**Part 1 of 10,000 Feet Overview:**

AWS Global Infrastructure - basically the data center.

Dec 2017 16 regions, 44 AZ (6 more regions, 17 AZ in 2018)

Region - is a geographical area

Region consists of 2 or more Availability Zones (AZ)

An AZ is simply a data center. may consist of multiple data centers.

Edge network location - end points for AWS which are used for caching content. Typically this consists of CloudFront , AMazons Content delivery network (CDN).

There are more edge locations than regions.

Currently there are over 96 Edge Locations.

**Part 2 of 10,000 Feet Overview :**

what sits on top of AWS GLobal Infrastructure >

Compute>

EC2- Elastic Compute Cloud . Virtual Machines inside the AWS platform.

EC2 Container Service- run and manage docker containers at scale

Elastic Beanstalk- developers who dont understand AWS. just upload code. Elastic bean does the provisioning.

Lambda- Serverless. code that you upload to cloud and then execute. no underlying server.

LightSail- VPS service. Virtual Private Service.

Batch- for batch computing in the cloud.

Storage>

S3- Simple Storage Service. object based storage. upload files into buckets.

EFS- Elastic File System. network attached storage.

Glacier- Data archival.

Snowball - way to bring in large amount of data into data center. this is a physical disc.

Storage Gateway- essentially virtual appliances installed in your data center. replicate back data to S3.

Database>

RDS- Relational Database service. Mysql, {ostgres, aurora, MS SWl, Oracle db.

DynamoDB- non relational databases.

ElastiCache- caching commonly queried things from your database.

Amazon Redshift- data warehouse and business intelligence.

Migration>

AWS Migration Hub- tracking server. track applications as you migrate.

Application Delivery Service- automated set of tools. what applications you have and what their dependencies are? tracking dependencies for your applications.

Database Migration Service- migrate db from onpremise to AWS.

Server Migration Service- similar to db migration service. for migrating virtual and physical servers to AWS cloud.

Snowball- migrating large amount of data to cloud in TB.

Networking and Content Delivery>

\*\*\*VPC- Virtual Private Cloud. think of it as a virtual data center.

CloudFront- content delivery network. media assets, video or image files - cloud front will store it closer to location.

Route53- DNS server (school telephone book)

API Gateway - way of creating your own apis for other services to talk to

Direct Connect - way of running a dedicated line for your datacenter to AWS. directluy connect to VPC.

Developer Tools>

CodeStar- way of getting a group of developers working together. project management. collaboration.

CodeCommit- to store code. source control.

CodeBuild- to compile and build, run test against it and package it.

CodeDeploy- for application deployment.

CodePipeline- continuous delivery (CD) service.

X-Ray- debug and analyze serverless application.

Cloud9- IDE environment. develop code within AWS console. inside web browser. (AWS aquisition)

**Part 3 of 10,000 Feet Overview :**

Management Tools>

Cloud watch - monitoring tool . big scope in sysops admin exam.

\*\*\*Cloud Formation- way of scripting infrastructure ( infra as a code). use cloud formation template and deploy a sharepoint site or a jhoomla.

\*\*CloudTrail - everytime you click in aws mgmt console and do something , like creating a aws s3. log changes to AWS env. turned on by default. stores record for 1 week.

\*Config - monitors the configuration of entire aws env. take snapshot. visualize aws env.

OpsWork - similar to elasticbean. uses chef and puppet to automate your env.

Service Catalog - manage catalog of it services. anything from vm, OS, databases, complete multi tier architecture. used by big organization for governance and compliance.

Systems Manager - interface for managing AWS resources. managing EC2, patch management.

\*Trusted Advisor - difference between TA and Inspect. advise around security. if you left your ports open, then its a risk. also tlls you if you not useing the services as required.

managed Services - did not need to scale Ec2. AWS does that using managed services.

Media Services>

Elastic Transcoder - when you record a video and upload it, it triggers elastic transcoder.resizes to look good on other formats.

(new Services 2017)

Media Convert - file based video transcoder . video on demand

MediaLive - live video processing services. video streaming

MediaPackage- prepares and protects delivery over internet

MediaStore- storage service optimized for media

MediaTailor- targeted advt into video streams without sacrificing video quality of service.

Machine Learning>

SageMaker: easy developers to use deep learning esp for coding in their env.

Comprehend- sentiment analysis

DeepLens - Artifically aware camera. camera can figure what its looking at.this happens on the camera itself.phtysical hardware.

Lex - powers the alexa service. AI way of chatting to your customer.

Machine Learning - normal machine learning . Deep Learning is around neural networks. MLis just normal. throws data set to AWS and analyses it. product recommendation is an example.

\*Polly - Text to Speech. choose different languages. give different accent.

Rekognition - video and image recognition. upload a file and it tells you what it is.

Amazon Translate - machine translation services like google translator

Amazon Transcribe - for hard of hearing people.automatic speech recognition. run video file and turn that into text.

Analytics>

Athena- run sql queries against S3. excel ins S3, find out name of all employees. sql query to look at the bucket. serverless.

\* EMR - Elastic Map Reduce - processing large amounts of data. bigdata solution.

CloudSerach, ElasticSearch Service- search services

\* Kinesis - ingesting large of amounts . social media tweets. # tags.

kinesis video streams - ingest videos from mobile devices to AWS

Quicksight - BI tool . fraction of other BI tool.

\*Data Pipeline - moving data between diff AWS services (in scope)

Glue - used for ETL (extract transform and load) . extract -> transform to target format -> Load

**Part 4 of 10,000 Feet Overview :**

Security,Identity & Compliance>

\*IAM- Identity Access Management -

Cognito- way of doing a device authentication - using mobile apps, facebook, gmail, linked in. after authentication can access aws services.

GuardDuty- monitors malicious activities on aws accounts

\*Inspector- agents on vm, ec2 instances and run tests on it. does my ec2 instance have any vulnerabilities. schedule this weekly or monthly. generates a report.

Amazon Macie- scan s3 buckets for PII. personal identifiable.

\*Certificate Manager- managing SSL certificates

\*CloudHSM- Hardware security module. dedicated bit of hw for storing keys.

\*Directory Service- way of integrating MS AD with AWS services.

\*WAF - web application firewall is layer7 firewall.

\*Shield - default with few aws services. dedos mitigation.

Shield Advanced - if dedos attack, aws will not charge.

Artifact- portal for accessing aws compliance report. download soc control, PCI reports, industry reports.

Mobile Services>

Mobile Hub- management console.

Pinpoint- way of using targeted push notification.

AWS AppSync- automatically updates data in web and mobile. offline data updates when online.

Device Farm-way of actually testing apps on real devices.

mobile analytics - analytics service for mobile.

AR/VR >

Sumerian - code named. first ever language written down. used for AR VR and 3d application design.

recommend - check out "ready player one" book

Application Intgeration>

Step Functions - managing different Lambda functions

Amazon MQ- way of doing message queues.

\*SNS- notification services. you can setup billing alarm to aws account.

\*SQS- decoupling infra. Ec2 polling SQS queue for image.

\*SWF- Simple workplace service - used in amazon warehouse. creates simple workflow.

Customer Engagement>

Amazon Connect- contact center as a service . call center in the cloud.

\*Simple Email Service- sending large amounts of emails. hihly scalable .

Business Productivity>

Alexa for Business- used for dialin to a meeting room, inform IT that printer is broken.

Amazon Chime- like zoom for video conferencing.

\*WorkDocs- like a dropbox for aws.

WorkMail- like offie 365 ( amazons version) . like google mail.

Desktop & App Streaming>

WorkSpaces- VDI solution. way you are running OS within AWS cloud. desktop environments running in cloud.

AppStream 2.0- apps streamed to your device. similar to citrix.

Internet Of Things>

AWS IoT-

IoT Device Management-

Amazon FreeRTOS- OS for micro controllers.

AWS Greengrass- software that lets u run local compute, messaging, data caching, sync capabilities in a secure way.

Game Development>

Amazon GameLift- help you develop games, VR games in aws cloud.

**what services needed to know for exam:**

AWS Global Infrastructure

Compute

Storage

Databases

Migration

Networking and Content Delivery

Management Tools

Analytics

Security and Identity and Compliance

Application Integration

Desktop and App Streaming