



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.



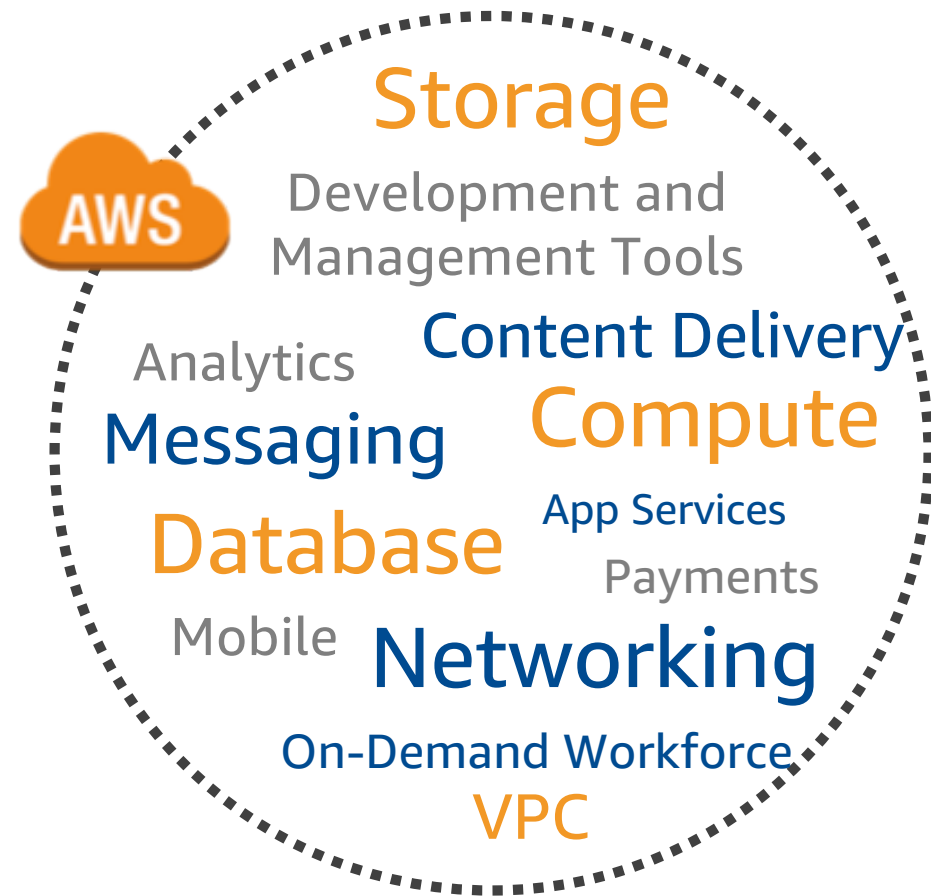
2015: Amazon Home Services and Amazon Echo were launched.



Amazon Web Services



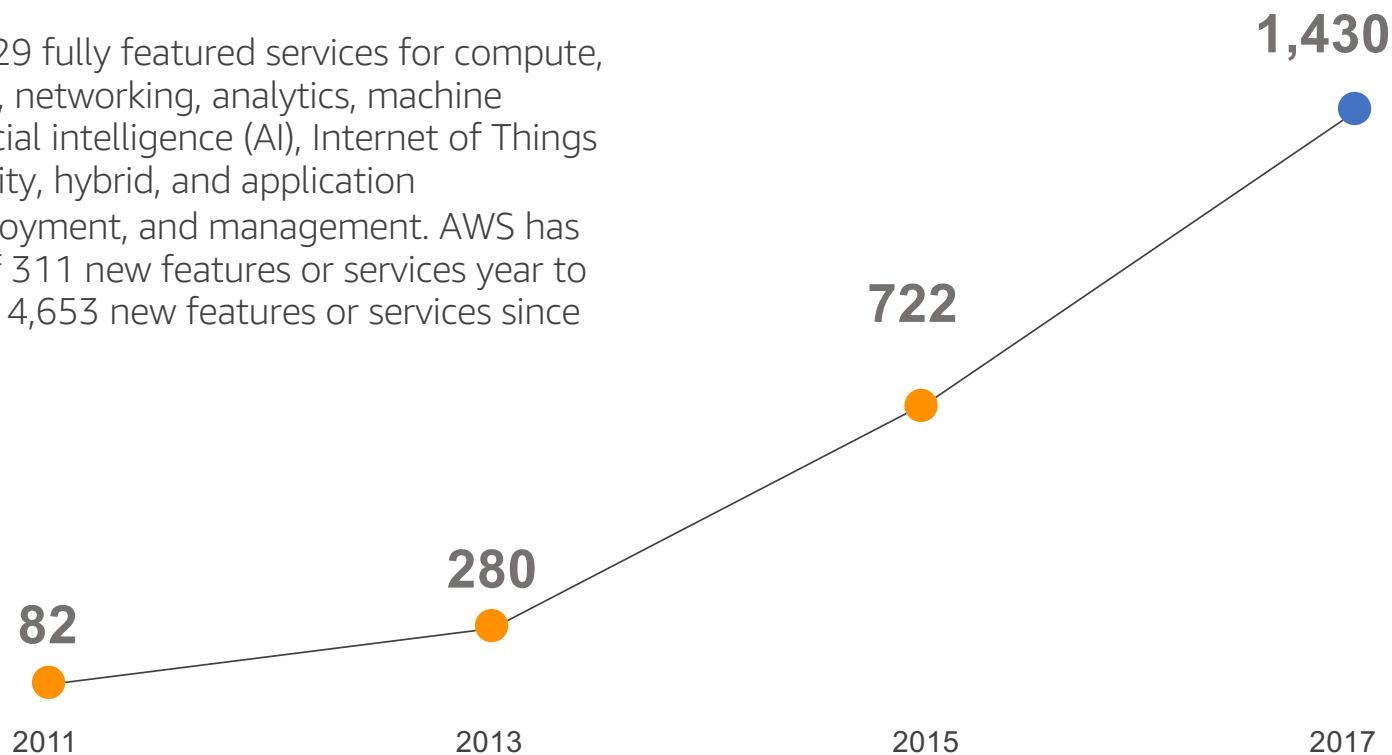
- Enable businesses and developers to use web services to build scalable, sophisticated applications.



AWS Pace of Innovation



AWS offers over 129 fully featured services for compute, storage, databases, networking, analytics, machine learning, and artificial intelligence (AI), Internet of Things (IoT), mobile, security, hybrid, and application development, deployment, and management. AWS has launched a total of 311 new features or services year to date* for a total of 4,653 new features or services since inception in 2006.



* As of 31 March 2018

Total New Services and Features

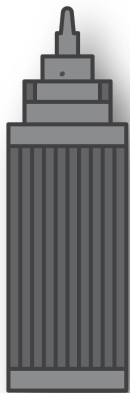


AWS Customers



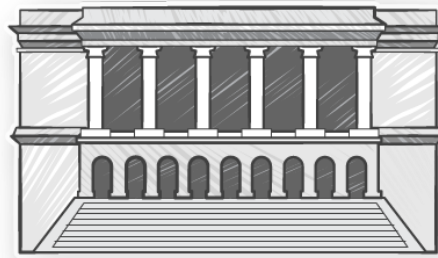
Enterprise Customers

Amazon Web Services delivers a mature set of services specifically designed for the unique security, compliance, privacy, and governance requirements of large organizations.



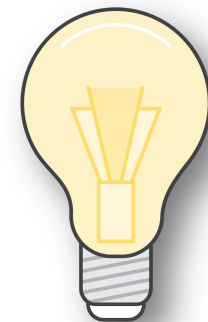
Public Sector

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

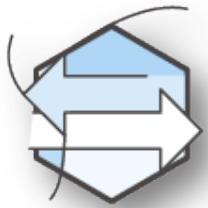


Startups

From the spark of an idea, to your first customer, to IPO and beyond, let Amazon Web Services help you build and grow your startup.



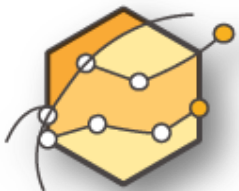
Advantages and Benefits of AWS Cloud Computing



Trade capital expense for variable expense.



Benefit from massive economies of scale.



Stop guessing capacity.



Increase speed and agility.



Stop spending money on running and maintaining data centers.



Go global in minutes.

AWS as a Leader in Cloud Infrastructure as a Service



📦 AWS is positioned as a leader in the Gartner Magic Quadrant for Cloud Infrastructure as a Service worldwide*.

📦 AWS is rated highest in execution and furthest in vision within the Leaders Quadrant.

*Gartner, Magic Quadrant for Cloud Infrastructure as a Service, Worldwide, Lydia Leong, Raj Bala, Craig Lowery, Dennis Smith, May 2018
This graphic was published by Gartner, Inc. as part of a larger research document and should be evaluated in the context of the entire document. The Gartner document is available upon request from AWS: <http://www.gartner.com/doc/reprints?id=1-2G2O5FC&ct=150519&st=sb>
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AWS Core Infrastructure and Services



Security


Firewalls


ACLs


Administrators


Security groups


Network ACLs


AWS IAM

Networking


Router


Network pipeline


Switch


Elastic Load Balancing


Amazon VPC

Servers


On-premises 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

DevOps Tools

Resource Templates

Usage Tracking

Monitoring and Logs

Mobile Services

Identity

Sync

Mobile Analytics

Notifications

Foundation Services



Compute
(Virtual, Auto Scaling, and
load balancing)



Networking



Storage
(Object, block, and archive)

Infrastructure

Regions

Availability Zones



Edge locations

AWS Foundation Services



Compute

-  Amazon EC2
-  Amazon Elastic Container Registry
-  Amazon Elastic Container Service
-  Amazon Lightsail
-  AWS Batch
-  AWS Elastic Beanstalk
-  AWS Lambda

Network

-  Amazon CloudFront
-  Amazon Route 53
-  Amazon VPC
-  AWS Direct Connect
-  Elastic Load Balancing

Storage

-  Amazon EFS
-  Amazon S3 Glacier
-  Amazon S3
-  AWS Snowball
-  AWS Storage Gateway

Security & Identity

-  Amazon Inspector
-  AWS Artifact
-  AWS Certificate Manager
-  AWS CloudHSM
-  AWS Directory Service
-  AWS IAM
-  AWS KMS
-  AWS Organizations
-  AWS Shield
-  AWS WAF

Applications

-  Amazon WorkDocs
-  Amazon WorkMail
-  Amazon AppStream 2.0
-  Amazon WorkSpaces

AWS Platform Services



Databases	Analytics	Application Services	Management Tools	Developer Tools	Mobile Services	Internet of Things
 Amazon DynamoDB	 Amazon Athena	 Amazon API Gateway	 Amazon CloudWatch	 AWS CodeBuild	 AWS Mobile Hub	 AWS IoT
 Amazon ElastiCache	 Amazon CloudSearch	 Amazon AppStream 2.0	 AWS CloudFormation	 AWS CodeCommit	 Amazon Cognito	 AWS IoT Greengrass
 Amazon RDS	 Amazon EMR	 Amazon Elastic Transcoder	 AWS CloudTrail	 AWS CodeDeploy	 Amazon Mobile Analytics	
 Amazon Redshift	 Amazon Elasticsearch Service	 Amazon SWF	 AWS Config	 AWS CodePipeline	 Amazon Pinpoint	
	 Amazon Kinesis	 AWS Step Functions	 AWS Managed Services	 AWS X-Ray	 AWS Device Farm	
	 Amazon QuickSight		 AWS OpsWorks	 AWS CodeStar		
			 AWS Service Catalog			
			 AWS Trusted Advisor			

AWS Global Infrastructure



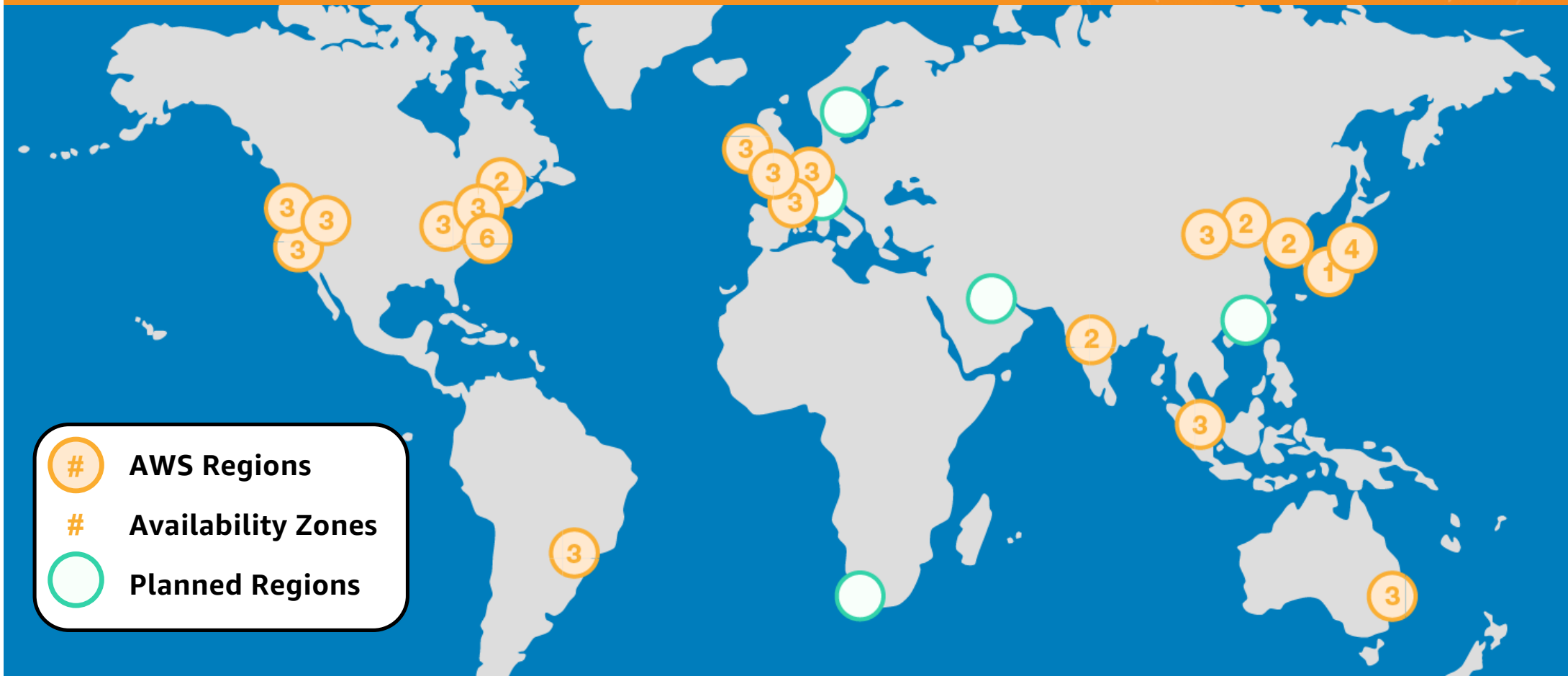
Regions

-  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 Map



AWS Global Infrastructure Regions

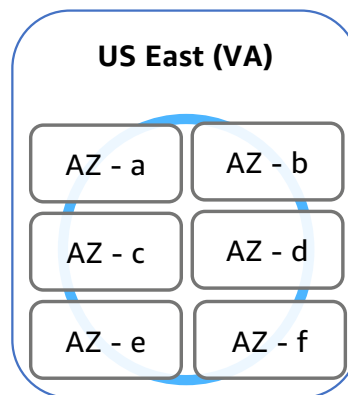


📦 At least 2 Availability Zones per region

📦 Examples:

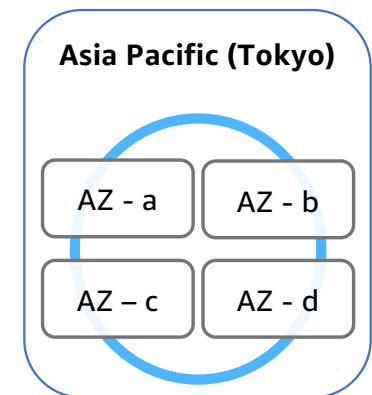
US East (N. Virginia)

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



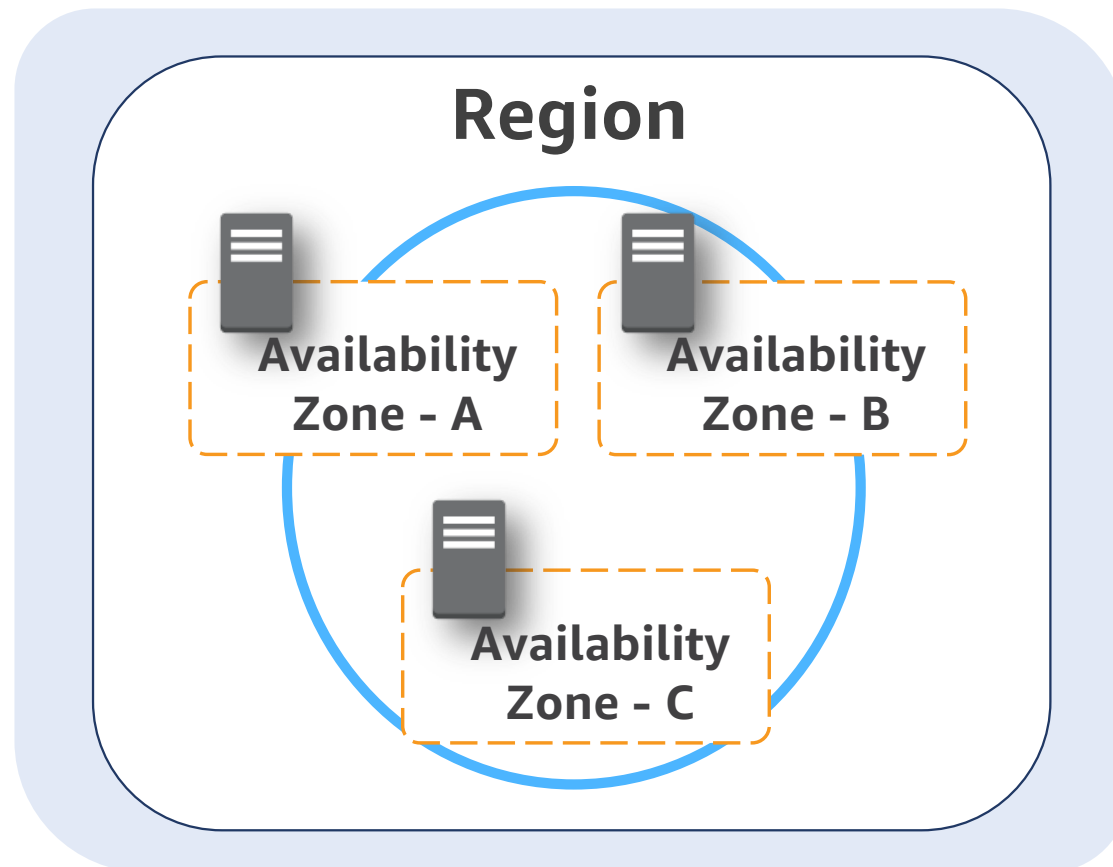
Asia Pacific (Tokyo)

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



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

High Availability Using Multi-AZ Deployments



AWS Global Infrastructure – Edge Locations



- 100+ edge locations

- Local points of presence that support AWS services like:

-  **Amazon Route 53**

-  **Amazon CloudFront**

-  **AWS WAF**

-  **AWS Shield**

Demo: AWS Management Console

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.

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

True

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



Thanks for participating!

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