



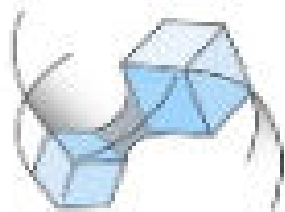
# AWS Storage

# Agenda

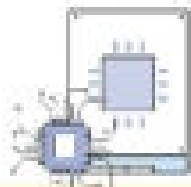
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- AWS Storage Overview.
- Need of cloud storage.
- Choice of Storage classes on Amazon S3.
- Amazon Simple Storage Service (S3)
- Amazon Glacier
- Amazon Elastic Block Store (EBS)

# AWS Storage Overview



Amazon EBS

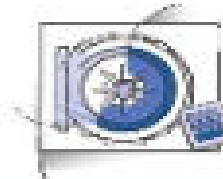


Amazon EC2  
Instance storage

Block



Amazon S3

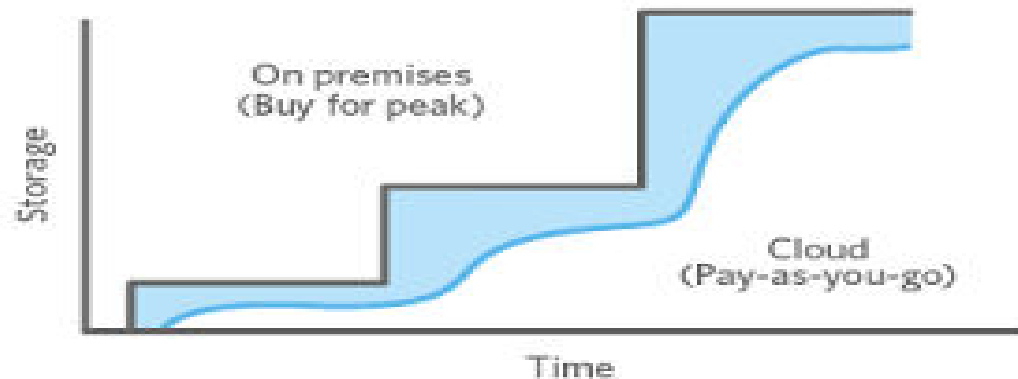


Amazon Glacier

Object

# Need of cloud storage

- Simple & scalable way to store.
- Pay as you use.



- Reliability
- Immediate availability.
- Information security.
- Disaster recovery.

# Amazon Simple Storage Service (S3)



- S3 is the storage for the Internet.
- AWS S3 uses buckets to store files.
- S3 is provided via web service interface. (REST and SOAP).
- The files are called objects.
- Store & retrieve any amount of data, any time, from anywhere on the web.
- Highly scalable, reliable, fast and durable.

## Amazon S3 facts:

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- Able to store unlimited number of objects in a bucket.
- Maximum size of object is up to 5TB but no bucket size.
- Designed for durability of 99.999999999%.
  
- Able to scale up and down as required.
  - >Store large amounts of data at a very low cost.

Allows version of objects.

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## Amazon S3 common used scenarios:

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- Storage and backup.
- Static website hosting.
- Media hosting.
- Software delivery.
- Store AMI and snapshots.

# Amazon Glacier (Archive storage):

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- Long term storing.
- Extremely low cost archiving service.
- Infrequent access of the object.
- Slow retrieve compared to S3.
- No data migration, no hardware/infrastructure investments.
- Infinite scale and pay for what you use.
- Access to on-demand compute resource on AWS.



## Amazon Glacier concepts:

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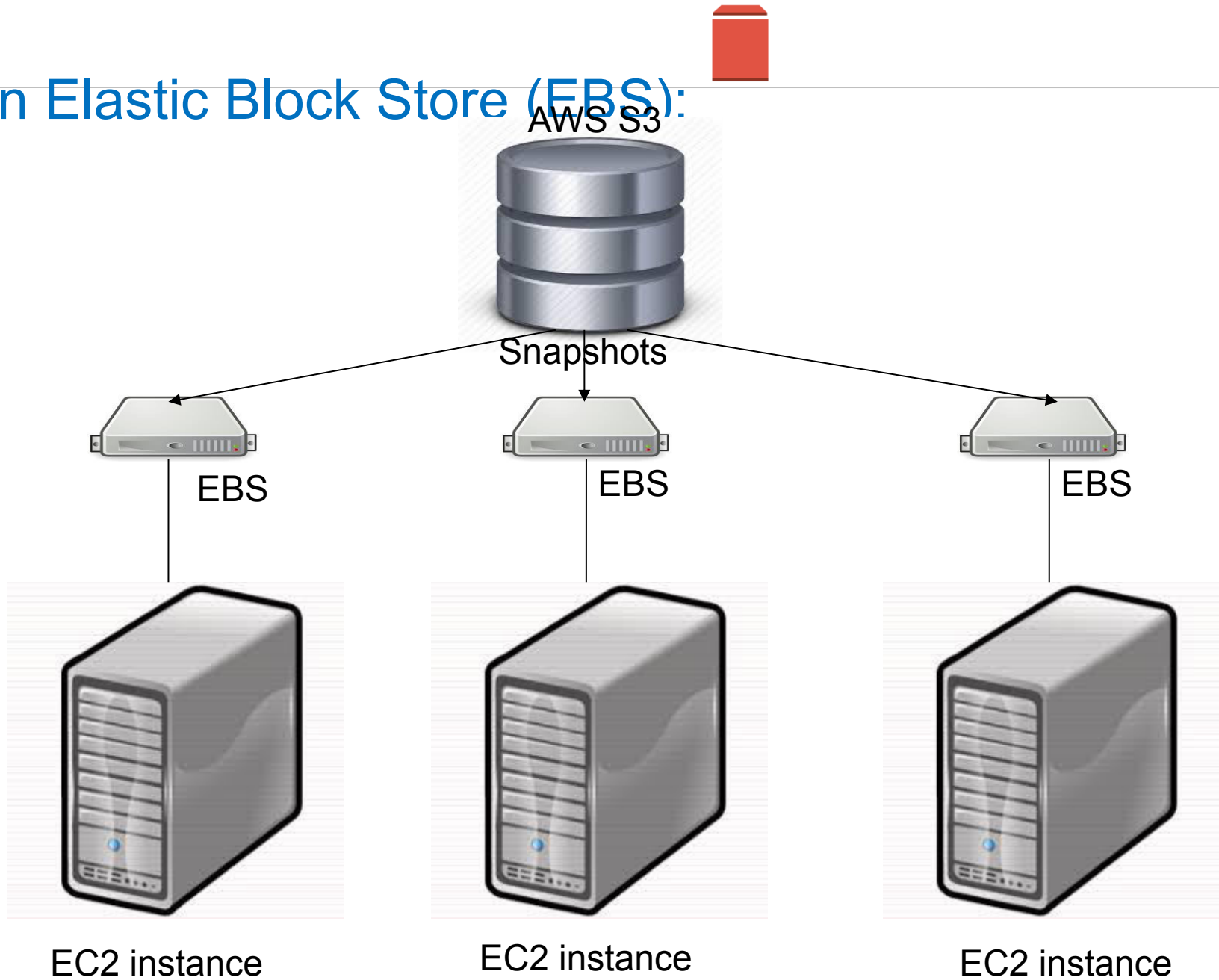
- Account – Access AWS services, view billing/usage, manage security.
- Vaults – Container for archives.
- Archives – Files and records.

## Amazon Glacier facts:

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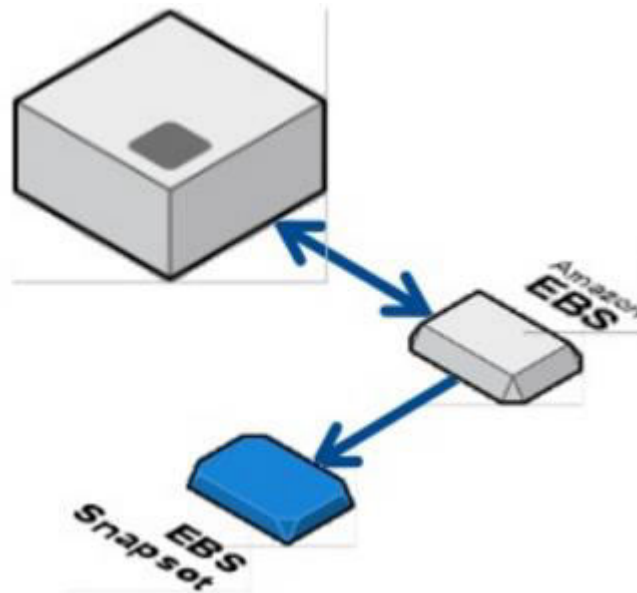
- Vault inventory stores all archives.
- Max up to 1000 vaults can be created per account.
- The archives are Write Once Read Many (WORM).
- Each archive can be of max 40TB.
- Glacier allows you to have unlimited amount of archives per account.
- Designed for durability of 99.9999999999%.
- Glacier establishes auto-archive rules for Amazon S3 objects.

# Amazon Elastic Block Store (EBS):



## About Amazon EBS:

- Persistent block level storage volumes.
- Consistent and low-latency performance.
- Automatically replicated within its availability zone.
- Snapshots are stored durable in S3.



## Amazon EBS concepts:

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- IOPS – Input Output Operations per Second.
- Capacity – Volume of data that can be stored (GB).
- Snapshot – Backup taken of the volume.

## Amazon EBS facts:

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- Able to create EBS magnetic volumes from 1GB to 1TB.
- Able to create EBS General Purpose(SSD) and Provisioned IOPS(SSD) volumes up to 16TB in size.
- Supports encryption by using encrypted EBS volumes .
- A point-in-time snapshots of EBS volumes can be created.

## Amazon EBS common used scenarios:

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- OS – use for root volume, secondary volumes.
- Enterprise applications – provides reliable block storage to run mission-critical applications.
- Business continuity – minimize data loss and recovery time by regularly backing up using EBS snapshots .
- Applications – install and persist any application.

## Difference between S3, EBS & Glacier:

Features	AWS S3	AWS EBS	Glacier
Storage Size	No limit on number of objects.	Maximum storage size of 16 TB	40TB
Paradigm	Object store	File store	Archive store
Durability	99.999999999999%	20 times more reliable than normal hard disks	99.999999999999%
Price	\$0.14/GB/month	\$0.10/GB/month	\$0.004/GB/month
Performance	Very fast	Very very fast	Very very fast
			IAM & Advanced Encryption Standard (AES)