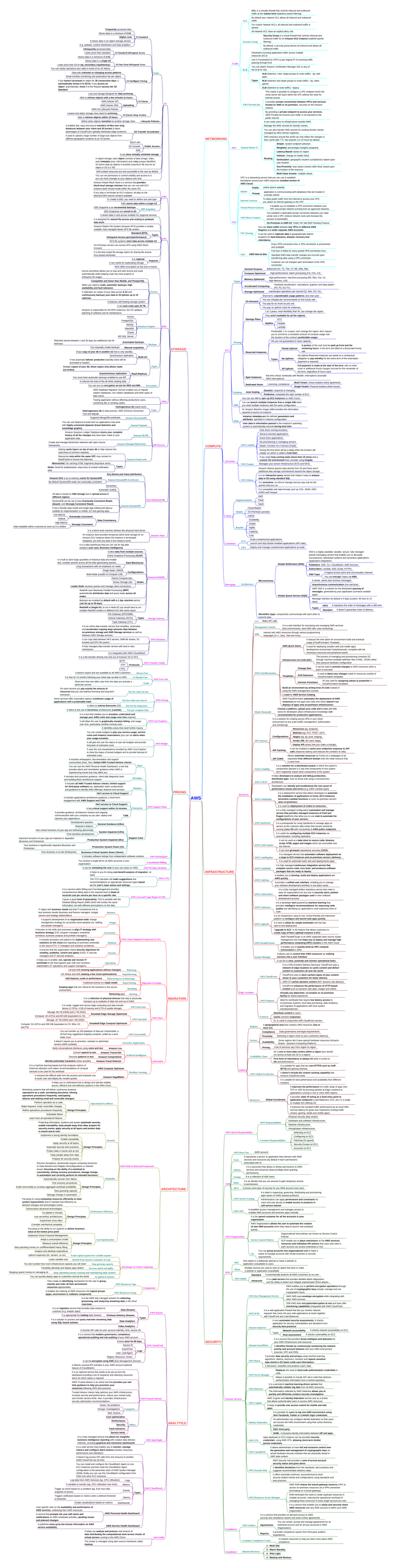
AWS
NETWORKING
ACL
Security Groups
Traffic
ELB
Types
Frequently accessed files
Stores data in a minimum of 3 AZ
Higher cost
S3 Standard
It stores data in an object storage format
E.g. website, content distribution and data analytics
Infrequently accessed files
Lower price than standard
S3 Standard-Infrequent Access
Stores data in a minimum of 3 AZ
Stores data in a single AZ
Lower price than S3-IA
S3 One-Zone-Infrequent Access
You can easily reproduce your data in event of an AZ failure
Rarely accessed files, but need immediate access when it is needed
Stored in multiple geographically distant locations
Stored in a minimum of 3 AZ
Cheaper than other options
If you haven't accessed an object for 30 consecutive days, it automatically moves it to S3-IA. If you access an object automatically, move it to the frequent access tier S3 Standard
S3 Intelligent-Tiering
Long-lived storage required for data archiving
Able to retrieve objects with a few minutes to hours
AWS Glacier API
S3 Glacier
AWS Glacier SDK
Uploading
AWS S3 Lifecycle Policies
Lowest-cost object storage class ideal for archiving
Able to retrieve objects within 12 hours
S3 Glacier Deep Archive
Define when objects transition to another storage class
Lifecycle Policies
It enables fast, easy and secure transfers of files over long distances between your client and S3 bucket
It takes advantage of Amazon CloudFront's globally distributed edge locations
Data will be routed over a portion of Amazon backbone
S3 Transfer Accelerator
It can be used to upload a portion of large-size objects from different geographic locations to an S3 bucket
REST API
S3 Console
CLI
SDK
Public Access Block
Public
Private
Subnet
Internet Gateway
Virtual Private Gateway
VPC
VPC Peering
VPN
Route Table
Bastion Host
NAT
Elastic IP
Elastic Network Interface
Endpoint
Flow Logs
Amazon Route 53
DNS
Simple
Weighted
Latency-Based
Failover
Geolocation
Geoproximity
Latency
Multi-Value Answer
Routing
Amazon Elastic Block Store (EBS)
Block level storage volumes that you can use with EC2 instance (both should reside within the same AZ)
If you stop or terminate an EC2 instance and access to its attached EBS volume is required, you can do so
To create a EBS, you need to define size and type
EBS stores data within a single AZ
EBS Snapshot is an incremental backup
EBS Snapshots are stored in S3
It stores data in and across multiple AZ (regional service)
It is designed for shared file access and scaling to petabyte data volumes
Amazon Elastic File System (Amazon EFS) provides a simple, scalable, fully managed elastic NFS file system
Standard (EFS)
Infrequent Access (provisioned throughput)
EFS file systems store data across multiple AZ
Amazon EFS File Sync
Amazon Elastic File System
EC2
Pricing
On-Demand
Savings Plans
Compute Optimized
High-performance batch processing (C5, C5n, C4)
Memory Optimized
High-performance real-time processing (R5, R5a, R4, X1, X1e, z1d, High Memory)
Accelerated Computing
Machine learning, 3D graphics, calculations, graphics and data pattern matching (P3, P2, G3, F1)
Storage Optimized
It replicates no copies of your data across 6 AZ and continuously backups your data to S3 (across zero AZ failure)
It features self healing storage system
It can auto scale upto 16 TB
Amazon is responsible for the RDS instances, the OS updates, patching of software and its maintenance
Aurora
PostgreSQL
MySQL
MariaDB
Oracle
MS SQL Server
Database Engines
RDS
Automated backups
Manual snapshots
Backups
Retention period between 1 and 35 days (we additional cost for backups)
You manually create backups
Exact copy of your db in another AZ that is only standby
Synchronous replication
Multi-AZ
It has automatic failover protection (standby slave will be promoted to master)
Types
Multiple copies of your db, these copies only allows reads (no writes)
Asynchronous replication
Read-Replicas
You must have automatic backups enabled to use RR
It reduces the load on the db server by diverting read queries
Encryption
You can turn on encryption at-rest for RDS via KMS
AWS Database Migration Service enables you to migrate relation databases, non-relation databases and other types of data stores
Migration
Training application without affecting production workloads, combining dbs or sending copies
AMI
Homogeneous db (same tech)
Heterogeneous db (2 step process: AWS Schema Conversion Tool and AWS DMS)
Amazon DynamoDB
Storage
S3
Versioning
Lifecycle Management
Cross Region Replication
Encryption
Access Control
Amazon Simple Notification Service (SNS)
Amazon Simple Queue Service (SQS)
Amazon Kinesis
Amazon Elastic Transcoder
Amazon Simple Email Service (SES)
Amazon Simple Workflow Service (SWF)
Amazon Elastic MapReduce (EMR)
Amazon Redshift
Amazon Cloudsearch
Amazon Elasticsearch Service
Amazon Kinesis Data Analytics
Amazon Kinesis Data Firehose
Amazon Kinesis Video Streams
Amazon Machine Learning
Amazon Rekognition
Amazon Polly
Amazon Lex