

Module 1

Introduction and History of AWS

Amazon History



1994: Jeff Bezos incorporated the company.



2005: Amazon Publishing was launched.



2007: Kindle was launched.



2012: Amazon Game Studios was launched.



2014: Amazon Prime Now was launched.

1995: Amazon.com launched its online bookstore.



2006: Amazon Web Services (AWS) was launched.



2011: Amazon Fresh was launched.



2013: Amazon Art was launched.

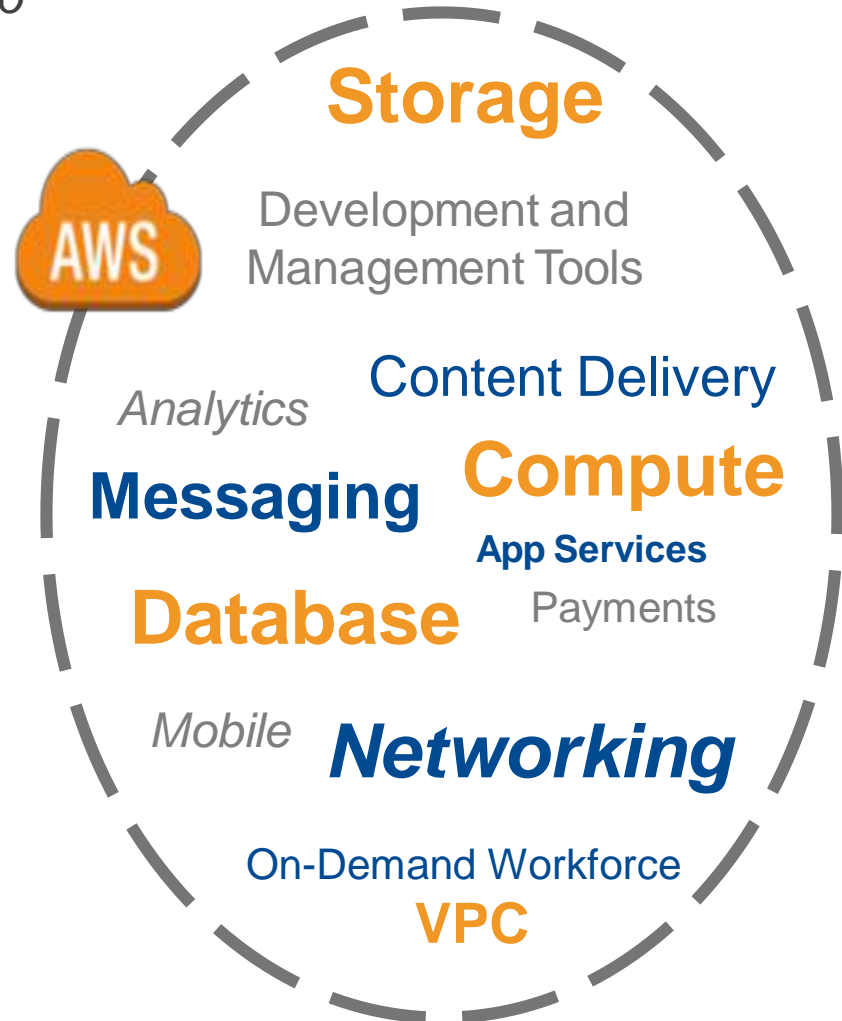


2015: Amazon Home Services and Amazon Echo were launched.

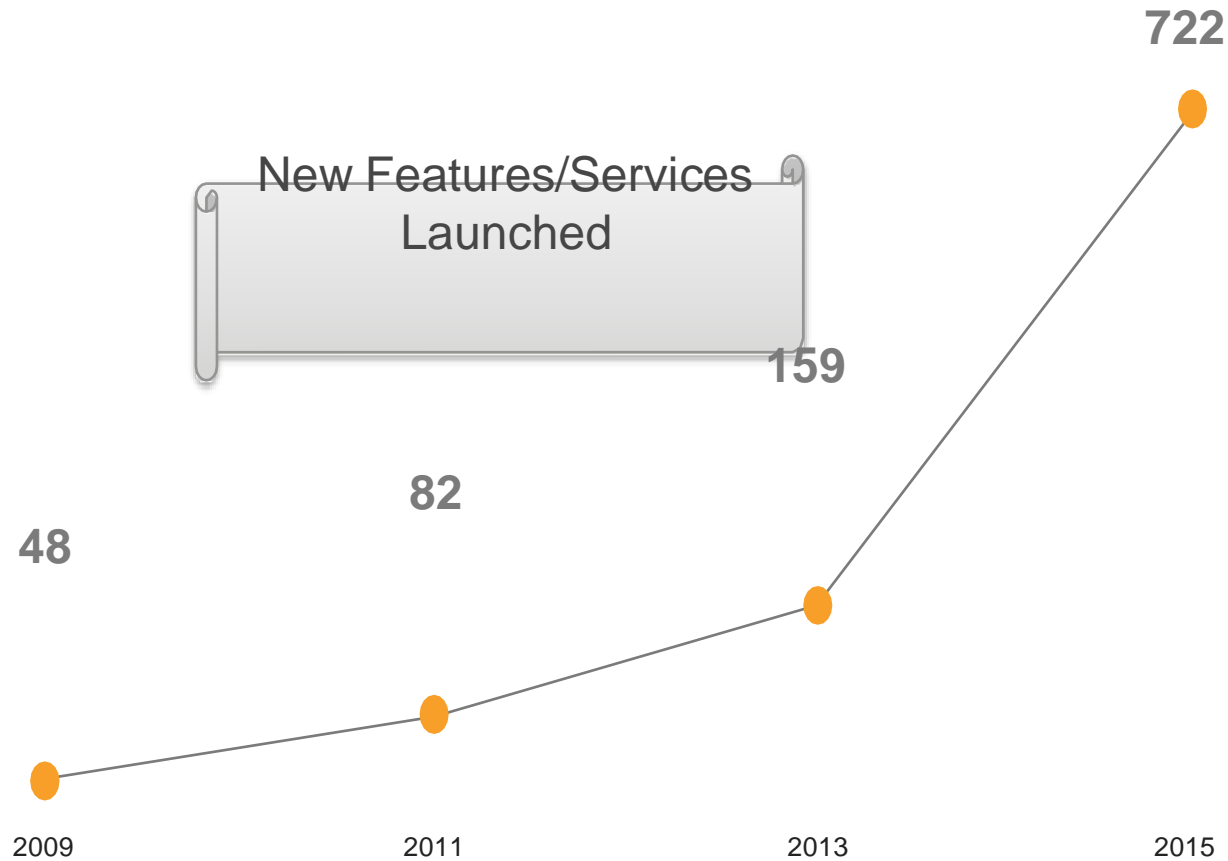


Amazon Web Services (AWS)

Enable businesses and developers to use web services to build scalable, sophisticated applications.



AWS Rapid Pace of Innovation



2,420

Services and Features

AWS GovCloud (US)

AWS OpsWorks

AWS Import/Export

AWS Storage Gateway

Amazon Cognito

AWS CodeCommit

Amazon EC2

AWS CodeDeploy

Amazon ElastiCache

AWS Config

AWS CloudTrail

Amazon SES

Container Service

Amazon Kinesis

AWS CloudHSM

Elasticsearch Service

AWS Elastic Beanstalk

Amazon Elastic Transcoder

Amazon EC2 Container Registry

AWS CodePipeline

Amazon WorkMail

AWS Certificate Manager

Amazon EFS

Amazon Redshift

AWS Identity and Access Management

Amazon Route 53

AWS Lambda

AWS CloudFormation

Amazon AppStream

Amazon DynamoDB

AWS Device Farm

Amazon QuickSight

AWS Data Pipeline

AWS Directory Service

Amazon RDS for Aurora

AWS WAF

Amazon SWF

Amazon RDS for MariaDB AWS Mobile Hub

Amazon SNS

Amazon WorkSpaces

Amazon API Gateway

AWS KMS

Amazon CloudWatch Logs

Amazon Mobile Analytics

Amazon CloudSearch

Amazon Glacier

Amazon Machine Learning

AWS Direct Connect

Amazon WorkDocs

AWS IoT

AWS Service Catalog

AWS Import/Export

AWS Customers

Enterprise Customers

Enterprise Cloud Computing with AWS

With a long history in enabling enterprises to successfully adopt cloud computing, Amazon Web Services delivers a mature set of services specifically designed for the unique security, compliance, privacy, and governance requirements of large organizations. With a technology platform that is both broad and deep, customer-obsessed Professional Services and Support organizations, robust training programs, and an ecosystem tens-of-thousands strong, AWS can help you move faster and do more.

Below are just a few of the many enterprise organizations using AWS today

Start your cloud adoption

Contact AWS Sales

Get started today

Check out the AWS Enterprise blog to learn more about how enterprises are adopting cloud computing successfully

Deploy whichever architecture is right for your business



Cloud Native



Hybrid



Private

Public Sector Customers

Paving the way for innovation and supporting world-changing projects in government, education and nonprofit organizations

Contact Public Sector Sales

Government

Education

Nonprofits

Partners

Events

Resources

Government, education and nonprofit organizations face unique challenges to accomplish complex missions with limited resources. Public sector leaders engaged in true cloud computing projects overwhelmingly turn to the power and speed of Amazon Web Services when they want to serve citizens more effectively, achieve scientific breakthroughs, reach broader constituents and put more of their time and resources into their core missions.

Amazon Web Services now serves more than 2,300 government, 7,000 education and 22,000 nonprofit organizations worldwide.



Watch the Fireside Chat With Andy Jassy, CEO and Teresa Carlson, VP WWPS at the AWS Public Sector Summit

Startup Customers

Startups and Amazon Web Services

From the spark of an idea, to the first customer, to IPO and beyond, the world's most progressive startups build and grow their businesses on Amazon Web Services. Our expansive technology platform allows startups of all sizes and kinds to run lean and frees them to be fast, agile, and global while still being efficient with their IT spend. And as they evolve and become more sophisticated, they don't outgrow AWS. Instead, they plug in to AWS's continuous service and feature innovations to make their ideas realities.

The Benefits of Building and Scaling Your Startup on AWS



Startups get special AWS perks



So many ways to lower costs



Going mobile - quickly and easily

Advantages and Benefits of AWS Cloud Computing



Trade capital expense
for variable expense.



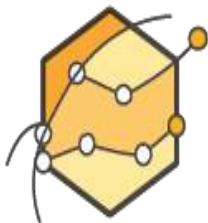
Increase speed and
agility.



Benefit from massive
economies of scale.



Stop spending money on
running and maintaining
data centers.

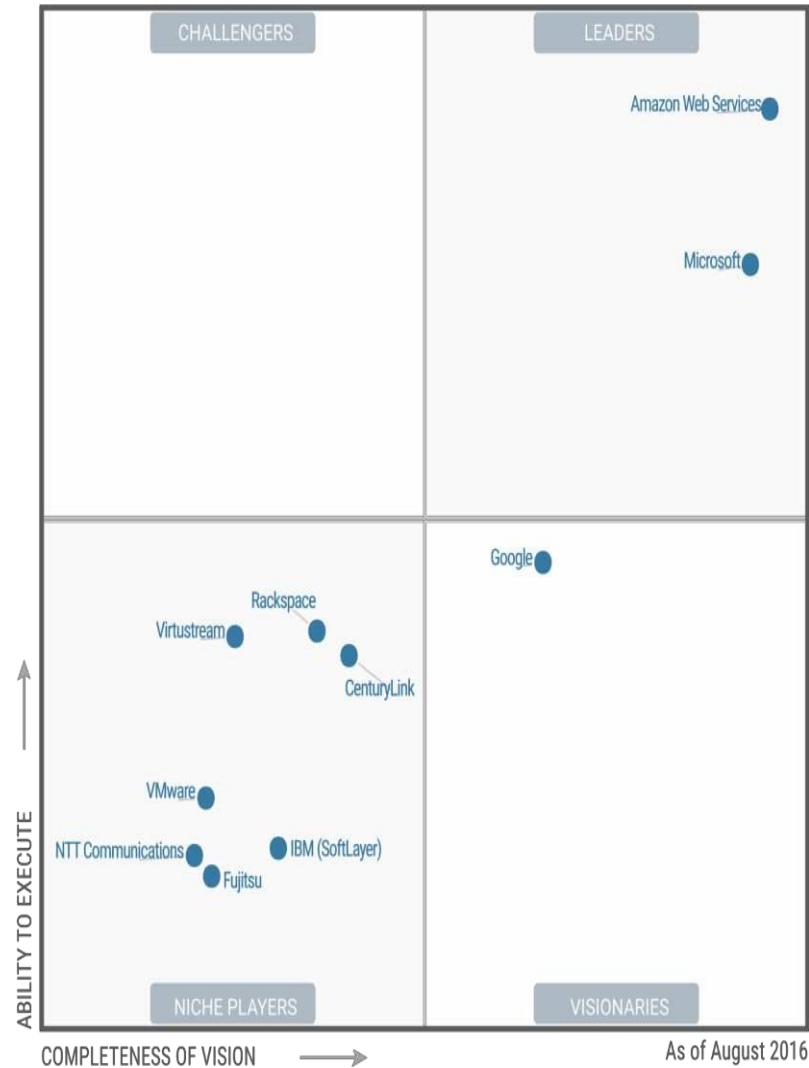


Stop guessing
capacity.



Go global in minutes.

Gartner Magic Quadrant for Cloud Infrastructure as a Service, Worldwide



Gartner "Magic Quadrant for Cloud Infrastructure as a Service, Worldwide," Lydia Leong, Gregor Petri, Bob Gill, Mike Dorosh, 03 August 2016. This Magic Quadrant graphic was published by Gartner, Inc. as part of a larger research note and should be evaluated in the context of the entire report. The Gartner report is available at <https://aws.amazon.com/resources/analyst-reports/>. Gartner does not endorse any vendor, product or service depicted in its research publications, and does not advise technology users to select only those vendors with the highest ratings or other designation. Gartner research publications consist of the opinions of Gartner's research organization and should not be construed as statements of fact. Gartner disclaims all warranties, expressed or implied, with respect to this research, including any warranties of

merchantability or fitness for a particular purpose.

AWS Core Infrastructure and

Traditional Infrastructure

Security



Firewalls



ACLs



Administrators

Security

Amazon Web Services

Security



Security Groups



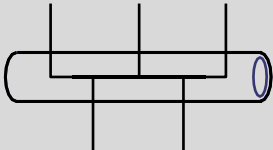
Network ACLs



AWS IAM



Router



Network Pipeline



Switch

Networking



ELB



Network



On-Premises Servers

Servers



AMI



Amazon EC2 Instances

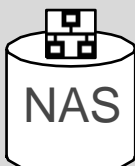
Storage and Database



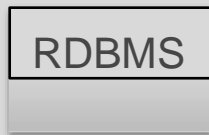
DAS



SAN



NAS



RDBMS



Amazon EBS



Amazon EFS



Amazon S3



Amazon RDS

AWS Cloud Computing

Applications



Virtual
Desktops



Collaboration and Sharing

Platform Services

Databases

Relational

NoSQL

Caching

Analytics

Cluster
Computing

Real-time

Data
Warehouse

Data
Workflows

App Services

Queuing

Orchestration

App Streaming

Transcoding

Email

Search

Deployment and Management

Containers

Dev/ops Tools

Resource Templates

Usage Tracking

Monitoring and Logs

Mobile Services

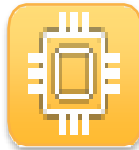
Identity

Sync

Mobile Analytics

Notifications

Foundation Services



Compute
(Virtual, Auto-scaling,
Load Balancing)



Networking



Storage
(Object, Block and Archive)

Infrastructure

Regions

Availability Zones

www.sdmGalaxy.com



Edge Locations

AWS Foundation Services

Compute

Amazon
EC2



AWS
Lambda



Amazon EC2
Container
Service



Elastic
Load
Balancing



AWS
Elastic
Beanstalk



Auto
Scaling



Network

Amazon
VPC



Amazon
Route 53



AWS
Direct
Connect



Storage

Amazon
S3



Amazon
CloudFront



Amazon
Glacier



Amazon
Elastic File
System



AWS
Storage
Gateway



AWS
Import/Export



Security & Identity

AWS Identity and
Access Management



AWS
Directory
Service



AWS
KMS



AWS Cloud
HSM



AWS WAF



Applications

Amazon
WorkDocs



Amazon
WorkSpaces



Amazon
WorkMail



AWS Platform Services

Databases

Amazon RDS
Amazon DynamoDB



Amazon ElastiCache
Amazon Redshift



AWS Database Migration Service



Analytics

Amazon EMR
AWS Data Pipeline



Amazon Elasticsearch Service
Amazon Machine Learning



Amazon Kinesis

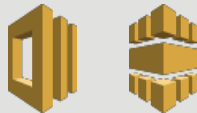


App Services

Amazon SES
Amazon AppStream



Amazon SWF
Amazon Elastic Transcoder



Amazon CloudSearch
Amazon SQS



Amazon API Gateway



Management Tools

AWS CloudFormation
AWS Config



AWS CloudTrail
AWS Service Catalog



AWS OpsWorks
Amazon CloudWatch



Trusted Advisor
AWS Certificate Manager



Developer Tools

AWS CodeCommit
AWS CodeDeploy



AWS CodePipeline



Mobile Services

Amazon Cognito
AWS Device Farm



Amazon SNS
Amazon Mobile Analytics



Mobile Hub



Internet of Things

AWS IoT



AWS Global Infrastructure

Regions

- Geographic locations
- Consist of **at least two** Availability Zones

Availability Zones

- Clusters of data centers
- **Isolated from failures** in other Availability Zones

AWS Global Infrastructure



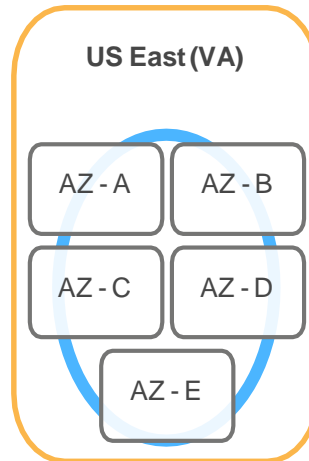
AWS Global Infrastructure

At least 2 Availability Zones
per region.

Examples:

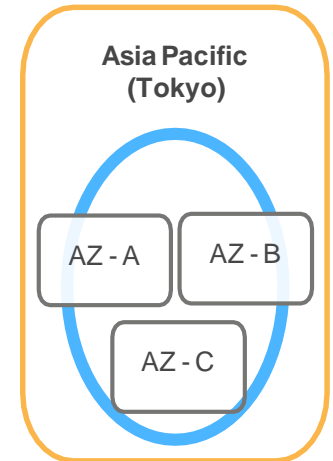
- US East (N. Virginia)

- us-east-1a
- us-east-1b
- us-east-1c
- us-east-1d
- us-east-1e



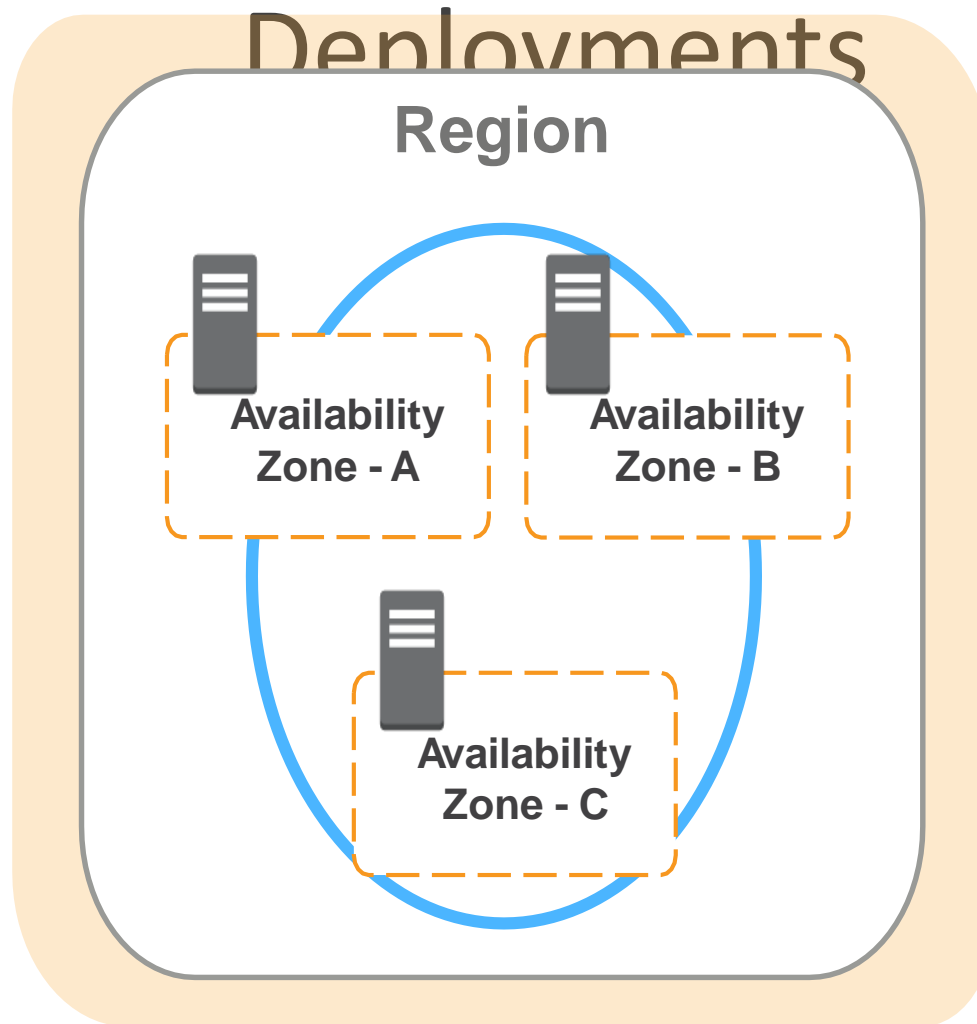
- Asia Pacific (Tokyo)

- ap-northeast-1a
- ap-northeast-1b
- ap-northeast-1c



Note: Conceptual drawing only. The number of Availability Zones (AZ) may vary.

High Availability Using Multi-AZ



AWS Global Infrastructure

50+ AWS Edge locations - local points of presence commonly supporting AWS services like:

- Amazon Route 53
- Amazon CloudFront



AWS Management Console Demonstration

Knowledge Check

Q: What is the AWS term for physically distinct groups of **data centers** within a region?

Availability Zone

True or False: There are more **Regions** than **Edge locations**.

False

True or False: AWS owns and maintains the infrastructure required for application services. You provision and use them as needed.

True

Q: How do **Availability Zones** in the same region differ?

Each Availability Zone is isolated, but the Availability Zones in a region are connected through low-latency links.

