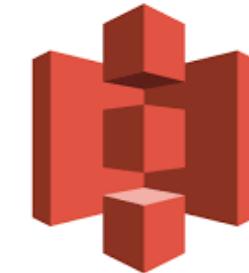




Amazon S3

S3 BUCKET



Amazon S3

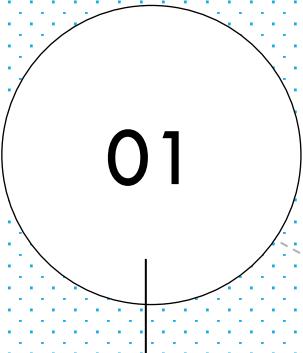
Object storage service that offers industry-leading scalability, data availability, security, and performance.



Amazon S3

NUMERIC LIST OPTION

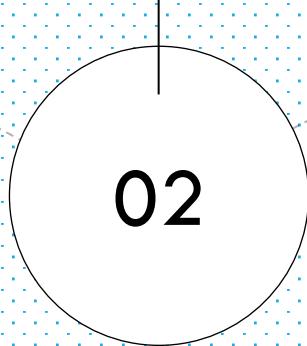
2



What is That ?

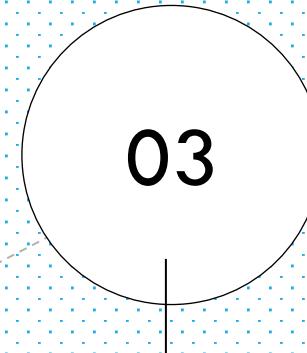
Simple Storage Service. As the name implies it is a web service provided by Amazon Web Services which provides storage for the internet.

Types & Benefits



02

Configured at the **object** level & used depending upon it's usage



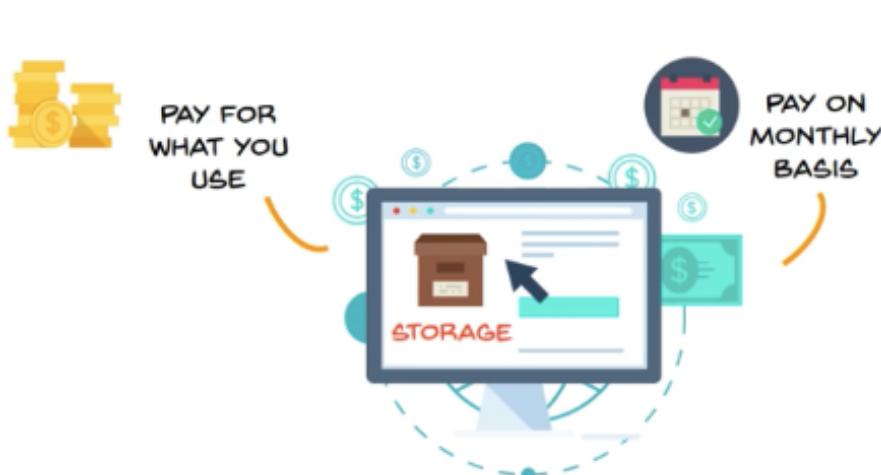
Features & On hands

Enforce data access controls, secure data against unauthorized users, run big data analytics, and monitor data at the **object**, bucket levels, and view **storage** usage and activity trends.



Amazon S3

WHAT IS A CLOUD STORAGE ?

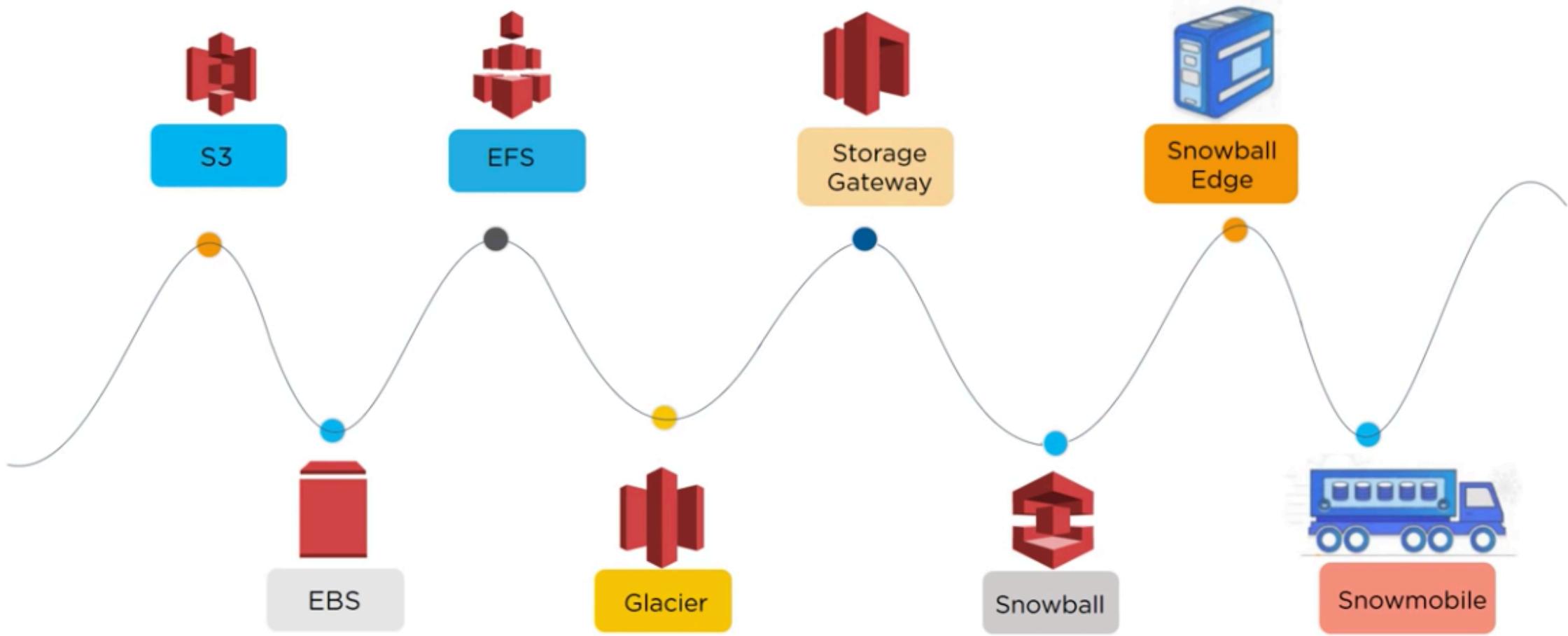


Cloud Storage provides a web service where your data can be stored accessed and easily backed up the users over the internet.



Amazon S3

TYPES OF STORAGE

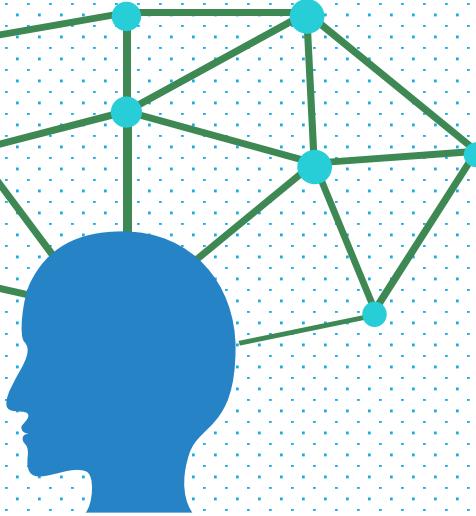




Amazon S3

5

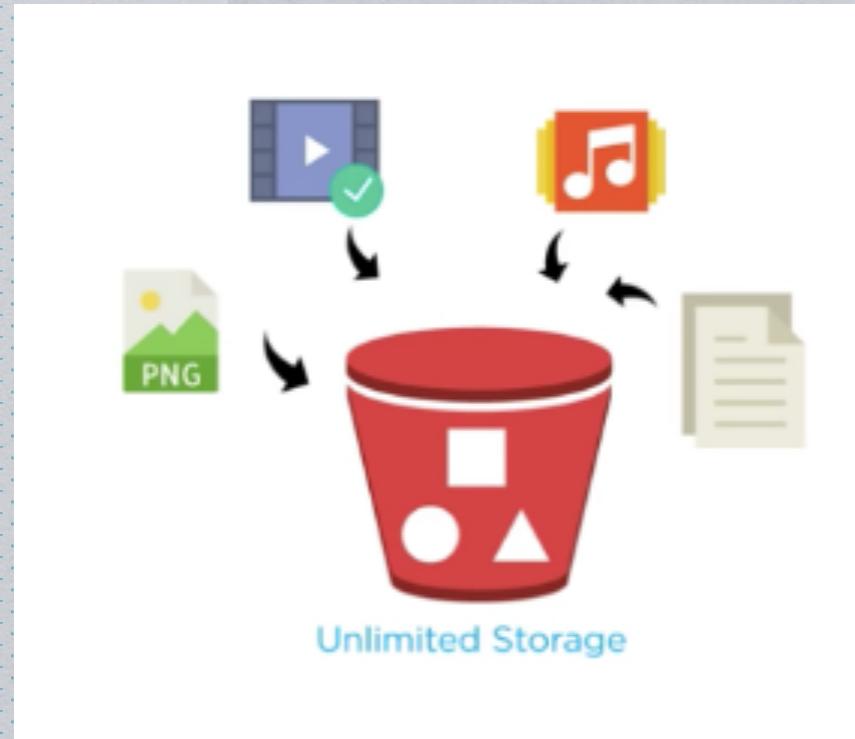
BEFORE AMAZON S3



**Running Applications, delivering contents to customers,
hosting high traffic website require lot of storage**



Amazon S3



WHAT IS S3

It is designed for large-capacity, low-cost storage provision across multiple geographical regions. Amazon S3 provides developers and IT teams with **Secure**, **Durable** and **Highly Scalable** object storage.

Provides 99.99999999% durability & 99.99% availability



Amazon S3

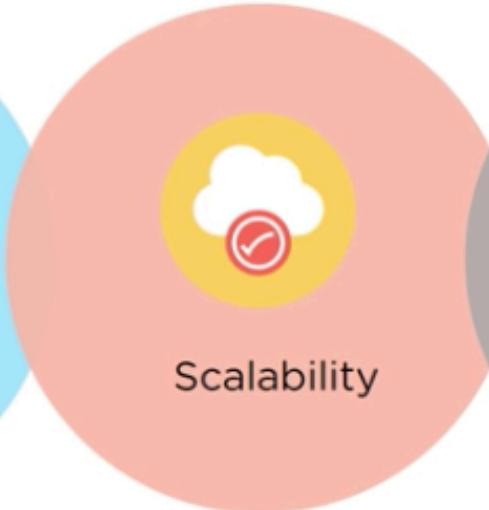
BENEFITS OF S3



Durability



Low Cost



Scalability



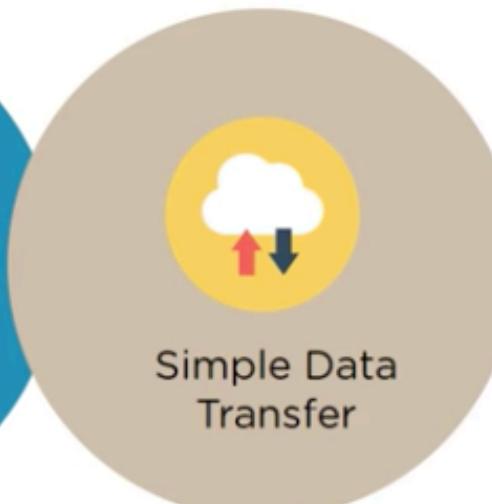
Availability



Security



Flexibility



Simple Data Transfer



Amazon S3

OBJECT & BUCKET IN AMAZON S3

8

- An object consists of data, key and metadata.
- A bucket stores the object.
- When data is added, it creates a unique version ID and allocates the object.



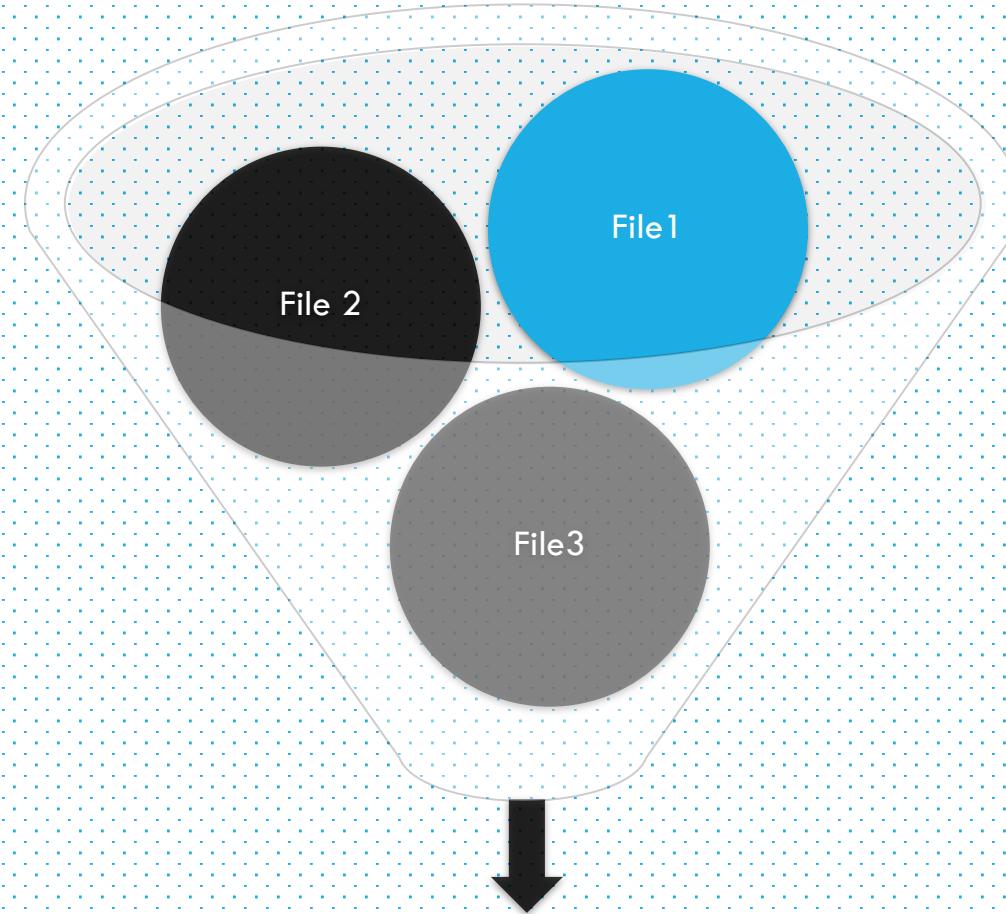
100

Bucket/account

Object :- files/softi.jpg

Buket :- PSG

Link address : <https://s3.amazonaws.com/PSG/files/softi.jpg>





STORAGE CLASS IN AMAZON S3

Amazon S3
Standard for frequent
data access

Amazon S3
Standard for
infrequent data
access

Amazon Glacier

- For frequently accessed data
- It is a default storage class
- Can be used for cloud applications, dynamic websites, content distribution, gaming applications, and Big data analytics

- For infrequently accessed data
- Demands rapid access
- Suitable for backups, disaster recovery and lifelong storage of data

- Suitable for archiving data where data access is infrequent
- Vault-lock feature provides a long term data storage
- Provides the lowest cost availability



Amazon S3

COMPARISON

10

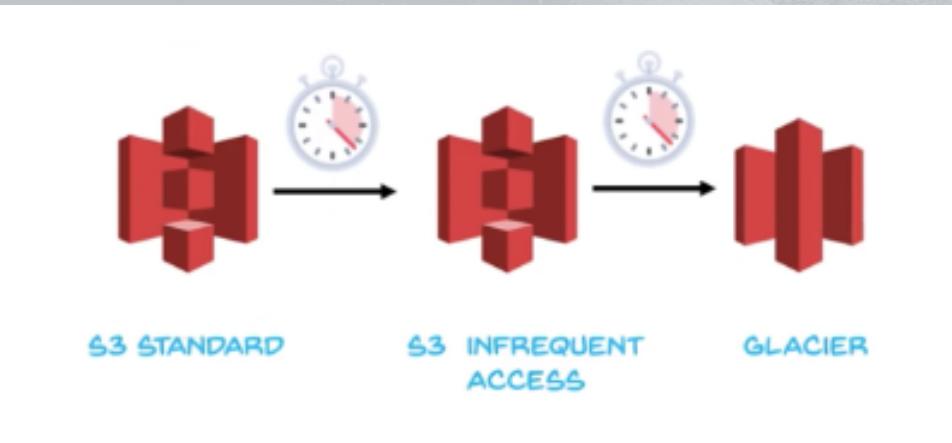
Storage Class	Durability	Availability	SSL support	First byte latency	Lifecycle Management Policies
STANDARD	99.999999999%	99.99%	Yes	Milliseconds	Yes
STANDARD_IA	99.999999999%	99.99%	Yes	Milliseconds	Yes
ONEZONE_IA	99.999999999%	99.5%	Yes	Milliseconds	Yes
GLACIER	99.999999999%	99.99%	Yes	Minutes or Hours	Yes
RRS	99.99%	99.99%	Yes	Milliseconds	Yes





Amazon S3

LIFECYCLE MANAGEMENT



Configuring S3 to move data between various storage classes on defined schedule.



Amazon S3

FEATURES



GEOGRAPHICALLY MAPPING

Regions

- Mumbai/N Virginia

Instance Type (Reserved Instance)

- e.g. amazon ec2- m4.4xlarge
16(vCPU), 64 GB RAM

Pricing(1 Year)

- Mumbai - \$691/monthly - \$0.9 hourly
- N Virginia - \$480/monthly - \$0.6 hourly

Latency

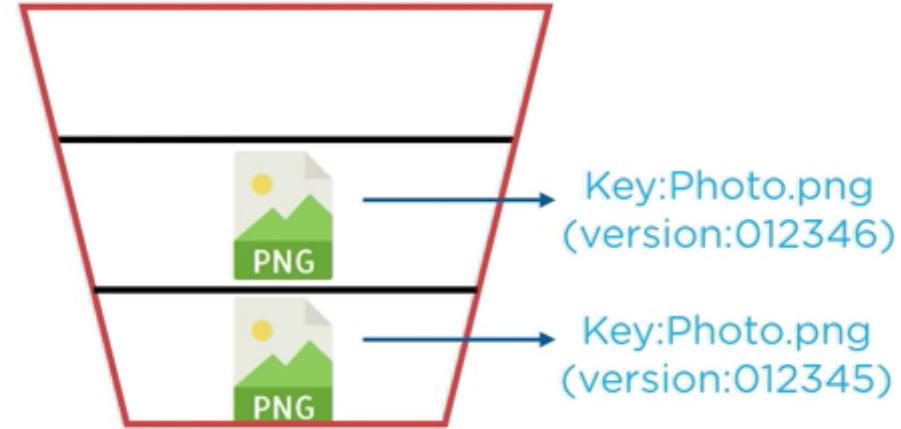
- From USA to India - **Low**
- From India to USA - **High**



Amazon S3

VERSIONING

- Used to preserve, recover and restore earlier version.
- Unintentional erase or overwriting can be avoided.



#v1

#v2

#v3

#v4

#v5

#v6

CROSS REGION REPLICATION

- Provides automatic copying of every object uploaded to buckets in different AWS regions.





Amazon S3

TRANSFER ACCELERATION

Enables fast, easy and secure transfers over long distances by exploiting amazon's edge technologies.

CloudFront

Caching service by AWS, in which the data from client site gets transferred to the nearest edge location and from there the data is routed to your AWS S3 bucket over an optimised network path.



Snowball

Way of transferring your data physically. In this Amazon sends an equipment to your premises, on which you can load the data.

The Snowball is ideal for customers who have large batches of data move.

AWS Snow Family



Snowball
Petabyte-scale data migration



Snowball Edge
Compute & Storage for Hybrid/Edge workloads



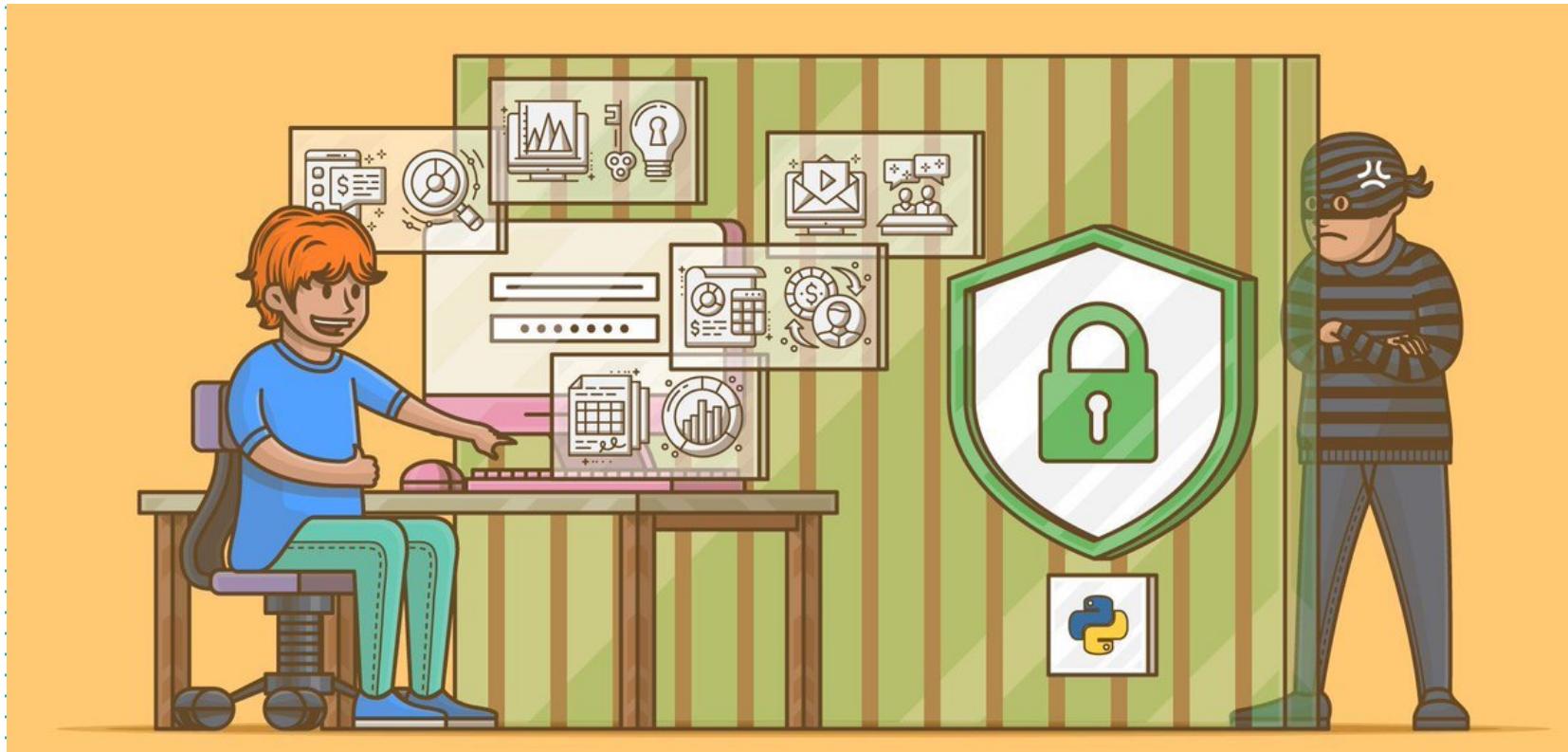
Snowmobile
Exabyte-scale data migration

AWS INNOVATE



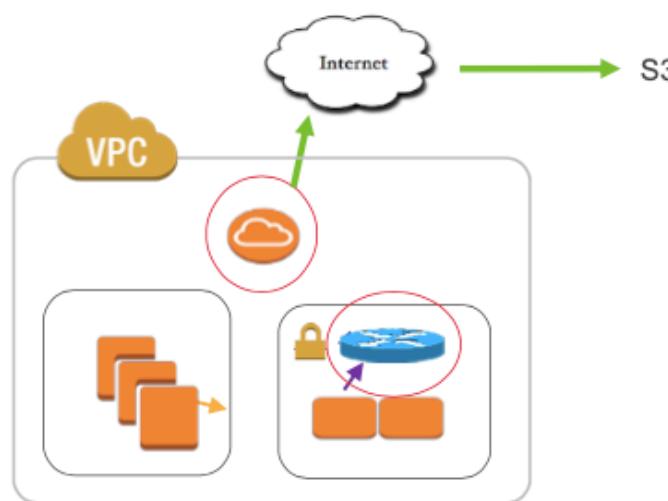
SECURITY AND ENCRYPTION

- Server Side Encryption
 - S3 Managed Keys – SSE(Server Side Encryption)-S3
 - AWS Key Management Service, Managed Keys - SSE-KMS - SSE with Customer Provided Keys -SSE-C
- Client Side Encryption



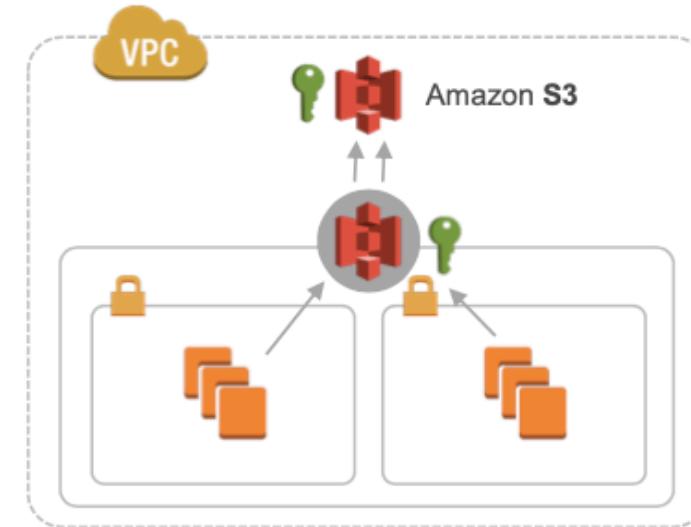
S3 VIRTUAL PRIVATE ENDPOINT

Prior to S3 VPCE



- Public IP on EC2 Instances and IGW
- Private IP on EC2 Instances and NAT

Using S3 VPCE

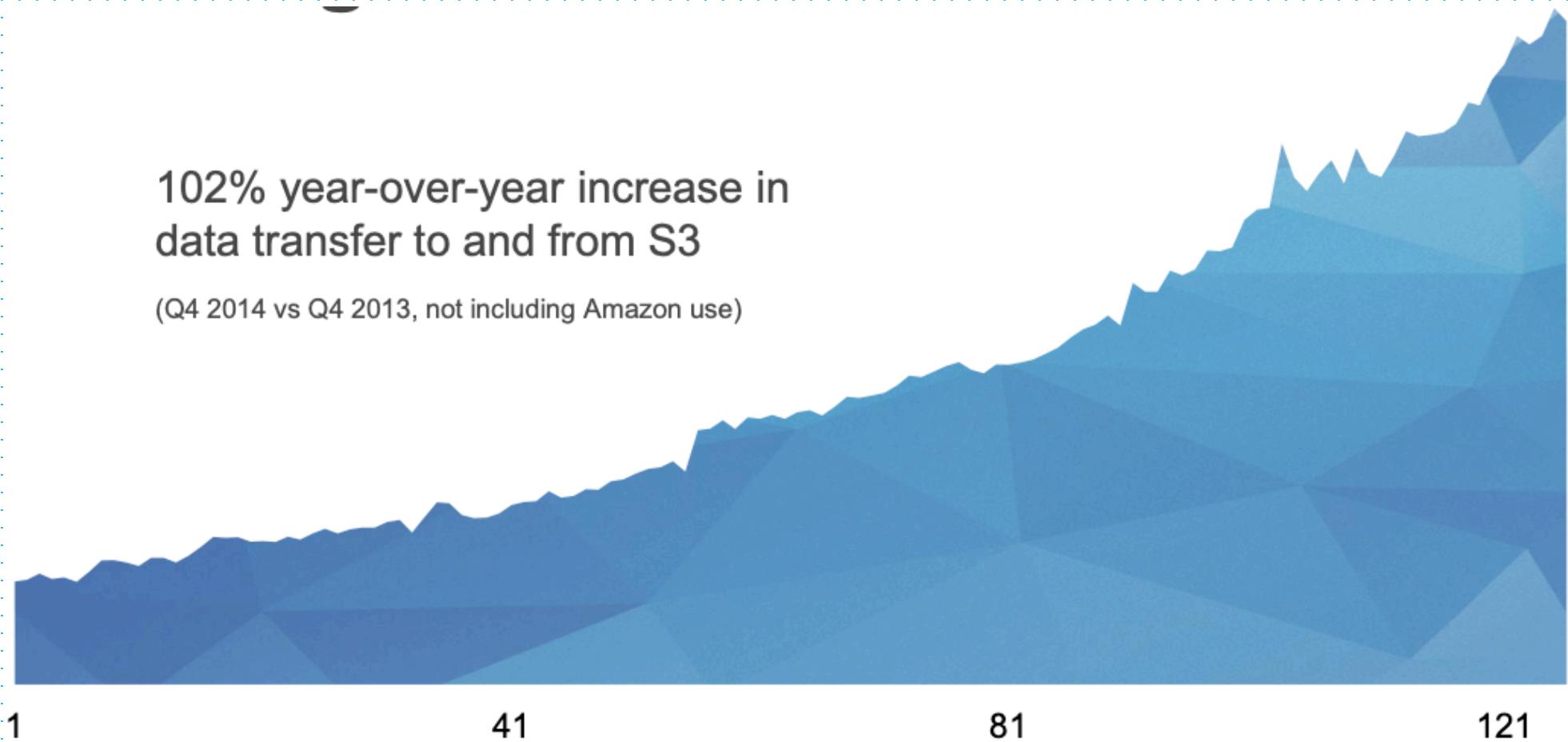


- Access S3 using S3 Private Endpoint (VPE) without using NAT instances or Gateways
- Increased security

S3 USAGE

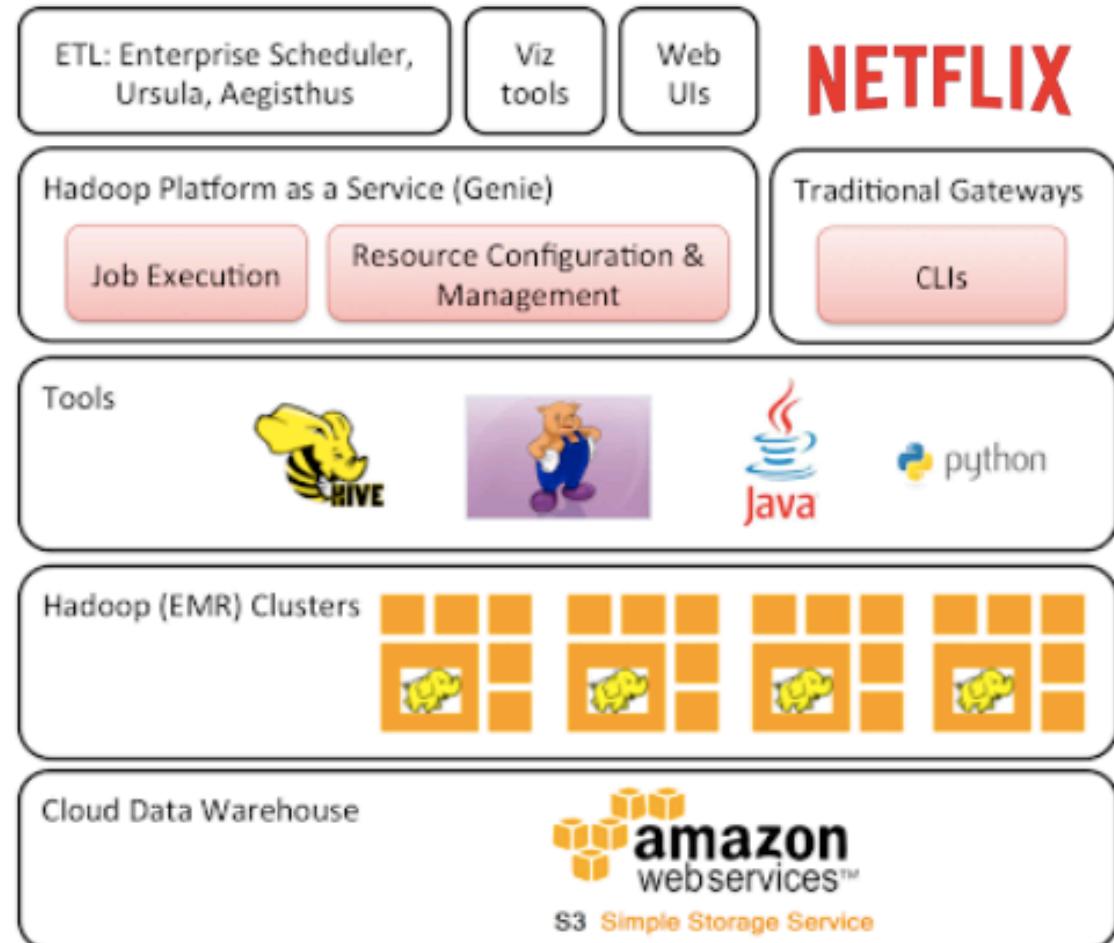
102% year-over-year increase in
data transfer to and from S3

(Q4 2014 vs Q4 2013, not including Amazon use)



S3 FOR BIG DATA: NETFLIX

Netflix, a global video delivery provider, uses S3 as the storage layer for Hadoop-based Big Data applications





Amazon S3

21

USE CASES



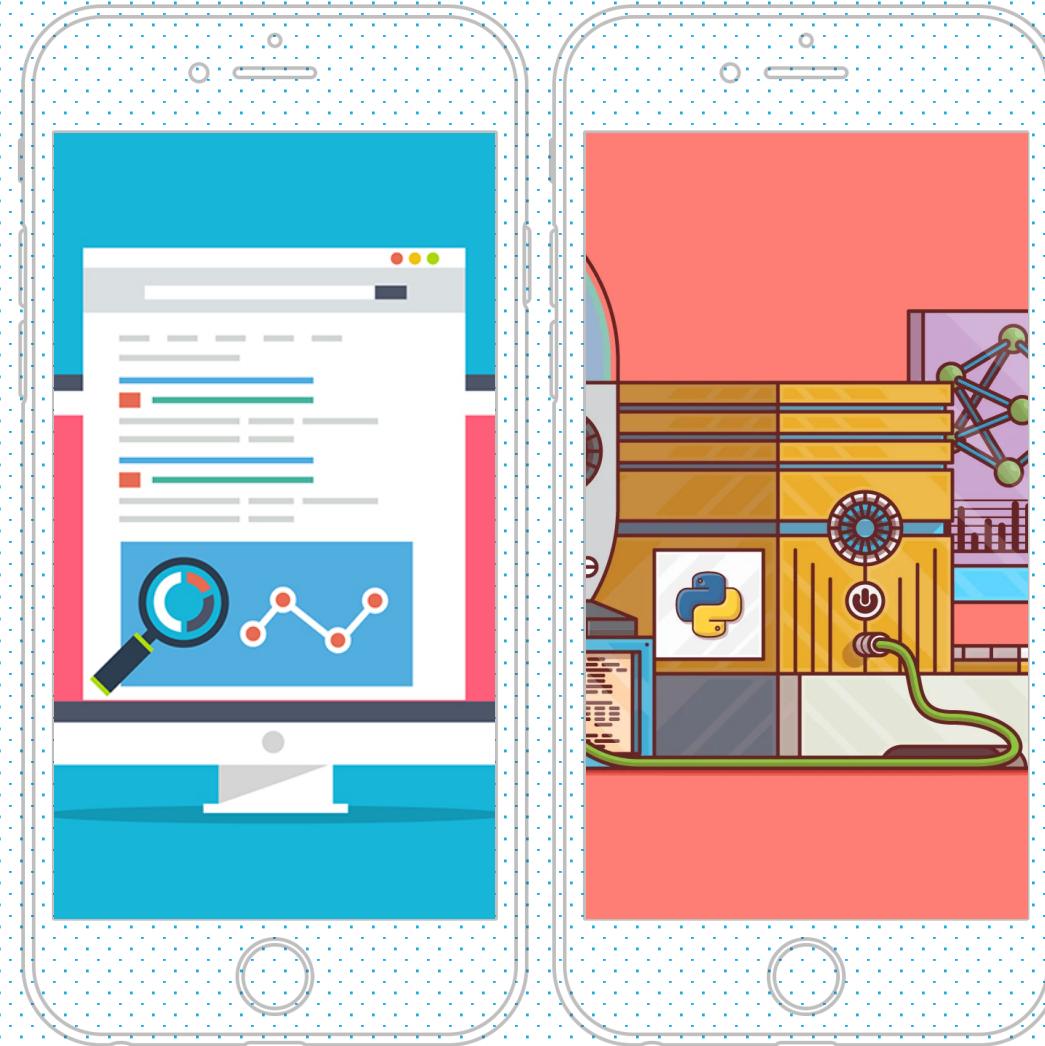
Static Web hosting

To host a static website, you configure an Amazon S3 bucket for website hosting, and then upload your website content to the bucket.



Data Store

This is similar to G drives where we just put data.





Amazon S3



Good Bye!

Real Python