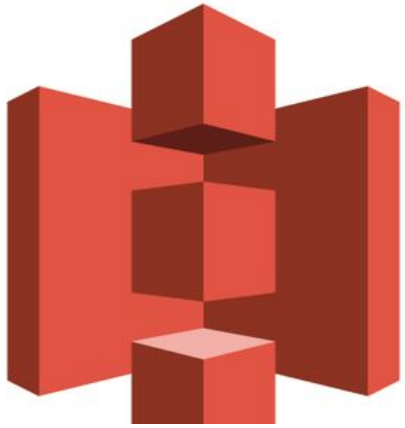
What is S3?



Amazon Simple Storage Service (Amazon S3) is an object storage service that offers industry-leading scalability, data availability, security, and performance. This means customers of all sizes and industries can use it to store and protect any amount of data for a range of use cases, such as websites, mobile applications, backup and restore, archive, enterprise applications, IoT devices, and big data analytics. Amazon S3 provides easy-to-use management features so you can organize your data and configure finely-tuned access controls to meet your specific business, organizational, and compliance requirements. Amazon S3 is designed for 99.999999999% (11 9's) of durability, and stores data for millions of applications for companies all around the world.

Features of S3

- S3 allows easy upload and download of files
- File size can be 0 Bytes to 5TB
- Unlimited storage
- Files are stored in buckets

Data consistency

- Read after write consistency for PUTS of new objects.
- Eventual consistency for overwrite PUTS and DELETES.
- Atomic updates-No partial or corrupted data.

S3 store

- S3 is object based .

object consists -

1. Key - File name
2. Value - Actual data in bytes
3. VersionID - For versioning
4. Metadata - Data about data

Why S3?

- Built for 99.99% availability .
- Amazon guarantees 99.999999999% durability for s3 information.
- Tiered storage.
- Lifecycle management.
- Versioning.
- Encryption.
- Authorization using ACL and bucket policies.

Storage tiers

S3 (standard) -

99.99% availability,99.999999999% durability ,stored redundantly across multiple devices in multiple facilities and is designed to sustain loss of 2 facilities concurrently.

S3 IA (Infrequently accessed)-

For data that is accessed less frequently , but requires rapid access when needed. Lower fees than s3, but you are charged a retrieval fee.

Reduced Redundancy Storage -

Designed to provide 99.99% durability and 99.99% availability of objects over a given year.

Glacier -

Very cheap, but used for archival only. It takes 3-5 hours to restore from Glacier.

Storage tiers

	Standard	Standard - Infrequent Access	Reduced Redundancy Storage
Durability	99.999999999%	99.999999999%	99.99%
Availability	99.99%	99.9%	99.99%
Concurrent facility fault tolerance	2	2	1
SSL support	Yes	Yes	Yes
First byte latency	Milliseconds	Milliseconds	Milliseconds
Lifecycle Management Policies	Yes	Yes	Yes

Glacier

Glacier is an extremely low cost storage service for data archival. Glacier stores data for as little as $0.01 per GB per month.
It is optimized for data that is infrequently accessed and for which retrieval time is 3-5 hours.

Storage tiers

	Standard	Standard - IA	Amazon Glacier
Designed for Durability	99.999999999%	99.999999999%	99.999999999%
Designed for Availability	99.99%	99.9%	N/A
Availability SLA	99.9%	99%	N/A
Minimum Object Size	N/A	128KB*	N/A
Minimum Storage Duration	N/A	30 days	90 days
Retrieval Fee	N/A	per GB retrieved	per GB retrieved**
First Byte Latency	milliseconds	milliseconds	select minutes or hours***
Storage Class	object level	object level	object level
Lifecycle Transitions	yes	yes	yes

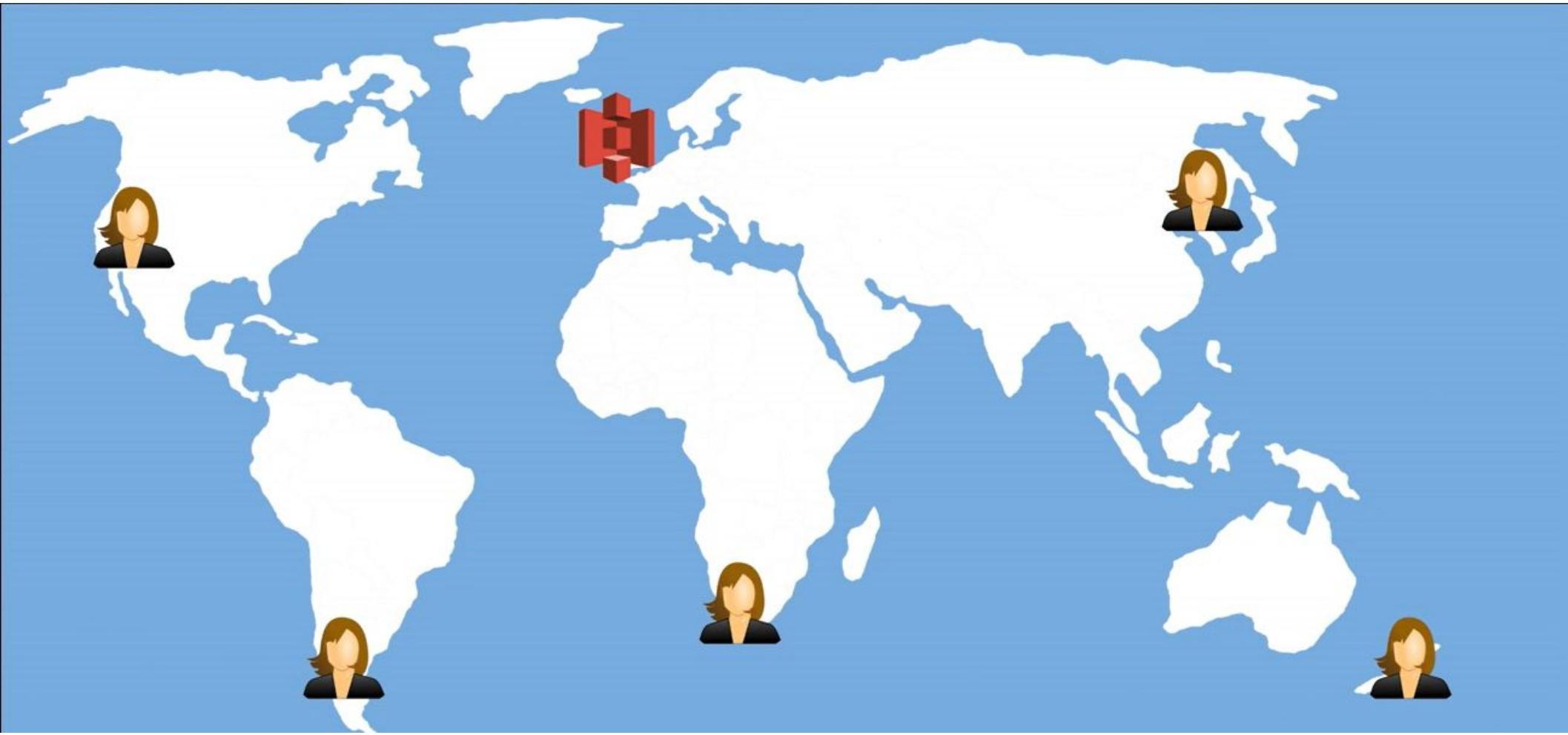
Charges based on ?

- Storage
- Requests
- Storage management pricing (tags)
- Data transfer pricing
- Transfer acceleration

What is transfer acceleration ?

Amazon S3 Transfer Acceleration enables fast, easy, and secure transfers of files over long distances between your client and an S3 bucket.
Transfer Acceleration takes advantage of Amazon CloudFront's globally distributed edge locations.
As the data arrives at an edge location, data is routed to

Amazon S3 over an optimized network path.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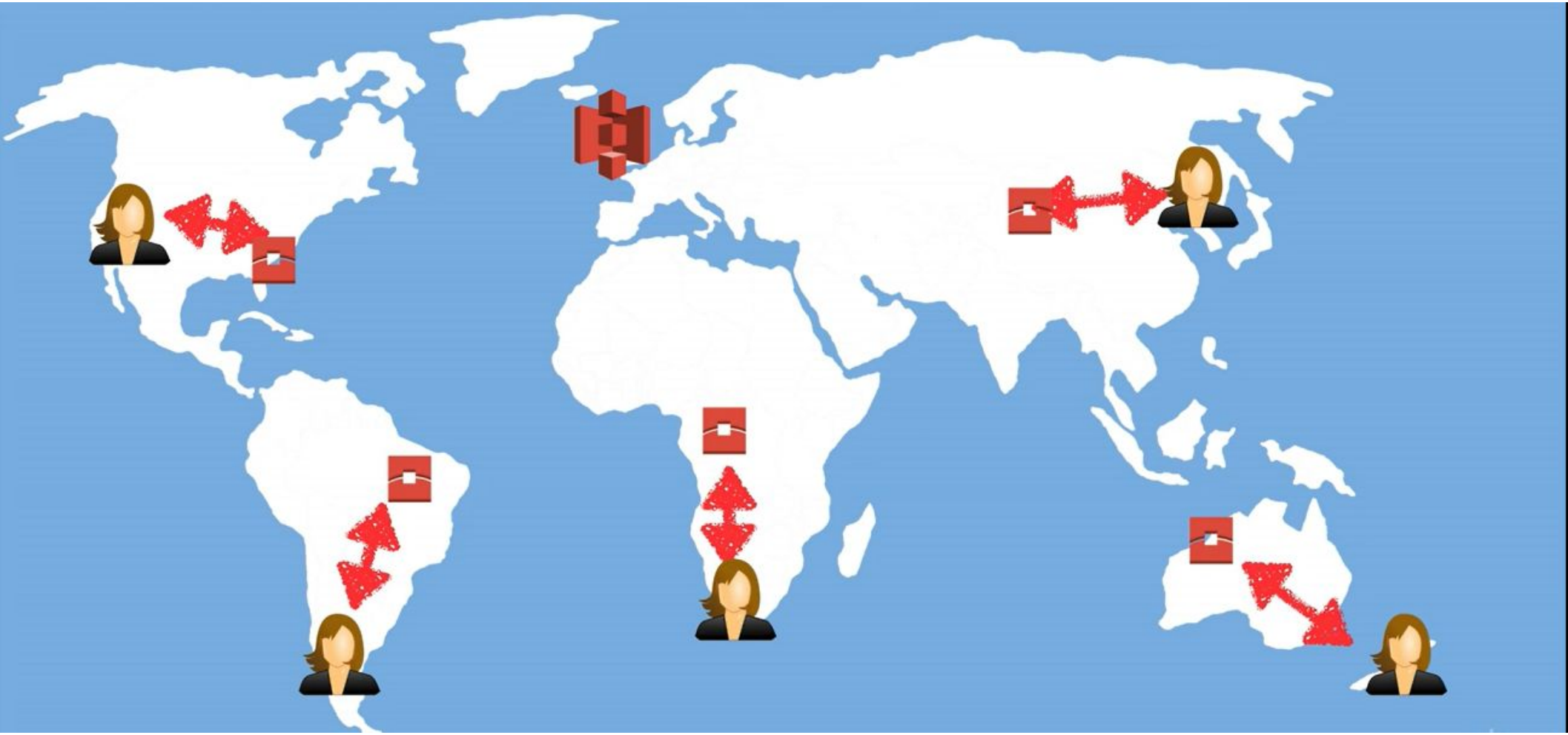
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Questions?