the API is expected to increase by 10 times with a new product launch. The business wants to migrate the application to AWS with no disruption and needs it to scale to meet demand.

The company has already decided to use Amazon Route 53 and CNAME records to redirect traffic. How can these requirements be met with the LEAST amount of effort?

- A. Use AWS Elastic Beanstalk to deploy the Java web service and enable Auto Scaling. Then switch the application to use the new web service.
- B. Lift and shift the Apache server to the cloud using AWS SMS. Then switch the application to direct web service traffic to the new instance.
- C. Create a Docker image and migrate the image to Amazon ECS. Then change the application code to direct web service queries to the ECS container.
- D. Modify the application to call the web service via Amazon API Gateway. Then create a new AWS Lambda Java function to run the Java web service code. After testing, change API Gateway to use the Lambda function.

Answer: A

NEW QUESTION 40

A company is implementing a multi-account strategy; however, the Management team has expressed concerns that services like DNS may become overly complex. The company needs a solution that allows private DNS to be shared among virtual private clouds (VPCs) in different accounts. The company will have approximately 50 accounts in total.

What solution would create the LEAST complex DNS architecture and ensure that each VPC can resolve all AWS resources?

- A. Create a shared services VPC in a central account, and create a VPC peering connection from the shared services VPC to each of the VPCs in the other account.
- B. Within Amazon Route 53, create a privately hosted zone in the shared services VPC and resource record sets for the domain and subdomains. Programmatically associate other VPCs with the hosted zone.
- C. Create a VPC peering connection among the VPCs in all accounts.
- D. Set the VPC attributes `enableDnsHostnames` and `enableDnsSupport` to "true" for each VPC.
- E. Create an Amazon Route 53 private zone for each VPC.
- F. Create resource record sets for the domain and subdomain.
- G. Programmatically associate the hosted zones in each VPC with the other VPCs.
- H. Create a shared services VPC in a central account.
- I. Create a VPC peering connection from the VPCs in other accounts to the shared services VPC.
- J. Create an Amazon Route 53 privately hosted zone in the shared services VPC with resource record sets for the domain and subdomain.
- K. Allow UDP and TCP port 53 over the VPC peering connections.
- L. Set the VPC attributes `enableDnsHostnames` and `enableDnsSupport` to "false" in every VPC.
- M. Create an AWS Direct Connect connection with a private virtual interface.
- N. Allow UDP and TCP port 53 over the virtual interface.

O. Use the on-premises DNS servers to resolve the IP addresses in each VPC on AWS.

Answer: A

Explanation:

<https://aws.amazon.com/blogs/networking-and-content-delivery/centralized-dns-management-of-hybrid-cloud-w>

NEW QUESTION 42

A company is using AWS for production and development workloads. Each business unit has its own AWS account for production, and a separate AWS account to develop and deploy its applications. The Information Security department has introduced new security policies that limit access for terminating certain Amazon ECs instances in all accounts to a small group of individuals from the Security team.

How can the Solutions Architect meet these requirements?

- A. Create a new IAM policy that allows access to those EC2 instances only for the Security tea
- B. Apply this policy to the AWS Organizations master account.
- C. Create a new tag-based IAM policy that allows access to these EC2 instances only for the Security team. Tag the instances appropriately, and apply this policy in each account.
- D. Create an organizational unit under AWS Organization
- E. Move all the accounts into this organizational unit and use SCP to apply a whitelist policy to allow access to these EC2 instances for the Security team only.
- F. Set up SAML federation for all accounts in AW
- G. Configure SAML so that it checks for the service API call before authenticating the use
- H. Block SAML from authenticating API calls if anyone other than the Security team accesses these instances.

Answer: B

NEW QUESTION 47

A company runs an ordering system on AWS using Amazon SQS and AWS Lambda, with each order received as a JSON message. recently the company had a marketing event that led to a tenfold increase in orders. With this increase, the following undesired behaviors started in the ordering system:

- Lambda failures while processing orders lead to queue backlogs.
- The same orders have been processed multiple times.

A solutions Architect has been asked to solve the existing issues with the ordering system and add the following resiliency features:

- Retain problematic orders for analysis.
- Send notification if errors go beyond a threshold value. How should the Solutions Architect meet these requirements?

- A. Receive multiple messages with each Lambda invocation, add error handling to message processing code and delete messages after processing, increase the visibility timeout for the messages, create a dead letter queue for messages that could not be processed, create an Amazon CloudWatch alarm on Lambda errors for notification.
- B. Receive single messages with each Lambda invocation, put additional Lambda workers to poll the queue, delete messages after processing, increase the message timer for the messages, use Amazon CloudWatch Logs for messages that could not be processed, create a CloudWatch alarm on Lambda errors for notification.
- C. Receive multiple messages with each Lambda invocation, use long polling when receiving the messages, log the errors from the message processing code using Amazon CloudWatch Logs, create a dead letter queue with AWS Lambda to capture failed invocations, create CloudWatch events on Lambda errors for notification.
- D. Receive multiple messages with each Lambda invocation, add error handling to message processing code and delete messages after processing, increase the visibility timeout for the messages, create a delay queue for messages that could not be processed, create an Amazon CloudWatch metric on Lambda errors for notification.

Answer: D

NEW QUESTION 49

A company runs a legacy system on a single m4.2xlarge Amazon EC2 instance with Amazon EBS2 storage. The EC2 instance runs both the web server and a self-managed Oracle database. A snapshot is made of the EBS volume every 12 hours, and an AMI was created from the fully configured EC2 instance.

A recent event that terminated the EC2 instance led to several hours of downtime. The application was successfully launched from the AMI, but the age of the EBS snapshot and the repair of the database resulted in the loss of 8 hours of data. The system was also down for 4 hours while the Systems Operators manually performed these processes.

What architectural changes will minimize downtime and reduce the chance of lost data?

- A. Create an Amazon CloudWatch alarm to automatically recover the instanc
- B. Create a script that will check and repair the database upon reboot
- C. Subscribe the Operations team to the Amazon SNS message generated by the CloudWatch alarm.
- D. Run the application on m4.xlarge EC2 instances behind an Elastic Load Balancer/Application Load Balance
- E. Run the EC2 instances in an Auto Scaling group across multiple Availability Zones with a minimum instance count of tw
- F. Migrate the database to an Amazon RDS Oracle Multi-AZ DB instance.
- G. Run the application on m4.2xlarge EC2 instances behind an Elastic Load Balancer/Application Load Balance
- H. Run the EC2 instances in an Auto Scaling group across multiple Availability Zones with a minimum instance count of on
- I. Migrate the database to an Amazon RDS Oracle Multi-AZ DB instance.
- J. Increase the web server instance count to two m4.xlarge instances and use Amazon Route 53 round-robin load balancing to spread the loa
- K. Enable Route 53 health checks on the web server
- L. Migrate the database to an Amazon RDS Oracle Multi-AZ DB instance.

Answer: B

Explanation:

Ensures that there are at least two EC instances, each of which is in a different AZ. It also ensures that the database spans multiple AZs. Hence this meets all the criteria.

<https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-policy.html>

NEW QUESTION 51

What combination of steps could a Solutions Architect take to protect a web workload running on Amazon EC2 from DDoS and application layer attacks? (Select two.)

- A. Put the EC2 instances behind a Network Load Balancer and configure AWS WAF on it.
- B. Migrate the DNS to Amazon Route 53 and use AWS Shield
- C. Put the EC2 instances in an Auto Scaling group and configure AWS WAF on it.
- D. Create and use an Amazon CloudFront distribution and configure AWS WAF on it.
- E. Create and use an internet gateway in the VPC and use AWS Shield.

Answer: BD

Explanation:

References: <https://aws.amazon.com/answers/networking/aws-ddos-attack-mitigation/>

NEW QUESTION 56

A media company has a 30-TB repository of digital news videos. These videos are stored on tape in an on-premises tape library and referenced by a Media Asset Management (MAM) system. The company wants to enrich the metadata for these videos in an automated fashion and put them into a searchable catalog by using a MAM feature. The company must be able to search based on information in the video, such as objects, scenery items, or people's faces. A catalog is available that contains faces of people who have appeared in the videos that include an image of each person. The company would like to migrate these videos to AWS.

The company has a high-speed AWS Direct Connect connection with AWS and would like to move the MAM solution video content directly from its current file system.

How can these requirements be met by using the LEAST amount of ongoing management overhead and causing MINIMAL disruption to the existing system?

- A. Set up an AWS Storage Gateway, file gateway appliance on-premise
- B. Use the MAM solution to extract the videos from the current archive and push them into the file gateway
- C. Use the catalog of faces to build a collection in Amazon Rekognition
- D. Build an AWS Lambda function that invokes the Rekognition Javascript SDK to have Rekognition pull the video from the Amazon S3 files backing the file gateway, retrieve the required metadata, and push the metadata into the MAM solution.
- E. Set up an AWS Storage Gateway, tape gateway appliance on-premise
- F. Use the MAM solution to extract the videos from the current archive and push them into the tape gateway
- G. Use the catalog of faces to build a collection in Amazon Rekognition
- H. Build an AWS Lambda function that invokes the Rekognition Javascript SDK to have Amazon Rekognition process the video in the tape gateway, retrieve the required metadata, and push the metadata into the MAM solution.
- I. Configure a video ingestion stream by using Amazon Kinesis Video Stream
- J. Use the catalog of faces to build a collection in Amazon Rekognition
- K. Stream the videos from the MAM solution into Kinesis Video Stream
- L. Configure Amazon Rekognition to process the streamed video
- M. Then, use a stream consumer to retrieve the required metadata, and push the metadata into the MAM solution
- N. Configure the stream to store the videos in Amazon S3.
- O. Set up an Amazon EC2 instance that runs the OpenCV libraries
- P. Copy the videos, images, and face catalog from the on-premises library into an Amazon EBS volume mounted on this EC2 instance
- Q. Process the videos to retrieve the required metadata, and push the metadata into the MAM solution while also copying the video files to an Amazon S3 bucket.

Answer: C

Explanation:

<https://docs.aws.amazon.com/rekognition/latest/dg/streaming-video.html>

NEW QUESTION 61

A group of research institutions and hospitals are in a partnership to study 2 PBs of genomic data. The institute that owns the data stores it in an Amazon S3 bucket and updates it regularly. The institute would like to give all of the organizations in the partnership read access to the data. All members of the partnership are extremely cost-conscious, and the institute that owns the account with the S3 bucket is concerned about covering the costs for requests and data transfers from Amazon S3.

Which solution allows for secure datasharing without causing the institute that owns the bucket to assume all the costs for S3 requests and data transfers?

- A. Ensure that all organizations in the partnership have AWS account
- B. In the account with the S3 bucket, create a cross-account role for each account in the partnership that allows read access to the data
- C. Have the organizations assume and use that read role when accessing the data.
- D. Ensure that all organizations in the partnership have AWS account
- E. Create a bucket policy on the bucket that owns the data
- F. The policy should allow the accounts in the partnership read access to the bucket
- G. Enable Requester Pays on the bucket
- H. Have the organizations use their AWS credentials when accessing the data.
- I. Ensure that all organizations in the partnership have AWS account
- J. Configure buckets in each of the accounts with a bucket policy that allows the institute that owns the data the ability to write to the bucket
- K. Periodically sync the data from the institute's account to the other organization
- L. Have the organizations use their AWS credentials when accessing the data using their accounts.
- M. Ensure that all organizations in the partnership have AWS account
- N. In the account with the S3 bucket, create a cross-account role for each account in the partnership that allows read access to the data
- O. Enable Requester Pays on the bucket
- P. Have the organizations assume and use that read role when accessing the data.

Answer: B

Explanation:

<https://docs.aws.amazon.com/AmazonS3/latest/dev/RequesterPaysBuckets.html>

NEW QUESTION 64

A large company experienced a drastic increase in its monthly AWS spend. This is after Developers accidentally launched Amazon EC2 instances in unexpected regions. The company has established practices around least privileges for Developers and controls access to on-premises resources using Active Directory groups. The company now wants to control costs by restricting the level of access that Developers have to the AWS Management Console without impacting their productivity. The company would also like to allow Developers to launch Amazon EC2 in only one region, without limiting access to other services in any region. How can this company achieve these new security requirements while minimizing the administrative burden on the Operations team?

- A. Set up SAML-based authentication tied to an IAM role that has an AdministrativeAccess managed policy attached to it
- B. Attach a customer managed policy that denies access to Amazon EC2 in each region except for the one required.
- C. Create an IAM user for each Developer and add them to the developer IAM group that has the PowerUserAccess managed policy attached to it
- D. Attach a customer managed policy that allows the Developers access to Amazon EC2 only in the required region.
- E. Set up SAML-based authentication tied to an IAM role that has a PowerUserAccess managed policy and a customer managed policy that deny all the Developers access to any AWS services except AWS Service Catalog
- F. Within AWS Service Catalog, create a product containing only the EC2 resources in the approved region.
- G. Set up SAML-based authentication tied to an IAM role that has the PowerUserAccess managed policy attached to it
- H. Attach a customer managed policy that denies access to Amazon EC2 in each region except for the one required.

Answer: D

Explanation:

The tricks here are: - SAML for AD federation and authentication - PowerUserAccess vs AdministrativeAccess. (PowerUser has less privilege, which is the required one for developers). Admin, has more rights. The description of "PowerUser access" given by AWS is "Provides full access to AWS services and resources, but does not allow management of Users and groups."

NEW QUESTION 65

A company is creating an account strategy so that they can begin using AWS. The Security team will provide each team with the permissions they need to follow the principle of least privileged access. Teams would like to keep their resources isolated from other groups, and the Finance team would like each team's resource usage separated for billing purposes.

Which account creation process meets these requirements and allows for changes?

- A. Create a new AWS Organizations account
- B. Create groups in Active Directory and assign them to roles in AWS to grant federated access
- C. Require each team to tag their resources, and separate bills based on tag
- D. Control access to resources through IAM granting the minimally required privilege.
- E. Create individual accounts for each team
- F. Assign the security as the master account, and enable consolidated billing for all other accounts
- G. Create a cross-account role for security to manage accounts, and send logs to a bucket in the security account.
- H. Create a new AWS account, and use AWS Service Catalog to provide teams with the required resources. Implement a third-party billing to provide the Finance team with the resource use for each team based on tagging
- I. Isolate resources using IAM to avoid account sprawl
- J. Security will control and monitor logs and permissions.
- K. Create a master account for billing using Organizations, and create each team's account from that master account
- L. Create a security account for logs and cross-account access
- M. Apply service control policies on each account, and grant the Security team cross-account access to all accounts
- N. Security will create IAM policies for each account to maintain least privilege access.

Answer: B

NEW QUESTION 66

A company wants to allow its Marketing team to perform SQL queries on customer records to identify market segments. The data is spread across hundreds of files. The records must be encrypted in transit and at rest. The Team Manager must have the ability to manage users and groups, but no team members should have access to services or resources not required for the SQL queries. Additionally, Administrators need to audit the queries made and receive notifications when a query violates rules defined by the Security team.

AWS Organizations has been used to create a new account and an AWS IAM user with administrator permissions for the Team Manager.

Which design meets these requirements?

- A. Apply a service control policy (SCP) that allows access to IAM, Amazon RDS, and AWS CloudTrail. Load customer records in Amazon RDS MySQL and train users to execute queries using the AWS CLI
- B. Stream the query logs to Amazon CloudWatch Logs from the RDS database instance
- C. Use a subscription filter with AWS Lambda functions to audit and alarm on queries against personal data.
- D. Apply a service control policy (SCP) that denies access to all services except IAM, Amazon Athena, Amazon S3, and AWS CloudTrail
- E. Store customer record files in Amazon S3 and train users to execute queries using the CLI via Athena
- F. Analyze CloudTrail events to audit and alarm on queries against personal data.
- G. Apply a service control policy (SCP) that denies access to all services except IAM, Amazon DynamoDB, and AWS CloudTrail
- H. Store customer records in DynamoDB and train users to execute queries using the AWS CLI
- I. Enable DynamoDB streams to track the queries that are issued and use an AWS Lambda function for real-time monitoring and alerting.
- J. Apply a service control policy (SCP) that allows access to IAM, Amazon Athena, Amazon S3, and AWS CloudTrail
- K. Store customer records as files in Amazon S3 and train users to leverage the Amazon S3 Select feature and execute queries using the AWS CLI
- L. Enable S3 object-level logging and analyze CloudTrail events to audit and alarm on queries against personal data.

Answer: D

NEW QUESTION 67

A company runs a video processing platform. Files are uploaded by users who connect to a web server, which stores them on an Amazon EFS share. This web server is running on a single Amazon EC2 instance. A different group of instances, running in an Auto Scaling group, scans the EFS share directory structure for new files to process and generates new videos (thumbnails, different resolution, compression, etc.) according to the instructions file, which is uploaded along with the video files. A different application running on a group of instances managed by an Auto Scaling group processes the video files and then deletes them from the EFS share. The results are stored in an S3 bucket. Links to the processed video files are emailed to the customer.

The company has recently discovered that as they add more instances to the Auto Scaling Group, many files are processed twice, so image processing speed is not improved. The maximum size of these video files is 2GB.

What should the Solutions Architect do to improve reliability and reduce the redundant processing of video files?

- A. Modify the web application to upload the video files directly to Amazon S3. Use Amazon CloudWatch Events to trigger an AWS Lambda function every time a file is uploaded, and have this Lambda function put a message into an Amazon SQS queue
- B. Modify the video processing application to read from SQS queue for new files and use the queue depth metric to scale instances in the video processing Auto Scaling group.
- C. Set up a cron job on the web server instance to synchronize the contents of the EFS share into Amazon S3. Trigger an AWS Lambda function every time a file is uploaded to process the video file and store the results in Amazon S3. Using Amazon CloudWatch Events trigger an Amazon SES job to send an email to the customer containing the link to the processed file.
- D. Rewrite the web application to run directly from Amazon S3 and use Amazon API Gateway to upload the video files to an S3 bucket
- E. Use an S3 trigger to run an AWS Lambda function each time a file is uploaded to process and store new video files in a different bucket
- F. Using CloudWatch Events, trigger an SES job to send an email to the customer containing the link to the processed file.
- G. Rewrite the web application to run from Amazon S3 and upload the video files to an S3 bucket
- H. Each time a new file is uploaded, trigger an AWS Lambda function to put a message in an SQS queue containing the link and the instruction
- I. Modify the video processing application to read from the SQS queue and the S3 bucket
- J. Use the queue depth metric to adjust the size of the Auto Scaling group for video processing instances.

Answer: A

NEW QUESTION 72

A company is moving a business-critical application onto AWS. It is a traditional three-tier web application using an Oracle database. Data must be encrypted in transit and at rest. The database hosts 12 TB of data. Network connectivity to the source Oracle database over the internal is allowed, and the company wants to reduce the operational costs by using AWS Managed Services where possible. All resources within the web and application tiers have been migrated. The database has a few tables and a simple schema using primary keys only; however, it contains many Binary Large Object (BLOB) fields. It was not possible to use the database's native replication tools because of licensing restrictions.

Which database migration solution will result in the LEAST amount of impact to the application's availability?

- A. Provision an Amazon RDS for Oracle instance
- B. Host the RDS database within a virtual private cloud (VPC) subnet with internet access, and set up the RDS database as an encrypted Read Replica of the source database
- C. Use SSL to encrypt the connection between the two databases
- D. Monitor the replication performance by watching the RDS ReplicaLag metric
- E. During the application maintenance window, shut down the on-premises database and switch over the application connection to the RDS instance when there is no more replication lag
- F. Promote the Read Replica into a standalone database instance.
- G. Provision an Amazon EC2 instance and install the same Oracle database software
- H. Create a backup of the source database using the supported tool
- I. During the application maintenance window, restore the backup into the Oracle database running in the EC2 instance
- J. Set up an Amazon RDS for Oracle instance, and create an import job between the database hosted in AWS
- K. Shut down the source database and switch over the database connections to the RDS instance when the job is complete.
- L. Use AWS DMS to load and replicate the dataset between the on-premises Oracle database and the replication instance hosted on AWS
- M. Provision an Amazon RDS for Oracle instance with Transparent Data Encryption (TDE) enabled and configure it as target for the replication instance
- N. Create a customer-managed AWS KMS master key to set it as the encryption key for the replication instance. Use AWS DMS tasks to load the data into the target RDS instance
- O. During the application maintenance window and after the load tasks reach the ongoing replication phase, switch the database connections to the new database.
- P. Create a compressed full database backup on the on-premises Oracle database during an application maintenance window
- Q. While the backup is being performed, provision a 10 Gbps AWS Direct Connect connection to increase the transfer speed of the database backup files to Amazon S3, and shorten the maintenance window period
- R. Use SSL/TLS to copy the files over the Direct Connect connection
- S. When the backup files are successfully copied, start the maintenance window, and use any of the Amazon RDS supported tools to import the data into a newly provisioned Amazon RDS for Oracle instance with encryption enabled
- T. Wait until the data is fully loaded and switch over the database connections to the new database
- . Delete the Direct Connect connection to cut unnecessary charges.

Answer: C

Explanation:

<https://aws.amazon.com/blogs/apn/oracle-database-encryption-options-on-amazon-rds/>

<https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Appendix.Oracle.Options.AdvSecurity.html> | (DMS in transit encryption)

https://docs.aws.amazon.com/dms/latest/userguide/CHAP_Security.html

NEW QUESTION 74

A company is adding a new approved external vendor that only supports IPv6 connectivity. The company's backend systems sit in the private subnet of an Amazon VPC. The company uses a NAT gateway to allow these systems to communicate with external vendors over IPv4. Company policy requires systems that communicate with external vendors use a security group that limits access to only approved external vendors. The virtual private cloud (VPC) uses the default network ACL.

The Systems Operator successfully assigns IPv6 addresses to each of the backend systems. The Systems Operator also updates the outbound security group to include the IPv6 CIDR of the external vendor (destination). The systems within the VPC are able to ping one another successfully over IPv6. However, these systems are unable to communicate with the external vendor.

What changes are required to enable communication with the external vendor?

- A. Create an IPv6 NAT instance
- B. Add a route for destination 0.0.0.0/0 pointing to the NAT instance.
- C. Enable IPv6 on the NAT gateway
- D. Add a route for destination ::/0 pointing to the NAT gateway.
- E. Enable IPv6 on the internet gateway
- F. Add a route for destination 0.0.0.0/0 pointing to the IGW.
- G. Create an egress-only internet gateway
- H. Add a route for destination ::/0 pointing to the gateway.

Answer: D

Explanation:

<https://docs.aws.amazon.com/vpc/latest/userguide/egress-only-internet-gateway.html>

NEW QUESTION 76

A company has a legacy application running on servers on premises. To increase the application's reliability, the company wants to gain actionable insights using application logs. A Solutions Architect has been given following requirements for the solution:

- Aggregate logs using AWS.
- Automate log analysis for errors.
- Notify the Operations team when errors go beyond a specified threshold. What solution meets the requirements?

- A. Install Amazon Kinesis Agent on servers, send logs to Amazon Kinesis Data Streams and use Amazon Kinesis Data Analytics to identify errors, create an Amazon CloudWatch alarm to notify the Operations team of errors
- B. Install an AWS X-Ray agent on servers, send logs to AWS Lambda and analyze them to identify errors, use Amazon CloudWatch Events to notify the Operations team of errors.
- C. Install Logstash on servers, send logs to Amazon S3 and use Amazon Athena to identify errors, use sendmail to notify the Operations team of errors.
- D. Install the Amazon CloudWatch agent on servers, send logs to Amazon CloudWatch Logs and use metric filters to identify errors, create a CloudWatch alarm to notify the Operations team of errors.

Answer: A

Explanation:

<https://docs.aws.amazon.com/kinesis-agent-windows/latest/userguide/what-is-kinesis-agent-windows.html> <https://medium.com/@khandelwal12nidhi/build-log-analytic-solution-on-aws-cc62a70057b2>

NEW QUESTION 81

AnyCompany has acquired numerous companies over the past few years. The CIO for AnyCompany would like to keep the resources for each acquired company separate. The CIO also would like to enforce a chargeback model where each company pays for the AWS services it uses.

The Solutions Architect is tasked with designing an AWS architecture that allows AnyCompany to achieve the following:

- Implementing a detailed chargeback mechanism to ensure that each company pays for the resources it uses.
- AnyCompany can pay for AWS services for all its companies through a single invoice.
- Developers in each acquired company have access to resources in their company only.
- Developers in an acquired company should not be able to affect resources in their company only.
- A single identity store is used to authenticate Developers across all companies.

Which of the following approaches would meet these requirements? (Choose two.)

- A. Create a multi-account strategy with an account per compan
- B. Use consolidated billing to ensure that AnyCompany needs to pay a single bill only.
- C. Create a multi-account strategy with a virtual private cloud (VPC) for each compan
- D. Reduce impact across companies by not creating any VPC peering link
- E. As everything is in a single account, there will be a single invoic
- F. use tagging to create a detailed bill for each company.
- G. Create IAM users for each Developer in the account to which they require acces
- H. Create policies that allow the users access to all resources in that accoun
- I. Attach the policies to the IAM user.
- J. Create a federated identity store against the company's Active Director
- K. Create IAM roles with appropriate permissions and set the trust relationships with AWS and the identity stor
- L. Use AWS STS to grant users access based on the groups they belong to in the identity store.
- M. Create a multi-account strategy with an account per compan
- N. For billing purposes, use a tagging solution that uses a tag to identify the company that creates each resource.

Answer: AD

NEW QUESTION 85

A company has more than 100 AWS accounts, with one VPC per account, that need outbound HTTPS connectivity to the internet. The current design contains one NAT gateway per Availability Zone (AZ) in each VPC. To reduce costs and obtain information about outbound traffic, management has asked for a new architecture for internet access.

Which solution will meet the current needs, and continue to grow as new accounts are provisioned, while reducing costs?

- A. Create a transit VPC across two AZs using a third-party routing applan
- B. Create a VPN connection to each VP
- C. Default route internet traffic to the transit VPC.
- D. Create multiple hosted-private AWS Direct Connect VIFs, one per account, each with a Direct Connect gatewa
- E. Default route internet traffic back to an on-premises router to route to the internet.
- F. Create a central VPC for outbound internet traffi
- G. Use VPC peering to default route to a set of redundant NAT gateway in the central VPC.
- H. Create a proxy fleet in a central VPC accoun
- I. Create an AWS PrivateLink endpoint service in the central VP
- J. Use PrivateLink interface for internet connectivity through the proxy fleet.

Answer: D

Explanation:

user proxy fleet over PrivateLink. As explained in this AWS website:

<https://aws.amazon.com/blogs/networking-and-content-delivery/how-to-use-aws-privatelink-to-secure-and-scale>

NEW QUESTION 87

The company Security team requires that all data uploaded into an Amazon S3 bucket must be encrypted. The encryption keys must be highly available and the company must be able to control access on a per-user basis, with different users having access to different encryption keys. Which of the following architectures will meet these requirements? (Choose two.)

- A. Use Amazon S3 server-side encryption with Amazon S3-managed key
- B. Allow Amazon S3 to generate an AWS/S3 master key, and use IAM to control access to the data keys that are generated.
- C. Use Amazon S3 server-side encryption with AWS KMS-managed keys, create multiple customer master keys, and use key policies to control access to them.
- D. Use Amazon S3 server-side encryption with customer-managed keys, and use AWS CloudHSM to manage the key
- E. Use CloudHSM client software to control access to the keys that are generated.
- F. Use Amazon S3 server-side encryption with customer-managed keys, and use two AWS CloudHSM instances configured in high-availability mode to manage the key
- G. Use the Cloud HSM client software to control access to the keys that are generated.
- H. Use Amazon S3 server-side encryption with customer-managed keys, and use two AWS CloudHSM instances configured in high-availability mode to manage the key
- I. Use IAM to control access to the keys that are generated in CloudHSM.

Answer: BD

Explanation:

<http://websecuritypatterns.com/blogs/2018/03/01/encryption-and-key-management-in-aws-kms-vs-cloudhsm-mys/>

NEW QUESTION 90

An e-commerce company is revamping its IT infrastructure and is planning to use AWS services. The company's CIO has asked a Solutions Architect to design a simple, highly available, and loosely coupled order processing application. The application is responsible for receiving and processing orders before storing them in an Amazon DynamoDB table. The application has a sporadic traffic pattern and should be able to scale during marketing campaigns to process the orders with minimal delays.

Which of the following is the MOST reliable approach to meet the requirements?

- A. Receive the orders in an Amazon EC2-hosted database and use EC2 instances to process them.
- B. Receive the orders in an Amazon SQS queue and trigger an AWS Lambda function to process them.
- C. Receive the orders using the AWS Step Functions program and trigger an Amazon ECS container to process them.
- D. Receive the orders in Amazon Kinesis Data Streams and use Amazon EC2 instances to process them.

Answer: B

NEW QUESTION 95

A company wants to replace its call system with a solution built using AWS managed services. The company call center would like the solution to receive calls, create contact flows, and scale to handle growth projections. The call center would also like the solution to use deep learning capabilities to recognize the intent of the callers and handle basic tasks, reducing the need to speak an agent. The solution should also be able to query business applications and provide relevant information back to calls as requested.

Which services should the Solution Architect use to build this solution? (Choose three.)

- A. Amazon Rekognition to identity who is calling.
- B. Amazon Connect to create a cloud-based contact center.
- C. Amazon Alexa for Business to build conversational interface.
- D. AWS Lambda to integrate with internal systems.
- E. Amazon Lex to recognize the intent of the caller.
- F. Amazon SQS to add incoming callers to a queue.

Answer: BDE

NEW QUESTION 97

A company has a website that enables users to upload videos. Company policy states the uploaded videos must be analyzed for restricted content. An uploaded video is placed in Amazon S3, and a message is pushed to an Amazon SQS queue with the video's location. A backend application pulls this location from Amazon SQS and analyzes the video.

The video analysis is compute-intensive and occurs sporadically during the day. The website scales with demand. The video analysis application runs on a fixed number of instances. Peak demand occurs during the holidays, so the company must add instances to the application during this time. All instances used are currently on-demand Amazon EC2 T2 instances. The company wants to reduce the cost of the current solution.

Which of the following solutions is MOST cost-effective?

- A. Keep the website on T2 instances. Determine the minimum number of website instances required during off-peak times and use Spot Instances to cover them while using Reserved Instances to cover peak demand. Use Amazon EC2 R4 and Amazon EC2 R5 Reserved Instances in an Auto Scaling group for the video analysis application.
- B. Keep the website on 12 instances. Determine the minimum number of website instances required during off-peak times and use Reserved Instances to cover them while using On-Demand Instances to cover peak demand. Use Spot Fleet for the video analysis application comprised of Amazon EC2 C4 and Amazon EC2 C5 Spot Instances.
- C. Migrate the website to AWS Elastic Beanstalk and Amazon EC2 C4 instances. Determine the minimum number of website instances required during off-peak times and use On-Demand instances to cover them while using Spot capacity to cover peak demand. Use Spot Fleet for the video analysis application comprised of C4 and Amazon EC2 C5 instances.
- D. Migrate the website to AWS Elastic Beanstalk and Amazon EC2 R4 instances. Determine the minimum number of website instances required during off-peak times and use Reserved Instances to cover them while using On-Demand Instances to cover peak demand. Use Spot Fleet for the video analysis application comprised of R4 and Amazon EC2 R5 instances.

Answer: B

NEW QUESTION 99

A company plans to move regulated and security-sensitive businesses to AWS. The Security team is developing a framework to validate the adoption of AWS best practice and industry-recognized compliance standards. The AWS Management Console is the preferred method for teams to provision resources.

Which strategies should a Solutions Architect use to meet the business requirements and continuously assess, audit, and monitor the configurations of AWS resources? (Choose two.)

- A. Use AWS Config rules to periodically audit changes to AWS resources and monitor the compliance of the configuration
- B. Develop AWS Config custom rules using AWS Lambda to establish a test-driven development approach, and further automate the evaluation of configuration changes against the required controls.
- C. Use Amazon CloudWatch Logs agent to collect all the AWS SDK log
- D. Search the log data using a pre-defined set of filter patterns that machines mutating API call
- E. Send notifications using Amazon CloudWatch alarms when unintended changes are performed
- F. Archive log data by using a batch export to Amazon S3 and then Amazon Glacier for a long-term retention and auditability.
- G. Use AWS CloudTrail events to assess management activities of all AWS account
- H. Ensure that CloudTrail is enabled in all accounts and available AWS service
- I. Enable trails, encrypt CloudTrail event log files with an AWS KMS key, and monitor recorded activities with CloudWatch Logs.
- J. Use the Amazon CloudWatch Events near-real-time capabilities to monitor system events patterns, and trigger AWS Lambda functions to automatically revert non-authorized changes in AWS resource
- K. Also, target Amazon SNS topics to enable notifications and improve the response time of incident responses.
- L. Use CloudTrail integration with Amazon SNS to automatically notify unauthorized API activities. Ensure that CloudTrail is enabled in all accounts and available AWS service
- M. Evaluate the usage of Lambda functions to automatically revert non-authorized changes in AWS resources.

Answer: AC

Explanation:

<https://docs.aws.amazon.com/awscloudtrail/latest/userguide/cloudwatch-alarms-for-cloudtrail.html>

https://docs.aws.amazon.com/en_pv/awscloudtrail/latest/userguide/best-practices-security.html

NEW QUESTION 102

The CISO of a large enterprise with multiple IT departments, each with its own AWS account, wants one central place where AWS permissions for users can be managed and users authentication credentials can be synchronized with the company's existing on-premises solution. Which solution will meet the CISO's requirements?

- A. Define AWS IAM roles based on the functional responsibilities of the users in a central account
- B. Create a SAML-based identity management provider
- C. Map users in the on-premises groups to IAM role
- D. Establish trust relationships between the other accounts and the central account.
- E. Deploy a common set of AWS IAM users, groups, roles, and policies in all of the AWS accounts using AWS Organization
- F. Implement federation between the on-premises identity provider and the AWS accounts.
- G. Use AWS Organizations in a centralized account to define service control policies (SCPs). Create a SAML-based identity management provider in each account and map users in the on-premises groups to AWS IAM roles.
- H. Perform a thorough analysis of the user base and create AWS IAM users accounts that have the necessary permission
- I. Set up a process to provision and de provision accounts based on data in the on-premises solution.

Answer: A

Explanation:

https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial_cross-account-with-roles.html

NEW QUESTION 107

An organization has a write-intensive mobile application that uses Amazon API Gateway, AWS Lambda, and Amazon DynamoDB. The application has scaled well, however, costs have increased exponentially because of higher than anticipated Lambda costs. The application's use is unpredictable, but there has been a steady 20% increase in utilization every month.

While monitoring the current Lambda functions, the Solutions Architect notices that the execution-time averages 4.5 minutes. Most of the wait time is the result of a high-latency network call to a 3-TB MySQL database server that is on-premises. A VPN is used to connect to the VPC, so the Lambda functions have been configured with a five-minute timeout.

How can the Solutions Architect reduce the cost of the current architecture?

- A. Replace the VPN with AWS Direct Connect to reduce the network latency to the on-premises MySQL database. Enable local caching in the mobile application to reduce the Lambda function invocation calls. Monitor the Lambda function performance; gradually adjust the timeout and memory properties to lower values while maintaining an acceptable execution time. Offload the frequently accessed records from DynamoDB to Amazon ElastiCache.
- B. Replace the VPN with AWS Direct Connect to reduce the network latency to the on-premises MySQL database. Cache the API Gateway results to Amazon CloudFront. Use Amazon EC2 Reserved Instances instead of Lambda. Enable Auto Scaling on EC2, and use Spot Instances during peak times. Enable DynamoDB Auto Scaling to manage target utilization.
- C. Migrate the MySQL database server into a Multi-AZ Amazon RDS for MySQL. Enable caching of the Amazon API Gateway results in Amazon CloudFront to reduce the number of Lambda function invocations. Monitor the Lambda function performance; gradually adjust the timeout and memory properties to lower values while maintaining an acceptable execution time. Enable DynamoDB Accelerator for frequently accessed records, and enable the DynamoDB Auto Scaling feature.
- D. Migrate the MySQL database server into a Multi-AZ Amazon RDS for MySQL. Enable API caching on API Gateway to reduce the number of Lambda function invocations. Continue to monitor the AWS Lambda function performance; gradually adjust the timeout and memory properties to lower values while maintaining an acceptable execution time. Enable Auto Scaling in DynamoDB.

Answer: D

NEW QUESTION 109

A Solution Architect is designing a deployment strategy for an application tier and has the following requirements.

- * The application code will need a 500 MB static dataset to be present before application startup.
- * The application tier be able to scale Up and down based on demand with as little startup time as possible.
- * The development team should be able to update the code multiple times each day.
- * Critical operating system (OS) patches must be installed within 48 hours of being released. Which deployment strategy meets these requirements?

- A. Use AWS Manager to create a new AMI with the updated OS patches. Update the Auto Scaling group to use the patches AMI and replace existing unpatched
- B. Use AWS CodeDeploy to push the application code to the instance

- C. Store the static data in Amazon EFS.
- D. Use AWS System Manager to create a new AMI with upload OS patches
- E. Update the Auto Scaling group to use the patches AMI and replace existing unpatches and the application code as a batch job every night
- F. Store the static data in Amazon EFS.
- G. Use an Amazon provided AMI for the OS Configure an Auto Scaling group set to a static instance count
- H. Configure an Amazon EC2 user data script to download the data from Amazon S3 install OS patches with AWS system Manager when they are released
- I. Use CodeDeploy to push the application code to the instances.
- J. Use an Amazon provided AMI for the OS Configure an Auto Scaling group Configure an Amazon EC2 user data script to download the data from Amazon S3. Replace existing instances after each Amazon-provided AMI release
- K. Use AWS CodeDeploy to push the application code to the instances.

Answer: C

NEW QUESTION 113

A company needs to run a software package that has a license that must be run on the same physical host for the duration of its use. The software package is only going to be used for 90 days. The company requires patching and restarting of all instances every 30 days. How can these requirements be met using AWS?

- A. Run a dedicated instance with auto-placement disabled.
- B. Run the instance on a dedicated host with Host Affinity set to Host.
- C. Run an On-Demand instance with a Reserved Instance to ensure consistent placement.
- D. Run the instance on a licensed host with termination set for 90 days.

Answer: B

Explanation:

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/how-dedicated-hosts-work.html>

NEW QUESTION 114

A company has decided to move some workloads onto AWS to create a grid environment to run market analytics. The grid will consist of many similar instances, spun-up by a job-scheduling function. Each time a large analytics workload is completed, a new VPC is deployed along with job scheduler and grid nodes. Multiple grids could be running in parallel.

Key requirements are:

- Grid instances must communicate with Amazon S3 to retrieve data to be processed.
- Grid instances must communicate with Amazon DynamoDB to track intermediate data,
- The job scheduler needs only to communicate with the Amazon EC2 API to start new grid nodes.

A key requirement is that the environment has no access to the internet, either directly or via the on-premises proxy. However, the application needs to be able to seamlessly communicate to Amazon S3, Amazon DynamoDB, and Amazon EC2 API, without the need for reconfiguration for each new deployment.

Which of the following should the Solutions Architect do to achieve this target architecture? (Choose three.)

- A. Enable VPC endpoints for Amazon S3 and DynamoDB.
- B. Disable Private DNS Name Support.
- C. Configure the application on the grid instances to use the private DNS name of the Amazon S3 endpoint.
- D. Populate the on-premises DNS server with the private IP addresses of the EC2 endpoint.
- E. Enable an interface VPC endpoint for EC2.
- F. Configure Amazon S3 endpoint policy to permit access only from the grid nodes.

Answer: ACE

Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/connect-s3-vpc-endpoint/> <https://docs.aws.amazon.com/vpc/latest/userguide/vpce-interface.html>

NEW QUESTION 118

A Solutions Architect is working with a company that operates a standard three-tier web application in AWS. The web and application tiers run on Amazon EC2 and the database tier runs on Amazon RDS. The company is redesigning the web and application tiers to use Amazon API Gateway and AWS Lambda, and the company intends to deploy the new application within 6 months. The IT Manager has asked the Solutions Architect to reduce costs in the interim.

Which solution will be MOST cost effective while maintaining reliability?

- A. Use Spot Instances for the web tier, On-Demand Instances for the application tier, and Reserved Instances for the database tier.
- B. Use On-Demand Instances for the web and application tiers, and Reserved Instances for the database tier.
- C. Use Spot Instances for the web and application tiers, and Reserved Instances for the database tier.
- D. Use Reserved Instances for the web, application, and database tiers.

Answer: B

NEW QUESTION 119

A retail company is running an application that stores invoice files in Amazon S3 bucket and metadata about the files in an Amazon DynamoDB table. The S3 bucket and DynamoDB table are in us-east-1. The company wants to protect itself from data corruption and loss of connectivity to either Region.

Which option meets these requirements?

- A. Create a DynamoDB global table to replicate data between us-east-1 and eu-west-1. Enable continuous backup on the DynamoDB table in us-east-1. Enable versioning on the S3 bucket.
- B. Create an AWS Lambda function triggered by Amazon CloudWatch Events to make regular backups of the DynamoDB table
- C. Set up S3 cross-region replication from us-east-1 to eu-west-1. Set up MFA delete on the S3 bucket in us-east-1.
- D. Create a DynamoDB global table to replicate data between us-east-1 and eu-west-1. Enable versioning on the S3 bucket
- E. Implement strict ACLs on the S3 bucket.
- F. Create a DynamoDB global table to replicate data between us-east-1 and eu-west-1. Enable continuous backup on the DynamoDB table in us-east-1. Set up S3

cross-region replication from us-east-1 to eu-west-1.

Answer: A

Explanation:

<https://aws.amazon.com/blogs/aws/new-cross-region-replication-for-amazon-s3/>

NEW QUESTION 123

An online retailer needs to regularly process large product catalogs, which are handled in batches. These are sent out to be processed by people using the Amazon Mechanical Turk service, but the retailer has asked its Solutions Architect to design a workflow orchestration system that allows it to handle multiple concurrent Mechanical Turk operations, deal with the result assessment process, and reprocess failures.

Which of the following options gives the retailer the ability to interrogate the state of every workflow with the LEAST amount of implementation effort?

- A. Trigger Amazon CloudWatch alarms based upon message visibility in multiple Amazon SQS queues (one queue per workflow stage) and send messages via Amazon SNS to trigger AWS Lambda functions to process the next step
- B. Use Amazon ES and Kibana to visualize Lambda processing logs to see the workflow states.
- C. Hold workflow information in an Amazon RDS instance with AWS Lambda functions polling RDS for status change
- D. Worker Lambda functions then process the next workflow step
- E. Amazon QuickSight will visualize workflow states directly out of Amazon RDS.
- F. Build the workflow in AWS Step Functions, using it to orchestrate multiple concurrent workflow
- G. The status of each workflow can be visualized in the AWS Management Console, and historical data can be written to Amazon S3 and visualized using Amazon QuickSight.
- H. Use Amazon SWF to create a workflow that handles a single batch of catalog records with multiple worker tasks to extract the data, transform it, and send it through Mechanical Turk
- I. Use Amazon ES and Kibana to visualize AWS Lambda processing logs to see the workflow states.

Answer: C

Explanation:

AWS Step Functions is a fully managed service that makes it easy to coordinate the components of distributed applications and microservices using visual workflows. Instead of writing a Decider program, you define state machines in JSON. AWS customers should consider using Step Functions for new applications. If Step Functions does not fit your needs, then you should consider Amazon Simple Workflow (SWF). Amazon SWF provides you complete control over your orchestration logic, but increases the complexity of developing applications. You may write decider programs in the programming language of your choice, or you may use the Flow framework to use programming constructs that structure asynchronous interactions for you. AWS will continue to provide the Amazon SWF service, Flow framework, and support all Amazon SWF customers. <https://aws.amazon.com/swf/faqs/>

NEW QUESTION 124

A financial services company is moving to AWS and wants to enable Developers to experiment and innovate while preventing access to production applications. The company has the following requirements:

- Production workloads cannot be directly connected to the internet
- All workloads must be restricted to the us-west-2 and eu-central-1 Regions
- Notification should be sent when Developer sandboxes exceed \$500 in AWS spending monthly

Which combination of actions needs to be taken to create a multi-account structure that meets the company's requirements? (Select THREE)

- A. Create accounts for each production workload within an organization in AWS Organizations. Place the production accounts within an organizational unit (OU). For each account, delete the default VPC. Create an SCP with a Deny rule for the attach an internet gateway and create a default VPC. Attach the SCP to the OU for the production accounts.
- B. Create accounts for each production workload within an organization in AWS Organizations. Place the production accounts within an organizational unit (OU). Create an SCP with a Deny rule on the attach an internet gateway action. Create an SCP with a Deny rule to prevent use of the default VPC. Attach the SCPs to the OU for the production accounts.
- C. Create a SCP containing a Deny Effect for cloudfront". lam:*, route53* and support* with a StringNotEquals condition on an aws RequestedRegion condition key with us-west-2 and eu-central-1 values. Attach the SCP to the organization's root.
- D. Create an IAM permission boundary containing a Deny Effect for cloudfront". lam * route53' and support" with a StringNotEquals condition on an aws RequestedRegion condition key with us-west 2 and eu-central-1 values. Attach the permission boundary to an IAM group containing the development and production users.
- E. Create accounts for each development workload within an organization in AWS Organizations. Place the development accounts within an organizational unit (OU). Create a custom AWS Config rule to deactivate all IAM users when an account's monthly bill exceeds \$500.
- F. Create accounts for each development workload within an organization in AWS Organizations. Place the development accounts within an organizational unit (OU). Create a budget within AWS Budgets for each development account to monitor and report on monthly spending exceeding \$500.

Answer: ABD

NEW QUESTION 125

A company is running a web application with On-Demand Amazon EC2 instances in Auto Scaling groups that scale dynamically based on custom metrics. After extensive testing, the company determines that the m5.2xlarge instance size is optimal for the workload. Application data is stored in db.r4.4xlarge Amazon RDS instances that are confirmed to be optimal. The traffic to the web application spikes randomly during the day.

What other cost-optimization methods should the company implement to further reduce costs without impacting the reliability of the application?

- A. Double the instance count in the Auto Scaling groups and reduce the instance size to m5.large
- B. Reserve capacity for the RDS database and the minimum number of EC2 instances that are constantly running
- C. Reduce the RDS instance size to db.r4.xlarge and add five equivalents sized read replicas to provide reliability
- D. Reserve capacity for all EC2 instances and leverage Spot Instance pricing for the RDS database

Answer: B

NEW QUESTION 128

A company currently runs a secure application on Amazon EC2 that takes files from on-premises locations through AWS Direct Connect, processes them, and uploads them to a single Amazon S3 bucket. The application uses HTTPS for encryption in transit to Amazon S3, and S3 server-side encryption to encrypt at rest. Which of the following changes should the Solutions Architect recommend to make this solution more secure without impeding application's performance?

- A. Add a NAT gatewa
- B. Update the security groups on the EC2 instance to allow access to and from the S3 IP range onl
- C. Configure an S3 bucket policy that allows communication from the NAT gateway's Elastic IP address only.
- D. Add a VPC endpoint
- E. Configure endpoint policies on the VPC endpoint to allow access to the required Amazon S3 buckets onl
- F. Implement an S3 bucket policy that allows communication from the VPC's source IP range only.
- G. Add a NAT gatewa
- H. Update the security groups on the EC2 instance to allow access to and from the S3 IP range onl
- I. Configure an S3 bucket policy that allows communication from the source public IP address of the on-premises network only.
- J. Add a VPC endpoint
- K. Configure endpoint policies on the VPC endpoint to allow access to the required S3 buckets onl
- L. Implement an S3 bucket policy that allows communication from the VPC endpoint only.

Answer: D

Explanation:

<https://docs.aws.amazon.com/AmazonS3/latest/dev/example-bucket-policies-vpc-endpoint.html>

NEW QUESTION 132

A company has asked a Solutions Architect to design a secure content management solution that can be accessed by API calls by external customer applications. The company requires that a customer administrator must be able to submit an API call and roll back changes to existing files sent to the content management solution, as needed.

What is the MOST secure deployment design that meets all solution requirements?

- A. Use Amazon S3 for object storage with versioning and bucket access logging enabled, and an IAM role and access policy for each customer applicatio
- B. Encrypt objects using SSE-KM
- C. Develop the content management application to use a separate AWS KMS key for each customer.
- D. Use Amazon WorkDocs for object storag
- E. Leverage WorkDocs encryption, user access management, and version contro
- F. Use AWS CloudTrail to log all SDK actions and create reports of hourly access by using the Amazon CloudWatch dashboar
- G. Enable a revert function in the SDK based on a static Amazon S3 webpage that shows the output of the CloudWatch dashboard.
- H. Use Amazon EFS for object storage, using encryption at rest for the Amazon EFS volume and a customer managed key stored in AWS KM
- I. Use IAM roles and Amazon EFS access policies to specify separate encryption keys for each customer applicatio
- J. Deploy the content management application to store all new versions as new files in Amazon EFS and use a control API to revert a specific file to a previous version.
- K. Use Amazon S3 for object storage with versioning and enable S3 bucket access login
- L. Use an IAM role and access policy for each customer applicatio
- M. Encrypt objects using client-side encryption, and distribute an encryption key to all customers when accessing the content management application.

Answer: A

NEW QUESTION 135

A company has an application behind a load balancer with enough Amazon EC2 instances to satisfy peak demand. Scripts and third-party deployment solutions are used to configure EC2 instances when demand increases or an instance fails. The team must periodically evaluate the utilization of the instance types to ensure that the correct sizes are deployed.

How can this workload be optimized to meet these requirements?

- A. Use CloudFormer` to create AWS CloudFormation stacks from the current resource
- B. Deploy that stack by using AWS CloudFormation in the same regio
- C. Use Amazon CloudWatch alarms to send notifications about underutilized resources to provide cost-savings suggestions.
- D. Create an Auto Scaling group to scale the instances, and use AWS CodeDeploy to perform the configuratio
- E. Change from a load balancer to an Application Load Balance
- F. Purchase a third-party product that provides suggestions for cost savings on AWS resources.
- G. Deploy the application by using AWS Elastic Beanstalk with default option
- H. Register for an AWS Support Developer pla
- I. Review the instance usage for the application by using Amazon CloudWatch, and identify less expensive instances that can handle the loa
- J. Hold monthly meetings to review new instance types and determine whether Reserved instances should be purchased.
- K. Deploy the application as a Docker image by using Amazon EC
- L. Set up Amazon EC2 Auto Scaling and Amazon ECS scalin
- M. Register for AWS Business Support and use Trusted Advisor checks to provide suggestions on cost savings.

Answer: D

NEW QUESTION 136

A company wants to replace its call system with a solution built using AWS managed services. The company call center would like the solution to receive calls, create contact flows, and scale to handle growth projections. The call center would also like the solution to use deep learning capabilities to recognize the intent of the callers and handle basic tasks, reducing the need to speak an agent. The solution should also be able to query business applications and provide relevant information back to calls as requested.

Which services should the Solution Architect use to build this solution? (Choose three.)

- A. Amazon Rekognition to identity who is calling.
- B. Amazon Connect to create a cloud-based contact center.
- C. Amazon Alexa for Business to build conversational interface.
- D. AWS Lambda to integrate with internal systems.
- E. Amazon Lex to recognize the intent of the caller.
- F. Amazon SQS to add incoming callers to a queue.

Answer: BDE

NEW QUESTION 137

A company currently uses a single 1 Gbps AWS Direct Connect connection to establish connectivity between an AWS Region and its data center. The company has five Amazon VPCs, all of which are connected to the data center using the same Direct Connect connection. The Network team is worried about the single point of failure and is interested in improving the redundancy of the connections to AWS while keeping costs to a minimum. Which solution would improve the redundancy of the connection to AWS while meeting the cost requirements?

- A. Provision another 1 Gbps Direct Connect connection and create new VIFs to each of the VPCs. Configure the VIFs in a load balancing fashion using BGP.
- B. Set up VPN tunnels from the data center to each VPC.
- C. Terminate each VPN tunnel at the virtual private gateway (VGW) of the respective VPC and set up BGP for route management.
- D. Set up a new point-to-point Multiprotocol Label Switching (MPLS) connection to the AWS Region that's being used.
- E. Configure BGP to use this new circuit as passive, so that no traffic flows through this unless the AWS Direct Connect fails.
- F. Create a public VIF on the Direct Connect connection and set up a VPN tunnel which will terminate on the virtual private gateway (VGW) of the respective VPC using the public VIF.
- G. Use BGP to handle the failover to the VPN connection.

Answer: B

NEW QUESTION 142

A large company is migrating its entire IT portfolio to AWS. Each business unit in the company has a standalone AWS account that supports both development and test environments. New accounts to support production workloads will be needed soon.

The Finance department requires a centralized method for payment but must maintain visibility into each group's spending to allocate costs.

The Security team requires a centralized mechanism to control IAM usage in all the company's accounts. What combination of the following options meet the company's needs with LEAST effort? (Choose two.)

- A. Use a collection of parameterized AWS CloudFormation templates defining common IAM permissions that are launched into each account.
- B. Require all new and existing accounts to launch the appropriate stacks to enforce the least privilege model.
- C. Use AWS Organizations to create a new organization from a chosen payer account and define an organizational unit hierarchy.
- D. Invite the existing accounts to join the organization and create new accounts using Organizations.
- E. Require each business unit to use its own AWS account.
- F. Tag each AWS account appropriately and enable Cost Explorer to administer chargebacks.
- G. Enable all features of AWS Organizations and establish appropriate service control policies that filter IAM permissions for sub-accounts.
- H. Consolidate all of the company's AWS accounts into a single AWS account.
- I. Use tags for billing purposes and IAM's Access Advice feature to enforce the least privilege model.

Answer: BD

NEW QUESTION 147

A company is building an AWS landing zone and has asked a Solutions Architect to design a multi-account access strategy that will allow hundreds of users to use corporate credentials to access the AWS Console. The company is running a Microsoft Active Directory and users will use an AWS Direct Connect connection to connect to AWS. The company also wants to be able to federate to third-party services and providers, including custom applications.

Which solution meets the requirements by using the LEAST amount of management overhead?

- A. Connect the Active Directory to AWS by using single sign-on and an Active Directory Federation Services (AD FS) with SAML 2.0, and then configure the identity Provider (IdP) system to use form-based authentication.
- B. Build the AD FS portal page with corporate branding, and integrate third-party applications that support SAML 2.0 as required.
- C. Create a two-way Forest trust relationship between the on-premises Active Directory and the AWS Directory Service.
- D. Set up AWS Single Sign-On with AWS Organization.
- E. Use single sign-on integrations for connections with third-party applications.
- F. Configure single sign-on by connecting the on-premises Active Directory using the AWS Directory Service AD Connector.
- G. Enable federation to the AWS services and accounts by using the IAM applications and services linking function.
- H. Leverage third-party single sign-on as needed.
- I. Connect the company's Active Directory to AWS by using AD FS and SAML 2.0. Configure the AD FS claim rule to leverage Regex and a common Active Directory naming convention for the security group to allow federation of all AWS accounts.
- J. Leverage third-party single sign-on as needed, and add it to the AD FS server.

Answer: D

Explanation:

<https://aws.amazon.com/blogs/security/aws-federated-authentication-with-active-directory-federation-services-a>

NEW QUESTION 151

A company wants to move a web application to AWS. The application stores session information locally on each web server, which will make auto scaling difficult. As part of the migration, the application will be rewritten to decouple the session data from the web servers. The company requires low latency, scalability, and availability.

Which service will meet the requirements for storing the session information in the MOST cost-effective way?

- A. Amazon ElastiCache with the Memcached engine
- B. Amazon S3
- C. Amazon RDS MySQL
- D. Amazon ElastiCache with the Redis engine

Answer: D

Explanation:

<https://aws.amazon.com/caching/session-management/> <https://aws.amazon.com/elasticache/redis-vs-memcached/>

NEW QUESTION 152

A company is having issues with a newly deployed serverless infrastructure that uses Amazon API Gateway, Amazon Lambda, and Amazon DynamoDB.

In a steady state, the application performs as expected. However, during peak load, tens of thousands of simultaneous invocations are needed and user request

fail multiple times before succeeding. The company has checked the logs for each component, focusing specifically on Amazon CloudWatch Logs for Lambda. There are no error logged by the services or applications. What might cause this problem?

- A. Lambda has very memory assigned, which causes the function to fail at peak load.
- B. Lambda is in a subnet that uses a NAT gateway to reach out to the internet, and the function instance does not have sufficient Amazon EC2 resources in the VPC to scale with the load.
- C. The throttle limit set on API Gateway is very low during peak load, the additional requests are not making their way through to Lambda
- D. DynamoDB is set up in an auto scaling mod
- E. During peak load, DynamoDB adjust capacity and through successfully.

Answer: A

NEW QUESTION 157

A public retail web application uses an Application Load Balancer (ALB) in front of Amazon EC2 instances running across multiple Availability Zones (AZs) in a Region backed by an Amazon RDS MySQL Multi-AZ deployment. Target group health checks are configured to use HTTP and pointed at the product catalog page. Auto Scaling is configured to maintain the web fleet size based on the ALB health check. Recently, the application experienced an outage. Auto Scaling continuously replaced the instances during the outage. A subsequent investigation determined that the web server metrics were within the normal range, but the database tier was experiencing high load, resulting in severely elevated query response times. Which of the following changes together would remediate these issues while improving monitoring capabilities for the availability and functionality of the entire application stack for future growth? (Select TWO.)

- A. Configure read replicas for Amazon RDS MySQL and use the single reader endpoint in the web application to reduce the load on the backend database tier.
- B. Configure the target group health check to point at a simple HTML page instead of a product catalog page and the Amazon Route 53 health check against the product page to evaluate full application functionalit
- C. Configure Amazon CloudWatch alarms to notify administrators when the site fails.
- D. Configure the target group health check to use a TCP check of the Amazon EC2 web server and the Amazon Route 53 health check against the product page to evaluate full application functionalit
- E. Configure Amazon CloudWatch alarms to notify administrators when the site fails.
- F. Configure an Amazon CloudWatch alarm for Amazon RDS with an action to recover a high-load, impaired RDS instance in the database tier.
- G. Configure an Amazon ElastiCache cluster and place it between the web application and RDS MySQL instances to reduce the load on the backend database tier.

Answer: BE

NEW QUESTION 162

A company that is new to AWS reports it has exhausted its service limits across several accounts that are on the Basic Support plan. The company would like to prevent this from happening in the future.

What is the MOST efficient way of monitoring and managing all service limits in the company's accounts?

- A. Use Amazon CloudWatch and AWS Lambda to periodically calculate the limits across all linked accounts using AWS Trusted Advisor, provide notifications using Amazon SNS if the limits are close to exceeding the threshold.
- B. Reach out to AWS Support to proactively increase the limits across all account
- C. That way, the customer avoids creating and managing infrastructure just to raise the service limits.
- D. Use Amazon CloudWatch and AWS Lambda to periodically calculate the limits across all linked accounts using AWS Trusted Advisor, programmatically increase the limits that are close to exceeding the threshold.
- E. Use Amazon CloudWatch and AWS Lambda to periodically calculate the limits across all linked accounts using AWS Trusted Advisor, and use Amazon SNS for notifications if a limit is close to exceeding the threshol
- F. Ensure that the accounts are using the AWS Business Support plan at a minimum.

Answer: D

Explanation:

<https://github.com/awslabs/aws-limit-monitor> <https://aws.amazon.com/solutions/limit-monitor/>

NEW QUESTION 164

A Solutions Architect is working with a company that is extremely sensitive to its IT costs and wishes to implement controls that will result in a predictable AWS spend each month.

Which combination of steps can help the company control and monitor its monthly AWS usage to achieve a cost that is as close as possible to the target amount? (Choose three.)

- A. Implement an IAM policy that requires users to specify a 'workload' tag for cost allocation when launching Amazon EC2 instances.
- B. Contact AWS Support and ask that they apply limits to the account so that users are not able to launch more than a certain number of instance types.
- C. Purchase all upfront Reserved Instances that cover 100% of the account's expected Amazon EC2 usage.
- D. Place conditions in the users' IAM policies that limit the number of instances they are able to launch.
- E. Define 'workload' as a cost allocation tag in the AWS Billing and Cost Management console.
- F. Set up AWS Budgets to alert and notify when a given workload is expected to exceed a defined cost.

Answer: AEF

NEW QUESTION 167

A company has developed a web application that runs on Amazon EC2 instances in one AWS Region. The company has taken on new business in other countries and must deploy its application into other to meet low-latency requirements for its users. The regions can be segregated, and an application running in one region does not need to communicate with instances in other regions.

How should the company's Solutions Architect automate the deployment of the application so that it can be MOST efficiently deployed into multiple regions?

- A. Write a bash script that uses the AWS CLI to query the current state in one region and output a JSON representatio
- B. Pass the JSON representation to the AWS CLI, specifying the --region parameter to deploy the application to other regions.
- C. Write a bash script that uses the AWS CLI to query the current state in one region and output an AWS CloudFormation templat

- D. Create a CloudFormation stack from the template by using the AWS CLI, specifying the --region parameter to deploy the application to other regions.
- E. Write a CloudFormation template describing the application's infrastructure in the resources section. Create a CloudFormation stack from the template by using the AWS CLI, specify multiple regions using the --regions parameter to deploy the application.
- F. Write a CloudFormation template describing the application's infrastructure in the Resources section. Use a CloudFormation stack set from an administrator account to launch stack instances that deploy the application to other regions.

Answer: D

Explanation:

A stack set lets you create stacks in AWS accounts across regions by using a single AWS CloudFormation template. All the resources included in each stack are defined by the stack set's AWS CloudFormation template. As you create the stack set, you specify the template to use, as well as any parameters and capabilities that template requires. <https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/stacksets-concepts.html>
<https://sanderknape.com/2017/07/cloudformation-stacksets-automated-cross-account-region-deployments/>

NEW QUESTION 168

A company has released a new version of a website to target an audience in Asia and South America. The website's media assets are hosted on Amazon S3 and have an Amazon CloudFront distribution to improve end-user performance. However, users are having a poor login experience the authentication service is only available in the us-east-1 AWS Region.

How can the Solutions Architect improve the login experience and maintain high security and performance with minimal management overhead?

- A. Replicate the setup in each new geography and use Amazon Route 53 geo-based routing to route traffic to the AWS Region closest to the users.
- B. Use an Amazon Route 53 weighted routing policy to route traffic to the CloudFront distributio
- C. Use CloudFront cached HTTP methods to improve the user login experience.
- D. Use Amazon Lambda@Edge attached to the CloudFront viewer request trigger to authenticate and authorize users by maintaining a secure cookie token with a session expiry to improve the user experience in multiple geographies.
- E. Replicate the setup in each geography and use Network Load Balancers to route traffic to the authentication service running in the closest region to users.

Answer: C

Explanation:

There are several benefits to using Lambda@Edge for authorization operations. First, performance is improved by running the authorization function using Lambda@Edge closest to the viewer, reducing latency and response time to the viewer request. The load on your origin servers is also reduced by offloading CPU-intensive operations such as verification of JSON Web Token (JWT) signatures. Finally, there are security benefits such as filtering out unauthorized requests before they reach your origin infrastructure.

<https://aws.amazon.com/blogs/networking-and-content-delivery/authorizationedge-how-to-use-lambdaedge-and->

NEW QUESTION 169

A financial company is using a high-performance compute cluster running on Amazon EC2 instances to perform market simulations A DNS record must be created in an Amazon Route 53 private hosted zone when instances start The DNS record must be removed after instances are terminated.

Currently the company uses a combination of Amazon CloudWatch Events and AWS Lambda to create the

DNS record. The solution worked well in testing with small clusters, but in production with clusters containing thousands of instances the company sees the following error in the Lambda logs:

HTTP 400 error (Bad request).

The response header also includes a status code element with a value of "Throttling" and a status message element with a value of "Rate exceeded "

Which combination of steps should the Solutions Architect take to resolve these issues? (Select THREE)

- A. Configure an Amazon SQS FIFO queue and configure a CloudWatch Events rule to use this queue as a target
- B. Remove the Lambda target from the CloudWatch Events rule
- C. Configure an Amazon Kinesis data stream and configure a CloudWatch Events rule to use this queue as a target Remove the Lambda target from the CloudWatch Events rule
- D. Update the CloudWatch Events rule to trigger on Amazon EC2 "Instance Launch Successful" and "Instance Terminate Successful" events for the Auto Scaling group used by the cluster
- E. Configure a Lambda function to retrieve messages from an Amazon SQS queue Modify the Lambda function to retrieve a maximum of 10 messages then batch the messages by Amazon Route 53 API call type and submit Delete the messages from the SQS queue after successful API calls.
- F. Configure an Amazon SQS standard queue and configure the existing CloudWatch Events rule to use this queue as a target Remove the Lambda target from the CloudWatch Events rule.
- G. Configure a Lambda function to read data from the Amazon Kinesis data stream and configure the batch window to 5 minutes Modify the function to make a single API call to Amazon Route 53 with all records read from the kinesis data stream

Answer: BEF

NEW QUESTION 172

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