**QUESTION 17**

A company receives 10 TB of instrumentation data each day from several machines located at a single factory.

The data consists of JSON files stored on a storage area network (SAN) in an on-premises data center located within the factory.

The company wants to send this data to Amazon S3 where it can be accessed by several additional systems that provide critical near-real-lime analytics.

A secure transfer is important because the data is considered sensitive.

Which solution offers the MOST reliable data transfer?

1. AWS DataSync over public internet.

1. AWS DataSync over AWS Direct Connect.
2. AWS Database Migration Service (AWS DMS) over public internet.

1. AWS Database Migration Service (AWS DMS) over AWS Direct Connect.

**Answer:** B

**Explanation:**

These are some of the main use cases for AWS DataSync:

* Data migration
* Move active datasets rapidly over the network into Amazon S3, Amazon EFS, or FSx for Windows File Server.

DataSync includes automatic encryption and data integrity validation to help make sure that your data arrives securely, intact, and ready to use.

DataSync includes encryption and integrity validation to help make sure your data arrives securely, intact, and ready to use.

https://aws.amazon.com/datasync/faqs/

**QUESTION 42**

A company uses 50 TB of data for reporting.

The company wants to move this data from on-premises to AWS.

A custom application in the company's data center runs a weekly data transformation job.

The company plans to pause the application until the data transfer is complete and needs to begin the transfer process as soon as possible.

The data center does not have any available network bandwidth for additional workloads.

A solutions architect must transfer the data and must configure the transformation job to continue to run in the AWS Cloud.

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

1. Use AWS DataSync to move the data.

Create a custom transformation job by using AWS Glue.

1. Order an AWS Snowcone device to move the data. Deploy the transformation application to the device.

1. Order an AWS Snowball Edge Storage Optimized device. Copy the data to the device.

Create a custom transformation job by using AWS Glue.

1. Order an AWS Snowball Edge Storage Optimized device that includes Amazon EC2 compute.

Copy the data to the device.

Create a new EC2 instance on AWS to run the transformation application.

**Answer:** C

**QUESTION 69**

A company wants to migrate its on-premises data center to AWS.

According to the company's compliance requirements, the company can use only the

ap-northeast-3 Region.

Company administrators are not permitted to connect VPCs to the internet.

Which solutions will meet these requirements? (Choose TWO)

1. Use AWS Control Tower to implement data residency guardrails to deny internet access and deny access to all AWS Regions except ap-northeast-3.

1. Use rules in AWS WAF to prevent internet access.

Deny access to all AWS Regions except ap-northeast-3 in the AWS account settings.

1. Use AWS Organizations to configure service control policies (SCPS) that prevent VPCs from gaining internet access.

Deny access to all AWS Regions except ap-northeast-3.

1. Create an outbound rule for the network ACL in each VPC to deny all traffic from 0.0.0.0/0. Create an IAM policy for each user to prevent the use of any AWS Region other than apnortheast-3.

1. Use AWS Config to activate managed rules to detect and alert for internet gateways and to detect and alert for new resources deployed outside of ap-northeast-3.

**Answer:** AC

**QUESTION 76**

A business's backup data totals 700 terabytes (TB) and is kept in network attached storage (NAS) at its data center.

This backup data must be available in the event of occasional regulatory inquiries and preserved for a period of seven years.

The organization has chosen to relocate its backup data from its on-premises data center to Amazon Web Services (AWS).

Within one month, the migration must be completed.

The company's public internet connection provides 500 Mbps of dedicated capacity for data transport.

What should a solutions architect do to ensure that data is migrated and stored at the LOWEST possible cost?

1. Order AWS Snowball devices to transfer the data.

Use a lifecycle policy to transition the files to Amazon S3 Glacier Deep Archive.

1. Deploy a VPN connection between the data center and Amazon VPC.

Use the AWS CLI to copy the data from on premises to Amazon S3 Glacier.

1. Provision a 500 Mbps AWS Direct Connect connection and transfer the data to Amazon S3. Use a lifecycle policy to transition the files to Amazon S3 Glacier Deep Archive.

1. Use AWS DataSync to transfer the data and deploy a DataSync agent on premises.

Use the DataSync task to copy files from the on-premises NAS storage to Amazon S3 Glacier.

**Answer:** A

**QUESTION 96**

A company has 150 TB of archived image data stored on-premises that needs to be moved to the AWS Cloud within the next month.

The company's current network connection allows up to 100 Mbps uploads for this purpose during the night only.

What is the MOST cost-effective mechanism to move this data and meet the migration deadline?

1. Use AWS Snowmobile to ship the data to AWS.

1. Order multiple AWS Snowball devices to ship the data to AWS.
2. Enable Amazon S3 Transfer Acceleration and securely upload the data.
3. Create an Amazon S3 VPC endpoint and establish a VPN to upload the data

**Answer:** B

**Explanation:** eg.6 hrs night 6 hrs\*60min/hr=360 min

360 min\*60 sec/min=21600 sec 100 Mbps\*21600 s=2160000Mb

or 2160 Gb or 2.1 TB can only be done

So, for 150 TB, we can use 2 X Snowball Edge Storage Optimised devices.

Size of Snowball Edge Storage Optimised device=80 TB Size of Snowball Edge Compute

Optimised device= 40 TB Size of Snowcone =8 TB

Size of Snowmobile =100 PB (1 PB=1000 TB)

Q: How should I choose between Snowmobile and Snowball?

To migrate large datasets of 10PB or more in a single location, you should use Snowmobile.

For datasets less than 10PB or distributed in multiple locations, you should use Snowball.

In addition, you should evaluate the amount of available bandwidth in your network backbone.

If you have a high speed backbone with hundreds of Gb/s of spare throughput, then you can use Snowmobile to migrate the large datasets all at once.

If you have limited bandwidth on your backbone, you should consider using multiple Snowballs to migrate the data incrementally

**QUESTION 99**

A company needs to build a reporting solution on AWS.

The solution must support SQL queries that data analysts run on the data.

The data analysts will run lower than 10 total queries each day.

The company generates 3 GB of new data daily in an on-premises relational database.

This data needs to be transferred to AWS to perform reporting tasks.

What should a solutions architect recommend to meet these requirements at the LOWEST cost?

1. Use AWS Database Migration Service (AWS DMS) to replicate the data from the on-premises database into Amazon S3.

Use Amazon Athena to query the data.

1. Use an Amazon Kinesis Data Firehose delivery stream to deliver the data into an Amazon Elasticsearch Service (Amazon ES) cluster Run the queries in Amazon ES.

1. Export a daily copy of the data from the on-premises database.

Use an AWS Storage Gateway file gateway to store and copy the export into Amazon S3. Use an Amazon EMR cluster to query the data.

1. Use AWS Database Migration Service (AWS DMS) to replicate the data from the on-premises database and load it into an Amazon Redshift cluster. Use the Amazon Redshift cluster to query the data.

**Answer:** D

**Explanation:** <https://docs.aws.amazon.com/dms/latest/userguide/CHAP_Target.Redshift.html>

AWS DMS cannot migrate or replicate changes to a schema with a name that begins with underscore (\_). If you have schemas that have a name that begins with an underscore, use mapping transformations to rename the schema on the target.

Amazon Redshift doesn't support VARCHARs larger than 64 KB. LOBs from traditional databases can't be stored in Amazon Redshift.

Applying a DELETE statement to a table with a multi-column primary key is not supported when any of the primary key column names use a reserved word. Go here to see a list of Amazon Redshift reserved words.

You may experience performance issues if your source system performs UPDATE operations on the primary key of a source table. These performance issues occur when applying changes to the target. This is because UPDATE (and DELETE) operations depend on the primary key value to identify the target row. If you update the primary key of a source table, your task log will contain messages like the following:

Update on table 1 changes PK to a PK that was previously updated in the same bulk update. DMS doesn't support custom DNS names when configuring an endpoint for a Redshift cluster, and you need to use the Amazon provided DNS name. Since the Amazon Redshift cluster must be in the same AWS account and Region as the replication instance, validation fails if you use a custom DNS endpoint.

**QUESTION 106**

A company uses NFS to store large video files in on-premises network attached storage. Each video file ranges in size from 1MB to 500 GB.

The total storage is 70 TB and is no longer growing.

The company decides to migrate the video files to Amazon S3.

The company must migrate the video files as soon as possible while using the least possible network bandwidth.

Which solution will meet these requirements?

1. Create an S3 bucket.

Create an IAM role that has permissions to write to the S3 bucket. Use the AWS CLI to copy all files locally to the S3 bucket.

1. Create an AWS Snowball Edge job.

Receive a Snowball Edge device on premises.

Use the Snowball Edge client to transfer data to the device.

Return the device so that AWS can import the data into Amazon S3.

1. Deploy an S3 File Gateway on premises.

Create a public service endpoint to connect to the S3 File Gateway.

Create an S3 bucket.

Create a new NFS file share on the S3 File Gateway.

Point the new file share to the S3 bucket.

Transfer the data from the existing NFS file share to the S3 File Gateway.

1. Set up an AWS Direct Connect connection between the on-premises network and AWS.

Deploy an S3 File Gateway on premises.

Create a public virtual interlace (VIF) to connect to the S3 File Gateway.

Create an S3 bucket.

Create a new NFS file share on the S3 File Gateway.

Point the new file share to the S3 bucket.

Transfer the data from the existing NFS file share to the S3 File Gateway.

**Answer:** C

**QUESTION 136**

A company has an on-premises business application that generates hundreds of files each day.

These files are stored on an SMB file share and require a low-latency connection to the application servers.

A new company policy states all application-generated files must be copied to AWS.

There is already a VPN connection to AWS.

The application development team does not have time to make the necessary code modifications to move the application to AWS.

Which service should a solutions architect recommend to allow the application to copy files to AWS?

1. Amazon Elastic File System (Amazon EFS).

1. Amazon FSx for Windows File Server.
2. AWS Snowball.
3. AWS Storage Gateway.

**Answer:** D

**Explanation:**

The files will be on the storgare gateway with low latency and copied to AWS as a second copy.

FSx in AWS will not provide low latency for the on prem apps over a vpn to the FSx file system.

**QUESTION 125**

A company wants to migrate its on-premises application to AWS.

The application produces output files that vary in size from tens of gigabytes to hundreds of terabytes.

The application data must be stored in a standard file system structure.

The company wants a solution that scales automatically, is highly available, and requires minimum operational overhead.

Which solution will meet these requirements?

1. Migrate the application to run as containers on Amazon Elastic Container Service (Amazon ECS).

Use Amazon S3 for storage.

1. Migrate the application to run as containers on Amazon Elastic Kubernetes Service (Amazon EKS).

Use Amazon Elastic Block Store (Amazon EBS) for storage.

1. Migrate the application to Amazon EC2 instances in a Multi-AZ Auto Scaling group.

Use Amazon Elastic File System (Amazon EFS) for storage.

1. Migrate the application to Amazon EC2 instances in a Multi-AZ Auto Scaling group.

Use Amazon Elastic Block Store (Amazon EBS) for storage.

**Answer:** C

**QUESTION 140**

A company recently migrated to AWS and wants to implement a solution to protect the traffic that flows in and out of the production VPC.

The company had an inspection server in its on-premises data center.

The inspection server performed specific operations such as traffic flow inspection and traffic filtering.

The company wants to have the same functionalities in the AWS Cloud.

Which solution will meet these requirements?

1. Use Amazon GuardDuty for traffic inspection and traffic filtering in the production VPC.
2. Use Traffic Mirroring to mirror traffic from the production VPC for traffic inspection and filtering.
3. Use AWS Network Firewall to create the required rules for traffic inspection and traffic filtering for the production VPC.

D. Use AWS Firewall Manager to create the required rules for traffic inspection and traffic filtering for the production VPC.

**Answer:** C

**QUESTION 150**

A company is hosting 60 TB of production-level data in an Amazon S3 bucket.

A solution architect needs to bring that data on-premises for quarterly audit requirements.

This export of data must be encrypted while in transit.

The company has low network bandwidth in place between AWS and its on-premises data center.

What should the solutions architect do to meet these requirements?

1. Deploy AWS Migration Hub with 90-day replication windows for data transfer.

1. Deploy an AWS Storage Gateway volume gateway on AWS.

Enable a 90-day replication window to transfer the data.

1. Deploy Amazon Elastic File System (Amazon EFS), with lifecycle policies enabled, on AWS.

Use it to transfer the data.

1. Deploy an AWS Snowball device in the on-premises data center after completing an export job request in the AWS Snowball console.

**Answer:** D

**Explanation:**

AWS Snowball with the Snowball device has the following features:

80 TB and 50 TB models are available in US Regions; 50 TB model available in all other AWS Regions.

<https://docs.aws.amazon.com/snowball/latest/ug/whatissnowball.html>

**QUESTION 162**

A company wants to migrate an on-premises data center to AWS.

The data canter hosts an SFTP server that stores its data on an NFS-based file system.

The server holds 200 GB of data that needs to be transferred.

The server must be hosted on an Amazon EC2 instance that uses an Amazon Elastic File System (Amazon EFS) file system.

When combination of steps should a solutions architect take to automate this task? (Select TWO)

1. Launch the EC2 instance into the same Avalability Zone as the EFS fie system.
2. Install an AWS DataSync agent in the on-premises data center.
3. Create a secondary Amazon Elastic Block Store (Amazon EBS) volume on the EC2 instance tor the data.
4. Manually use an operating system copy command to push the data to the EC2 instance.
5. Use AWS DataSync to create a suitable location configuration for the onprermises SFTP server.

**Answer:** AB

**QUESTION 167**

A company is moving Its on-premises Oracle database to Amazon Aurora PostgreSQL.

The database has several applications that write to the same tables.

The applications need to be migrated one by one with a month in between each migration.

Management has expressed concerns that the database has a high number of reads and writes.

The data must be kept in sync across both databases throughout tie migration.

What should a solutions architect recommend?

1. Use AWS DataSync tor the initial migration.

Use AWS Database Migration Service (AWS DMS) to create a change data capture (CDC) replication task and a table mapping to select all cables.

1. UseAWS DataSync for the initial migration.

Use AWS Database Migration Service (AWS DMS) to create a full load plus change data capture (CDC) replication task and a table mapping to select ail tables.

1. Use the AWS Schema Conversion led with AWS DataBase Migration Service (AWS DMS) using a memory optimized replication instance.

Create a tui load plus change data capture (CDC) replication task and a table mapping lo select all tables.

1. Use the AWS Schema Conversion Tool with AWS Database Migration Service (AWS DMS) using a compute optimized implication instance.

Create a full load plus change data capture (CDC) replication task and a table mapping to select the largest tables.

**Answer:** C

**Explanation:**

As you can see, we have three important memory buffers in this architecture for CDC in AWS DMS. If any of these buffers experience memory pressure, the migration can have performance issues that can potentially cause failures.

<https://docs.aws.amazon.com/dms/latest/userguide/CHAP_ReplicationInstance.Types.html>

**QUESTION 197**

A company runs an Oracle database on premises.

As part of the company's migration to AWS, the company wants to upgrade the database to the most recent available version.

The company also wants to set up disaster recovery (DR) for the database.

The company needs to minimize the operational overhead for normal operations and DR setup.

The company also needs to maintain access to the database's underlying operating system.

Which solution will meet these requirements?

1. Migrate the Oracle database to an Amazon EC2 instance.

Set up database replication to a different AWS Region.

1. Migrate the Oracle database to Amazon RDS for Oracle.

Activate Cross-Region automated backups to replicate the snapshots to another AWS Region.

1. Migrate the Oracle database to Amazon RDS Custom for Oracle. Create a read replica for the database in another AWS Region.

1. Migrate the Oracle database to Amazon RDS for Oracle.

Create a standby database in another Availability Zone.

**Answer:** D

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1. Migrate the Oracle database to Amazon RDS Custom for Oracle. Create a read replica for the database in another AWS Region.

1. Migrate the Oracle database to Amazon RDS for Oracle.

Create a standby database in another Availability Zone.

**Answer:** D

**QUESTION 200**

A company is migrating its on-premises PostgreSQL database to Amazon Aurora PostgreSQL.

The on-premises database must remain online and accessible during the migration.

The Aurora database must remain synchronized with the on-premises database.

Which combination of actions must a solutions architect take to meet these requirements? (Choose TWO)

1. Create an ongoing replication task.

1. Create a database backup of the on-premises database.
2. Create an AWS Database Migration Service (AWS DMS) replication server.
3. Convert the database schema by using the AWS Schema Conversion Tool (AWS SCT).
4. Create an Amazon EventBridge (Amazon CloudWatch Events) rule to monitor the database synchronization.

**Answer:** CD