Welcome to AWS

Introduction to AWS Global Infrastructure

Overview on AWS Infrastructure

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INTRODUCTION

01

What is an AWS Global Infrastructure

A secure, extensive, and reliable cloud platform, offering over 200 fully-featured services from data centers globally. AWS provides you with the cloud infrastructure where and when you need it.

- Regions
- Availability Zones
- Edge Locations
- Local Zones

REGIONS

02

Regions

1)

AWS operates Regions, which are physical locations worldwide clusters of data centers.
AWS Regions adhere to the highest standards of security, compliance, and data protection.

2)

AWS has an extensive global presence, with multiple geographic Regions across North America, South America, Europe, China, Asia Pacific, South Africa, and the Middle East to meet the needs of customers worldwide. AWS consistently expands its Regions to serve its customers globally

AWS Regions

Reasons to choose Regions

Compliance

Concerns of data leaving your data center, legal and governance compliances

Proximity

How close you are to your customers

Available Services

Is this services available in that region?

Pricing

Different pricing tiers based on multiple factors, like taxes.

AVAILABILITY ZONES

03

AVAILABILITY ZONES

Introduction

one or more separate data centers with redundant power, networking, and connectivity within an AWS Region. These AZs enable customers to run production applications and databases that are more available, fault-tolerant, and scalable than would be possible from a single data center.

Advantages

Within each Region, there are a minimum of three isolated and separate Availability Zones (AZs) in close proximity. Each AZ has its own power, cooling, and security systems and is linked by redundant, high-speed networks.

Characteristics

All AZs in an AWS Region are connected with high-bandwidth, low-latency networking over fully redundant, dedicated metro fiber, providing high-throughput, low-latency networking between AZs. The traffic between AZs is encrypted.

EDGE LOCATIONS

04

EDGE LOCATIONS

These are endpoints for AWS services that provide a low-latency connection to end-users. Edge locations are used by services like Amazon CloudFront for content delivery and AWS Global Accelerator for network performance improvement.

Edge computing is a distributed computing paradigm that brings computation and data storage closer to the location where it is needed

Edge computing is a transformative approach that addresses the limitations of traditional cloud computing by bringing computation closer to the data source. It enables faster processing, reduces latency, and optimizes bandwidth, making it ideal for a wide range of applications from IoT to autonomous vehicles. However, it also introduces new challenges in terms of management, security, and integration, which need to be carefully addressed to fully leverage its potential.

Key Features

1) Proximity to Data Source

2) Bandwidth Optimization

3) Real-Time Processing

Edge Computing

LOCAL ZONES

05

LOCAL ZONES

AWS Local Zones are extensions of an AWS Region that place compute, storage, database, and other select AWS services closer to end-users. They are ideal for applications requiring single-digit millisecond latency to end-users.

AWS Local Zones

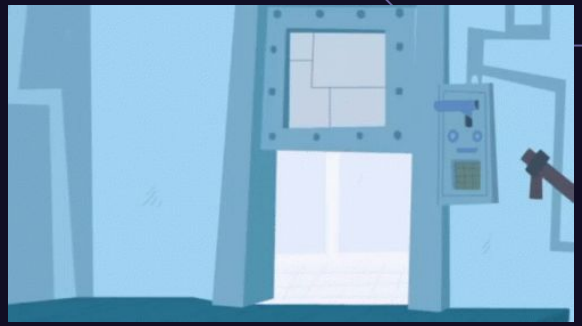
Local Zones

CHARACTERISTICS

06

1) Security and Compliance

Security Features



Data Center Security

AWS data centers are equipped with physical security measures, including perimeter security, guard staff, video surveillance, and more.

Network Security

AWS employs a variety of network protection measures, such as firewalls, encryption, and DDoS mitigation, to secure data in transit.

Compliance Programs

AWS complies with numerous global and industry-specific standards and certifications, such as GDPR, HIPAA, ISO 27001, SOC 1/2/3, and many more.

2)

High Availability and Fault Tolerance

High Availability & Fault Tolerance

AWS Regions and AZs are designed to provide high availability and fault tolerance. By distributing applications and data across multiple AZs within a Region, customers can achieve resilient and highly available applications.

3)

Scalability and Elasticity

Scalability & Elasticity

AWS infrastructure is designed to be highly scalable and elastic. Customers can easily scale their applications up or down based on demand. AWS offers a range of services that support automatic scaling, such as Amazon EC2 Auto Scaling and AWS Lambda.

4) Global Network

Global Network

AWS operates a global network backbone connecting its Regions, AZs, and Edge Locations. This network ensures fast and reliable connections between AWS services and customers' on-premises infrastructure.

5) Sustainability

Sustainability

AWS operates a global network backbone connecting its Regions, AZs, and Edge Locations. This network ensures fast and reliable connections between AWS services and customers' on-premises infrastructure.

Global Infrastructure Services

07

Scope of Services

Global-Based

- AWS Cloudfront
- AWS IAM
- AWS Route53

Region-Based

- Amazon EC2
- Amazon RDS
- Amazon S3

AZ-Based

- Amazon EBS
- Amazon RDS - Multi AZ Deployment
- Amazon Elasticache

Services by Region

THANKS!

Do you have any questions?

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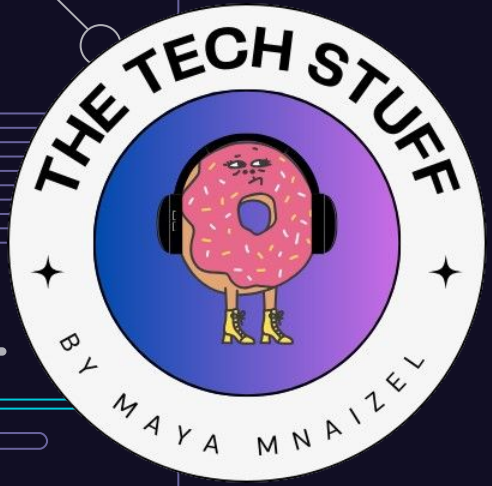

Q/A Session