Ch-4
Other AWS storage options
(S3,Glacier,EFS,EBS,EC2 Instance store, Storage gateway, Snowball, Snowmobile)

This chapter will cover following topics...

- Amazon S3
- Amazon Glacier
- Amazon EFS
- Amazon EBS
- Amazon EC2 instance store
- AWS Storage gateway
- AWS Snowball
- AWS Snowmobile
- Amazon CloudFront

Amazon S3

S3 is a cloud-based object storage service which can be used over the Internet

It is ideally suggested for storing static content such as graphics files, documents, log files, audio, video, compressed files, and so on

Virtually, any type of data in any file format can be stored on S3

Currently, permissible object size in S3 is 0 bytes to 5 TB

There is a soft limit of 100 buckets per account in S3

Usage:

S3 can be used for content storage and distribution, static website hosting, big data object store, backup and archival, storing application data, as well as for DR

Amazon Glacier

Glacier is a highly secure, durable, and very low-cost cloud storage service for archiving data and taking long-term backups

Each file or object stored in Amazon Glacier is called an archive

The contents of the archive cannot be modified

The size of each archive can range from 1 byte to 40 TB

These archives can be logically isolated in containers called vaults

A maximum of 1,000 vaults per account per region can be created

Usage:

Glacier can be mainly used for data archival

It is widely used for media asset archiving, healthcare information archiving, regulatory and compliance archiving, scientific data storage, digital preservation, magnetic tape replacement, and so on

Amazon EFS

AWS EFS is a simple-to-use and scalable file storage service that can be used with EC2 instances

It is a fully managed storage service from AWS that can be used for storing GBs to TBs of data

EFS volumes can be mounted and accessed by multiple EC2 instances at the same time

When using any EFS volume for the first time, you simply need to mount and format it to the desired filesystem

Subsequently, you can mount this volume on other EC2 instances directly and start using it

Usage:

EFS is designed to provide very high disk throughput

It can be used for big data and analytics, media, content management, web serving, and home directories

Amazon EBS

EBS volumes are connected as a network storage to an EC2 instance

It can be sized from 1 GB to 16 TB

You can take a snapshot of an EBS volume

Snapshots can be used to restore the volume as and when required

Usage:

EBS volumes can be used as a root partition and for installing operating systems

It is also used for storing enterprise applications, application data, and databases

Amazon EC2 Instance Store

Instance store is a temporary block-level storage service from Amazon

Unlike EBS, an instance store is temporary in nature

Data stored in an instance store volume is deleted when the EC2 instance is either restarted, stopped, or terminated

Instance store volumes are directly attached to the underlying hosts where an EC2 instance is provisioned

Instance store volumes are faster in comparison to EBS, however, it is a temporary data store

Usage:

It is widely used to store swap files, temporary files, or in applications where good disk throughput is required but data persistence is not required

AWS Storage gateway

AWS Storage Gateway is a hybrid storage service that connects on-premise environments with cloud storage using a software appliance

It seamlessly connects on-premise environments with Amazon's block-level and object-level storage services such as EBS, S3, and Glacier

It provides low-latency for exchanging data from on-premise to S3, Glacier, or EBS volumes, and vice versa

Usage:

Storage Gateway can be configured for use as a file server in conjunction with S3

It can also be used as a virtual tape library for backup on S3 and virtual tape shelf for archival on Glacier

Storage Gateway can also be handy for transferring data from on-premise environments to AWS or transferring the data from AWS to on-premise environments

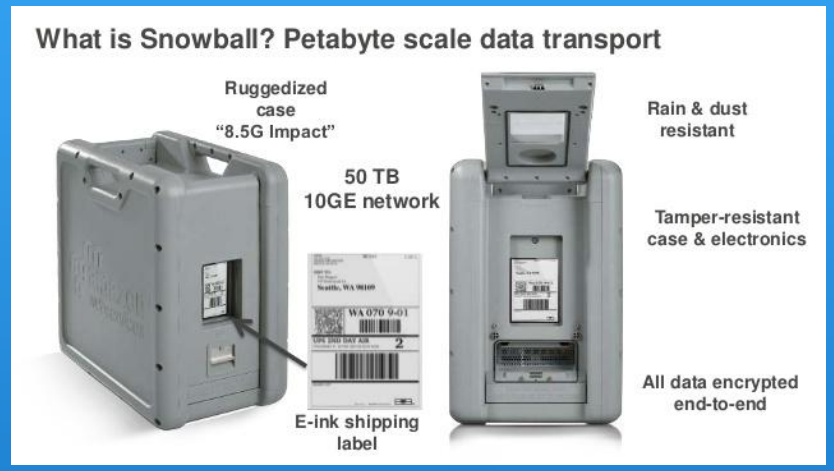
AWS Snowball

AWS Snowball is a petabyte-scale level data transport solution that uses physical appliances to transfer large-scale data from on-premise environments to the AWS cloud and vice versa

A single Snowball appliance can transport up to 80 TB of data

Snowball comes in two sizes, 50 TB and 80 TB

Data can be copied over to multiple physical appliances and transported to and from an AWS



Transferring large-scale data over the internet can take a significant amount of time depending on the size of the data

AWS Snowball(Conti…)

The purpose of the Snowball service is to minimize the data transfer time by transferring the data using a physical medium rather than transferring data over the internet

Snowball can efficiently compress, encrypt, and transfer data from the on-premise host to the intended Snowball device

Once the data is copied over to one or more snowball devices, these devices are transported back to the nearest AWS data center. Subsequently, AWS transfers data from Snowball devices to S3

Usage:

Snowball is used for rapidly and securely transferring bulk data between on-premise data centers and the AWS cloud at a very economical rate

AWS Snowmobile

AWS Snowmobile is an exabyte-scale data transport solution that uses physical containers to transfer extremely large-scale data from on-premise environments to the AWS cloud and vice versa

A Snowmobile container literally comes in a truck that can transfer up to 100 PB of data per Snowmobile

If your data is more than 100 PB, you can ask Amazon for more than one Snowmobile

At a time, more than one Snowmobile can be connected to the on-premise network for transferring data

AWS Snowmobile(Conti...)

Once the data is transferred from the on-premise network to the Snowmobile, it returns to the nearest AWS data center in the region and subsequently, the data is transferred to the S3 of the respective customer account

Usage:

Snowmobile is used for rapidly and securely transferring extremely large-scale data between the on-premise data center and the AWS cloud at a very economical rate

Amazon CloudFront

Amazon CloudFront is a content delivery network (CDN) offered by AWS

It is a system of distributed servers spread across edge locations. It is mainly used for caching static content such as web pages, style sheets, client-side scripts, images, and so on

When a user hits an URL that is served through CloudFront, it routes the user request to the nearest edge location

The nearest edge location gives minimum latency in serving the request and provides the best possible performance to the user

Usage:

CloudFront is used for providing seamless performance on the delivery of a website or web application for a user base spread across multiple geographic locations

It can be used for distributing software or other large files, streaming media files, offering large downloads, and delivering live events

Summary

In this chapter, we have gone through following topics

- Amazon S3
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- AWS Storage gateway
- AWS Snowball
- AWS Snowmobile
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See you soon…