

AWS Global Infrastructure



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Regions
Availability Zones
Edge Locations

AWS Global
Infrastructure



Overview

Reviewing the three elements of the AWS global infrastructure

Understanding the use of AWS Regions

Understanding Availability Zones within AWS Regions

Reviewing the purpose of Edge Locations

Utilizing the AWS global infrastructure visualization



AWS Regions and Availability Zones



AWS Regions

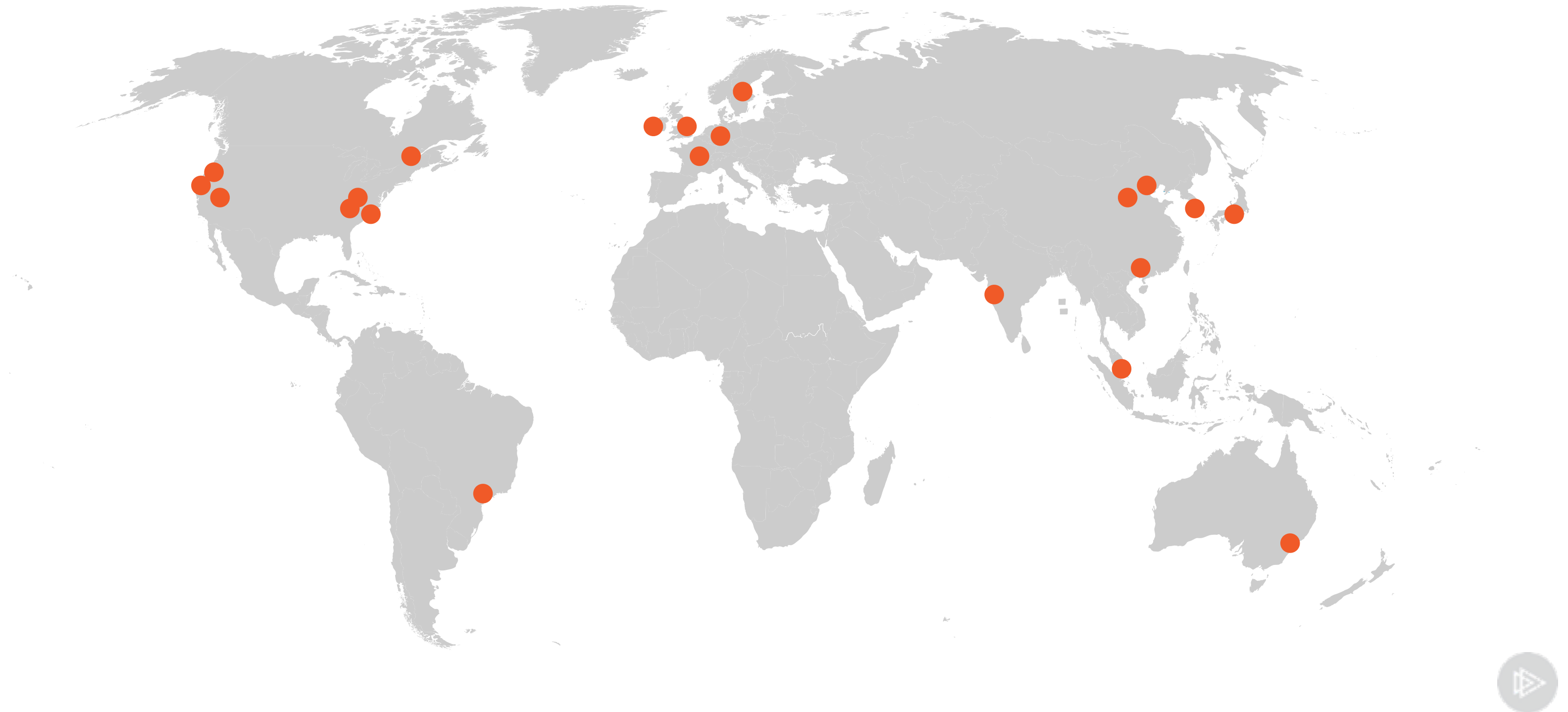
Each region is in a specific geographic location

Each geographic location has a cluster of data centers

AWS currently has 22 launched regions



AWS Regions



Availability Zones

Consists of one or more data centers

Multiple availability zones are included with each AWS Region

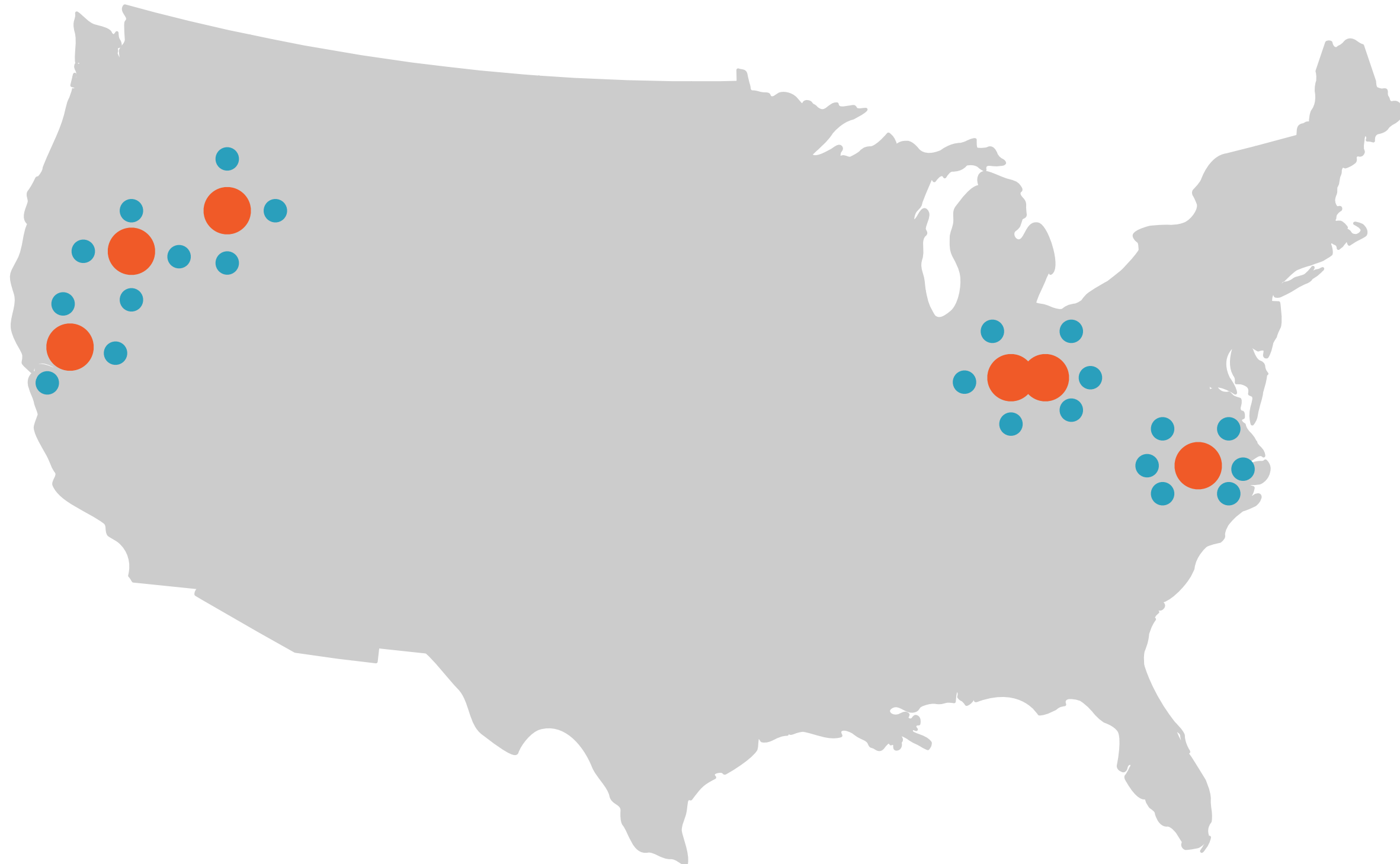
Located within the geographic area of the AWS Region

Redundant power, networking and connectivity

There are currently 69 availability zones globally



US AWS REGIONS



● REGION ● AVAILABILITY ZONE



Availability

Extent to which an application is fulfilling its intended business purpose. Applications that are highly-available are built in a manner where a single failure won't lessen the application's ability to be fully operational.



Region and Availability Zone Naming

us-east-2a

— Area — — Sub-area — Number AZ

————— Region Name —————

————— Availability Zone Name —————



AWS Regions

Region	Region Identifier
US East (Ohio)	us-east-2
US East (N. Virginia)	us-east-1
US West (N. California)	us-west-1
US West (Oregon)	us-west-2
Asia Pacific (Hong Kong)	ap-east-1
Asia Pacific (Mumbai)	ap-south-1
Asia Pacific (Seoul)	ap-northeast-3
Asia Pacific (Singapore)	ap-northeast-2
Asia Pacific (Sydney)	ap-southeast-1
Asia Pacific (Tokyo)	ap-southeast-2

Region	Region Identifier
Canada (Central)	ca-central-1
Europe (Frankfurt)	eu-central-1
Europe (Ireland)	eu-west-1
Europe (London)	eu-west-2
Europe (Paris)	eu-west-3
Europe (Stockholm)	eu-north-1
Middle East (Bahrain)	me-south-1
South America (São Paulo)	sa-east-1



AWS Edge Locations



Edge Locations

Used as nodes of a global content delivery network (CDN)

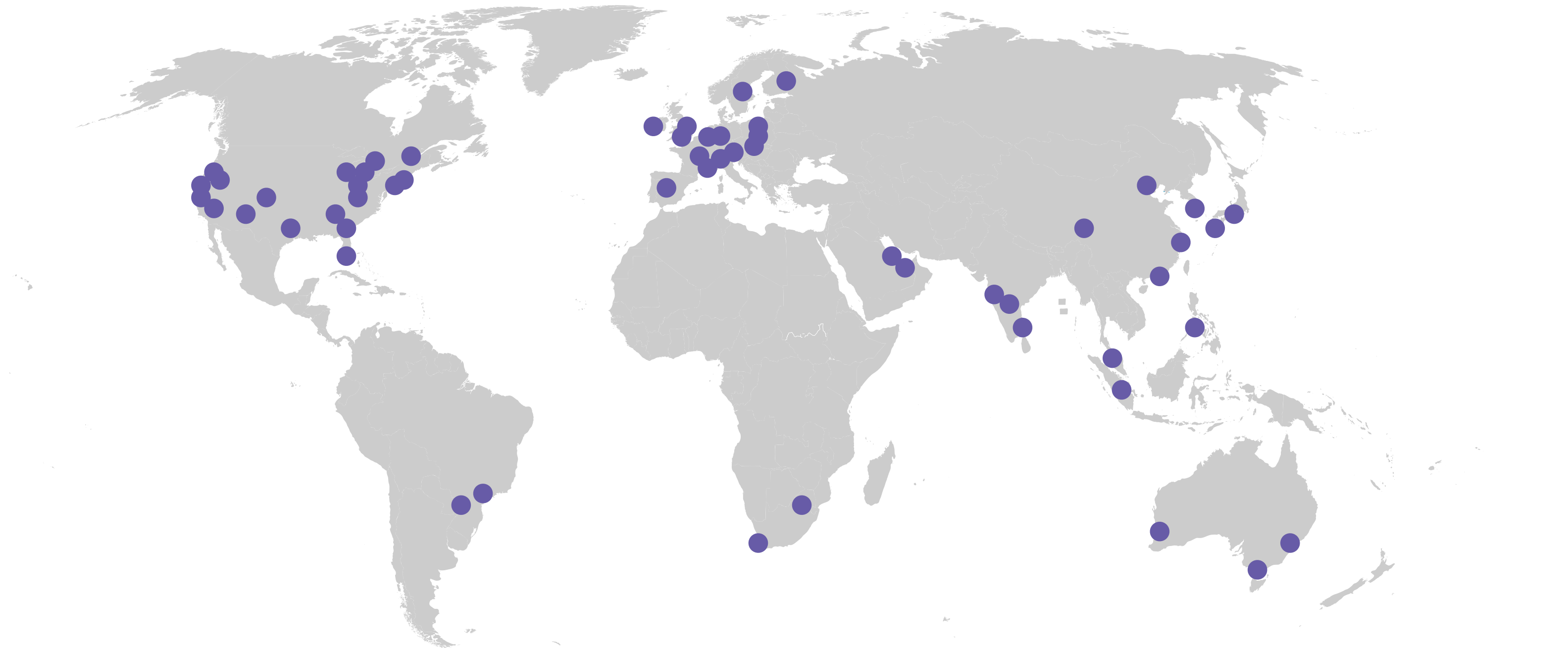
Utilized by Amazon CloudFront and Amazon Route 53

Located globally at over 200 different locations

Allows AWS to serve content from locations closest to users



AWS Edge Locations



Visualizing AWS Global Infrastructure



Demo

Reviewing the method of accessing the AWS global infrastructure site

Reviewing regions and availability zones within the site

Reviewing edge locations within the site



Scenarios



Scenario 1



Jane's company is looking to transition to AWS

They are starting with a few workloads

It is a requirement to store backup data in multiple geographic areas

Which element of AWS global infrastructure will best suit this need?



Scenario 2



Tim's company serves content through their site to users around the globe

They are looking to optimize performance to users around the world

They want to leverage a Content Delivery Network (CDN)

Which element of the AWS global infrastructure will be used in this case?



Scenario 3



Ellen's company is transitioning one of their legacy applications to AWS

This application requires uptime of at least 99.5%

They want to be sure any issues at a single data center don't cause an outage

Which element of the AWS global infrastructure supports this need?



Summary



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Reviewed the three elements of the AWS global infrastructure

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Reviewed the purpose of Edge Locations

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Scenario 1



Jane's company is looking to transition to AWS

They are starting with a few workloads

It is a requirement to store backup data in multiple geographic areas

Which element of AWS global infrastructure will best suit this need?

Solution: AWS Region



Scenario 2



Tim's company serves content through their site to users around the globe

They are looking to optimize performance to users around the world

They want to leverage a Content Delivery Network (CDN)

Which element of the AWS global infrastructure will be used in this case?

Solution: AWS Edge Location



Scenario 3



Ellen's company is transitioning one of their legacy applications to AWS

This application requires uptime of at least 99.5%

They want to be sure any issues at a single data center don't cause an outage

Which element of the AWS global infrastructure supports this need?

Solution: AWS Availability Zone (AZ)

