**S3 -** web storage service (object storage)

SLAs- service level agreements

**Terminology** –

Bucket. Used to identify where object belongs

Object - logical entities/containers that contain info

Key - unique name and path to object

Value - value is literal val / char that correspond to key. “Name : abc”. Name is key abc is value

Prefix. Name /chars before object name, designated by ending with / (since no folder concept this helps group objects together

Version Id - versioning allows mul copies of same object name in a bucket

Metadata - set of key val pairs that describe an object

ACL - control access to buckets before IAM created

**Storage classes** -

Standard - most popular and original, preferred for hot workloads/freq requests to objects. Keeps copies in 3 AZs

Standard IA(Infrequent Access)- for light workloads

Intelligent tiering - auto shift pod objects in n out of std and std IA based on when an object is accessed. – objects not used for 30+ days moved to IA, when a Get req is made obj switches back to Std storage

One zone IA – designed like std IA , meant for light workloads, objts will only be stored in one AZ. Lacks availability

RRS Reduced redundancy Storage – should not use it, originally made for cost effectiveness by making less durable. But std cls in more eff at large scale

Glacier- back end storage is in glacier service. Objects not avail for real time access. Must be restored for access. Max retrieval time is 12 hrs

Glacier Deep archive- Lowest storage cost in cloud, meant for cold workloads and higher retrieval times (more than 12 hrs). Objects not avail for real time access. Must be restored for access.

**S3 features**:

Versioning – allows to keep an object even when it is overwritten / deleted

Life cycle – automatic transition to less expensive storage cls, auto delete and expire objs

Cross region replication – once enabled allows auto replication of all new objs that are put in bucket,

Default encryption – once enabled allows all new objs in a bucket to auto encrypt. Customers can choose from s3’s server side encryption, AWS managed key (KMS) or customer managed encryption key (CMK)

Object lock – allows to lock an object until a specific date ( depending on obj lock mode selected, objs can be locked evn when a root acc /AWS can’t remove lock until retention date is met.

Select - allows to run SQL queries against CSV and JSON objects. Customers do not need to download an obj and then query it on an instance or machine.

Inventory reports – allows to periodically get a daily or weekly report of all objs in the S3 bucket. Not suggested for buckets with billions of objects as it may cause service delays

Event notifications – allow customers to automate some type of process/ workflow by triggering an action based on an S3 event (put or delete action)

Cloud watch metrics –(default feature) allows customers to see size of S3 bucket in bytes and to track the total number of objs in bucket.