**Amazon S3 Tiers**

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| **Standard** - 99.99% A - 99.999999999% D - Multi AZ - No Retrieval Fee | **IT** - 99.9% A - 99.999999999% D - No Retrieval Fee |
| **IA** - 99.9% A - 99.999999999% D - Retrieval Fee - Multi AZ | **IA One Zone** - 99.5% A - 99.999999999% D - No Multi AZ |
| **Glacier** - 99.999999999% D - Min to Hours | **Glacier Deep Archive** - 99.999999999% D - Hours |

Files 0 Bytes to 5 TB  
Unlimited Storage  
Universal Namespace  
Read after Write consistency for PUTs of new Objects  
Eventual Consistency for overwite PUTS and DELETES

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| **Encryption In Transit** - SSL - TLS | **Encryption Server Side (At Rest) SSE** - KMS (Key Management Service) - S3 (S3 Managed Keys) - C (Customer Provided Keys) |
| **Versioning** - Suspend Only - Integrate with Lifecycle Rules - MFA Delete - Backup Tool | **Lifecycle** - Clean up Multipart - Move between tier - Remove objects - Can limit scope |
| **Cross Region Replication/ Same Region Replication** - Versioning Required - Regions Unique/Same - Only new uploads replicated - Delete markers not replicated | **Transfer Accleration** - Edge Network - Backbone |

**CloudFront**   
- Caches at Edge Locations (TTL) (Charged to Clear)  
- Origin of Content can be S3, EC2, ELB or R53  
- Dynamic  
- Static  
- Streaming  
- Interactive  
- Web Distribution (Web)  
- RMTP (Media)  
- Distribution (Name of CDN, collection of Edge Locations)

**Snowball**

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| 2TB+ | 44+Mbps |
| 5TB+ | 100Mbps |
| 60TB+ | 1000Mbps |

**Storage Gateway**- File Gateway (NFS/SMB) for S3  
 - Ownership, Permissions, Timestamps stored in user-metadata of object  
- Volume Gateway (iSCSI) Stored and Cached Volumes  
 - Can be asynchronously backed up as snapshots to be stored as EBS snapshots (Captures only changed blocks)  
 - Stored (All Data on site) Cached (Most Frequently Accessed on site) stored on S3  
- Tape Gateway  
 - Archive Data, Virtual Tape Cartridges

**IAM**  
- Universal, not region specific  
- Root account, complete admin access  
- New users have no permissions by default  
- New users assigned Access Key ID and Secret Access Keys on first created (For API and CLI use) Viewed once  
- Power user (Access to all services except management of groups and users)

**Buckets**  
- Private by default, use Bucket Policies, Access Control Lists (Can go to File Level) can log requests  
- Name format `https://region-ap-southeast-1.amazonaws.com/bucketname`  
- Name format new `https://bucketname.region.amazonaws.com/`  
- 100 By Default  
- Request Pays (option)

**S3**  
- Key (Name of Objet)  
- Value (Data, Bytes)  
- Version, Metadata (Data about Data), Subresources (ACL, Torrent)