

GLOBAL INFRASTRUCTURE

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AWS GLOBAL INFRASTRUCTURE

This is built to deliver a secure, flexible, reliable, and scalable cloud computing environment.

Global Infrastructure continuously updates its footprint.

AWS Global Infrastructure Map

The AWS Cloud spans 108 Availability Zones within 34 geographic regions, with announced plans for 18 more Availability Zones and six more AWS Regions in Mexico, New Zealand, the Kingdom of Saudi Arabia, Thailand, Taiwan, and the AWS European Sovereign Cloud.



AWS REGION

Allows the user to replicate data across the region.

Communications between the region uses the backbone of AWS Network Infrastructures.

The regions are based on different availability zones.

AWS Global Infrastructure Map

The AWS Cloud spans 108 Availability Zones within 34 geographic regions, with announced plans for 18 more Availability Zones and six more AWS Regions in Mexico, New Zealand, the Kingdom of Saudi Arabia, Thailand, Taiwan, and the AWS European Sovereign Cloud.



Selecting a Region

Determine the right Region
for your services,
applications, and data based
on these factors



Data governance,
legal requirements



Proximity to customers
(latency)



Services available
within the Region



Costs (vary by Region)



SELECTING REGIONS

- Based on proximity of the customer
- Services available in the region
- Cost may vary depending on region

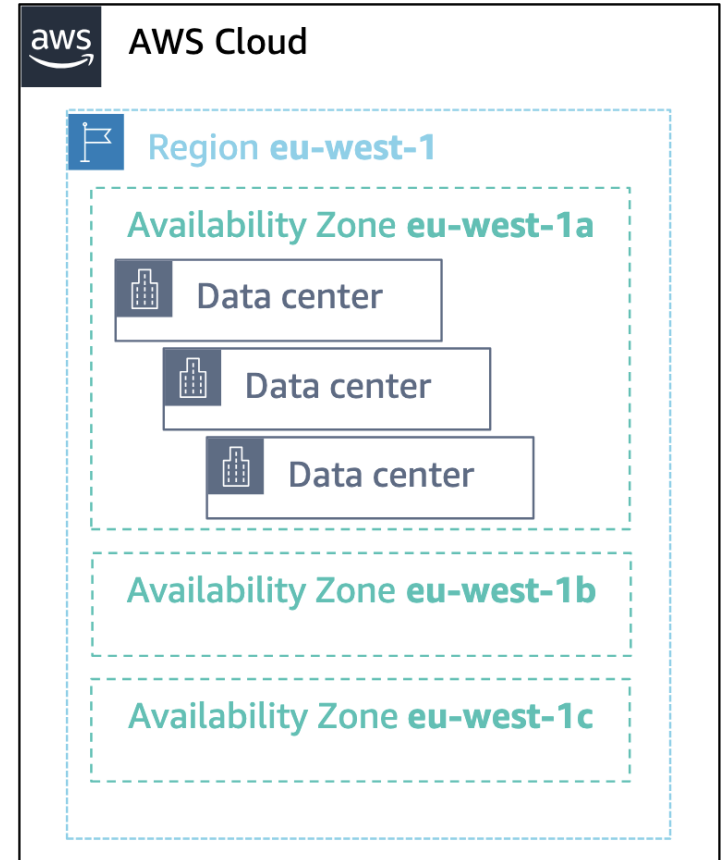
AVAILABILITY ZONES

Each region has multiple availability zones.

These zones have data centers

They are all interconnected with each other using high speed private networking

AWS recommends replicating data across availability zones for resiliency.

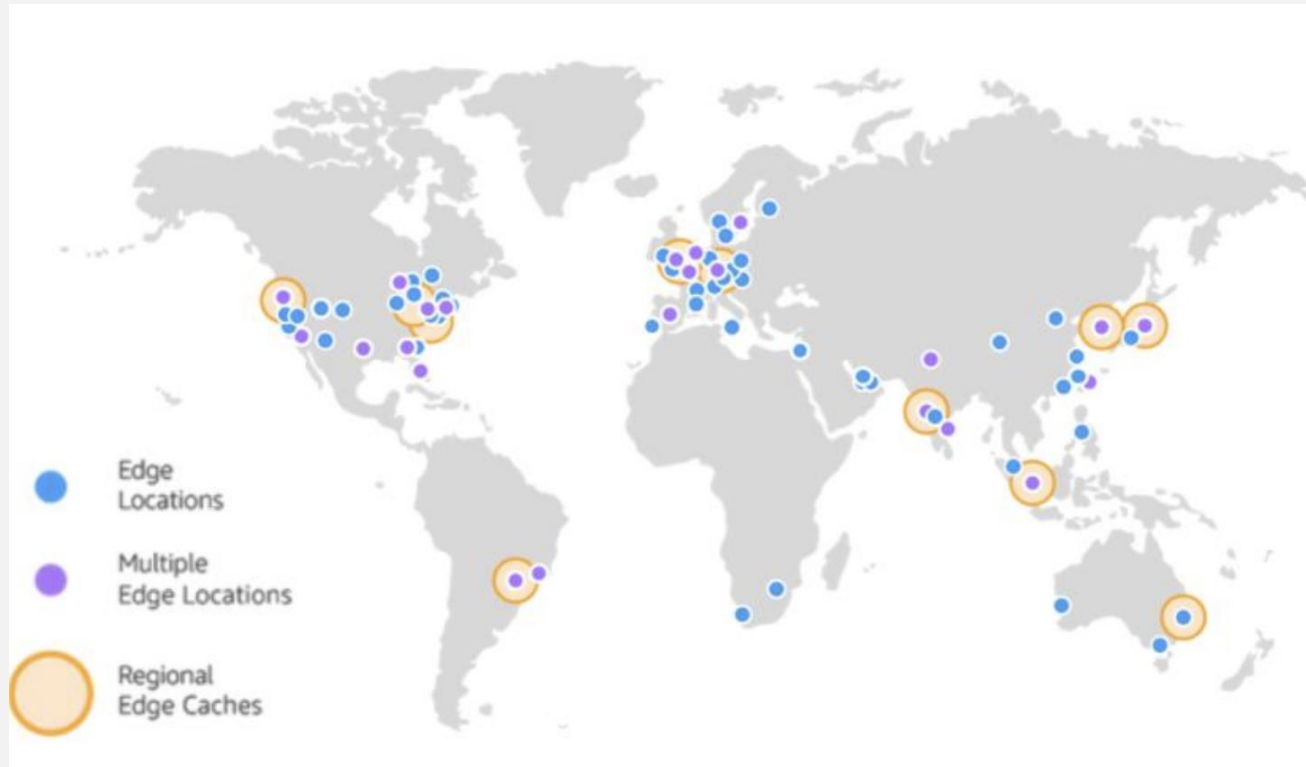




AWS DATA CENTERS

This is built for data security. Most data processing is done here; most data centers have between 50,000-80,000 servers.

POINTS OF PRESENCE



- AWS provides a global point of presence that consist of edge locations.
- This is used with Amazon CloudFront (delivers content to end users with reduced latency)

MORE AWS
SERVICES

Mood:





AWS storage services



Amazon Simple
Storage Service
(Amazon S3)



Amazon Elastic
Block Store
(Amazon EBS)



Amazon Elastic
File System
(Amazon EFS)



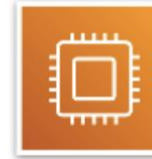
Amazon Simple
Storage Service
Glacier

AWS STORAGE CATEGORIES

- Amazon Simple Storage Service (Amazon S3)
 - Object storage service
- Amazon Elastic Block Store (Amazon EBS)
 - High performance block storage
- Amazon Elastic File System (Amazon EFS)
 - Fully managed elastic network file
- Amazon Simple Storage Service Glacier
 - Longterm back-up S3 that's low cost

COMPUTING SERVICE CATEGORY

- Amazon Elastic Compute Cloud (Amazon EC2)
 - Resizable computing capacity
- Amazon EC2 Auto Scaling
 - Allows user to add or remove EC2 instances
- Amazon Elastic Container Service (Amazon ECS)
 - High performance container organizer
- Amazon Elastic Container Registry (Amazon ECR)
 - Fully managed docker containers
- AWS Elastic Beanstalk
 - Managed web applications
- AWS Lambda
 - Allows user to run code without servers
- AWS Fargate
 - Allows users to run containers without servers



AWS Compute services



Amazon EC2



Amazon EC2
Auto Scaling



Amazon Elastic
Container Service
(Amazon ECS)



Amazon EC2
Container
Registry



AWS Elastic
Beanstalk



AWS
Lambda



Amazon Elastic
Kubernetes Service
(Amazon EKS)



AWS
Fargate



AWS Database services



Amazon Relational
Database Service



Amazon Aurora



Amazon
Redshift



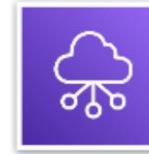
Amazon
DynamoDB

DATABASE SERVICE CATEGORY

- Amazon Relational Database Service (Amazon RDS)
 - Easy to manage databases
- Amazon Aurora
 - MySQL and PostgreSQL compatible relational database
- Amazon Redshift
 - Allows users to run analytic queries
- Amazon DynamoDB
 - Key value and document database

NETWORKING AND CONTENT DELIVERY SERVICE CATEGORY

- Amazon Virtual Private Cloud (Amazon VPC)
 - Allows users to provision isolated parts of the cloud
- Elastic Load Balancing
 - Distributes application traffic
- Amazon CloudFront
 - Fast content delivers
- AWS Transit Gateway
 - Allows customers to access VPCs
- Amazon Route 53
 - Route end users to internet applications
- AWS Direct Connect
 - Establishes private network connections
- AWSVPN
 - Provides secure tunnel to global network



AWS networking and content delivery services



Amazon VPC



Elastic Load
Balancing



Amazon
CloudFront



AWS Transit
Gateway



Amazon
Route 53



AWS Direct
Connect



AWS VPN



AWS security, identity, and compliance services



AWS Identity and
Access Management
(IAM)



AWS
Organizations



Amazon Cognito



AWS Artifact



AWS Key
Management
Service



AWS Shield

SECURITY, IDENTITY, AND COMPLIANCE SERVICE CATEGORY

- AWS Identity and Access Management (IAM)
 - Manages user's services
- AWS Organizations
 - Allows users to restrict services
- Amazon Cognito
 - Allows users to add sign-in, sign-up, and manage web applications
- AWS Artifact
 - Access to AWS security reports
- AWS Key Management Service (AWS KMS)
 - Manages access in keys
- AWS Shield
 - Protection for your applications

AWS COST MANAGEMENT SERVICES CATEGORY

- AWS Cost and Usage Report
 - Includes pricing data
- AWS Budgets
 - Allows users to set up custom budgets
- AWS Cost Explorer
 - Easy to use interface that manages AWS Cost and Usage Report



AWS cost management services



**AWS Cost and
Usage Report**



AWS Budgets



**AWS Cost
Explorer**



AWS management and governance services



AWS Management Console



AWS Config



Amazon CloudWatch



AWS Auto Scaling



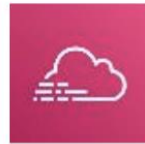
AWS Command Line Interface



AWS Trusted Advisor



AWS Well-Architected Tool



AWS CloudTrail

MANAGEMENT AND GOVERNANCE SERVICE CATEGORY

- AWS Management Console
 - Web-based UI to manage services
- AWS Config
 - Tracks inventory changes
- Amazon CloudWatch
 - Monitors resources and applications
- AWS Auto Scaling
 - Scales multiple resources
- AWS Command Line Interface
 - Unified tool to manage services
- AWS Trusted Advisor
 - Optimizes performance and security
- AWS Well-Architected Tool
 - Helps review workloads
- AWS CloudTrail
 - Tracks user's activity and API usage