



Architecting Zero Trust Defense: AWS Cloud Solutions for the DoD

TBD-August-2025

Alex Evans

Solutions Architect, USAF

Amazon Web Services

evnsale@amazon.com

Nicholas Moulton

Solutions Architect, USSOCOM

Amazon Web Services

nmoulton@amazon.com



Agenda

Introduction to Amazon Web Services

- Cloud Computing
- AWS Infrastructure
- AWS Connectivity
- AWS Customer Enablement
- Q&A

What is Cloud Computing? What is AWS Government Regions?



Cloud computing is the **on-demand** delivery of IT resources with a **pay-as-you-go** pricing model



AWS provides commercial cloud in the form of Government Regions to meet specific compliance and data classification needs. This provides a **broad and deep** platform that helps customers build **sophisticated, scalable, secure** mission applications

What are the **Primary Drivers** for moving to the cloud?



Increased Agility

Provision infrastructure in minutes instead of months



Elasticity

Stop guessing capacity, scale up and down on demand



Cost Savings

Only pay for what you use, lower upfront expenses



Innovate Faster

More time focused on the mission, not infrastructure



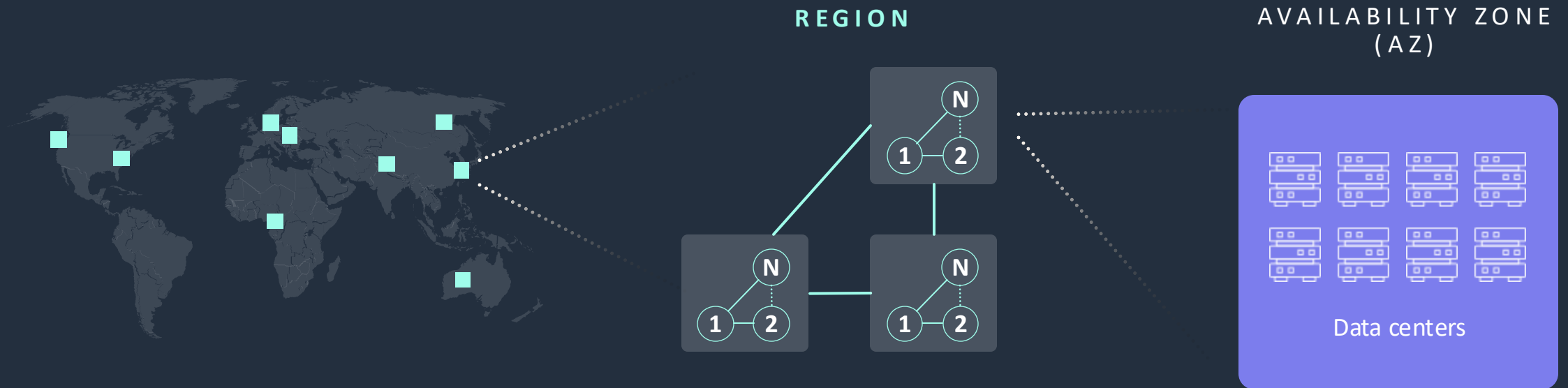
Global in Minutes

Quickly Deploy new services as mission needs change

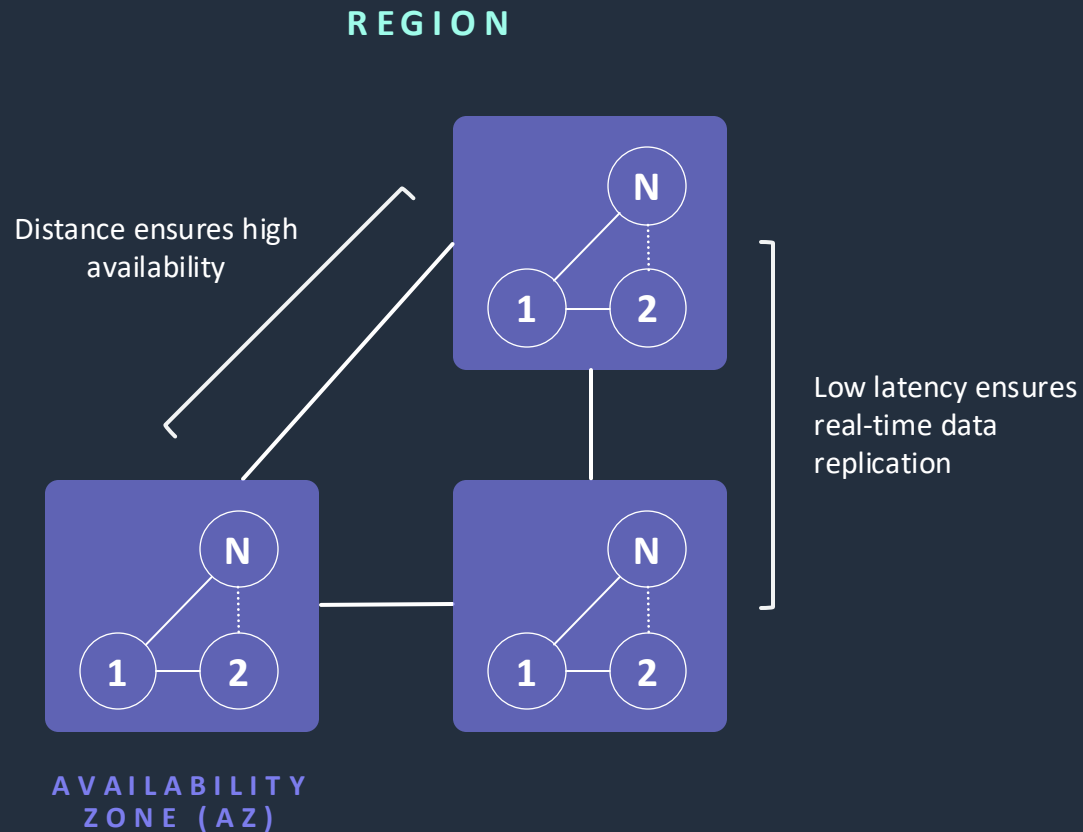


AWS Region design

AWS Regions are comprised of multiple AZs for **high availability**, **high scalability**, and **high fault tolerance**. Applications and data are replicated in real time and consistent in the different AZs.



Availability zones design for resiliency



100K+ servers at scale

ISOLATED PARTITION

Fully isolated with one or more datacenters

POWER

Highly available, fault tolerant, and scalable

DISTANCE

Physically separated by a meaningful distance – all within 60 miles (100km) of each other

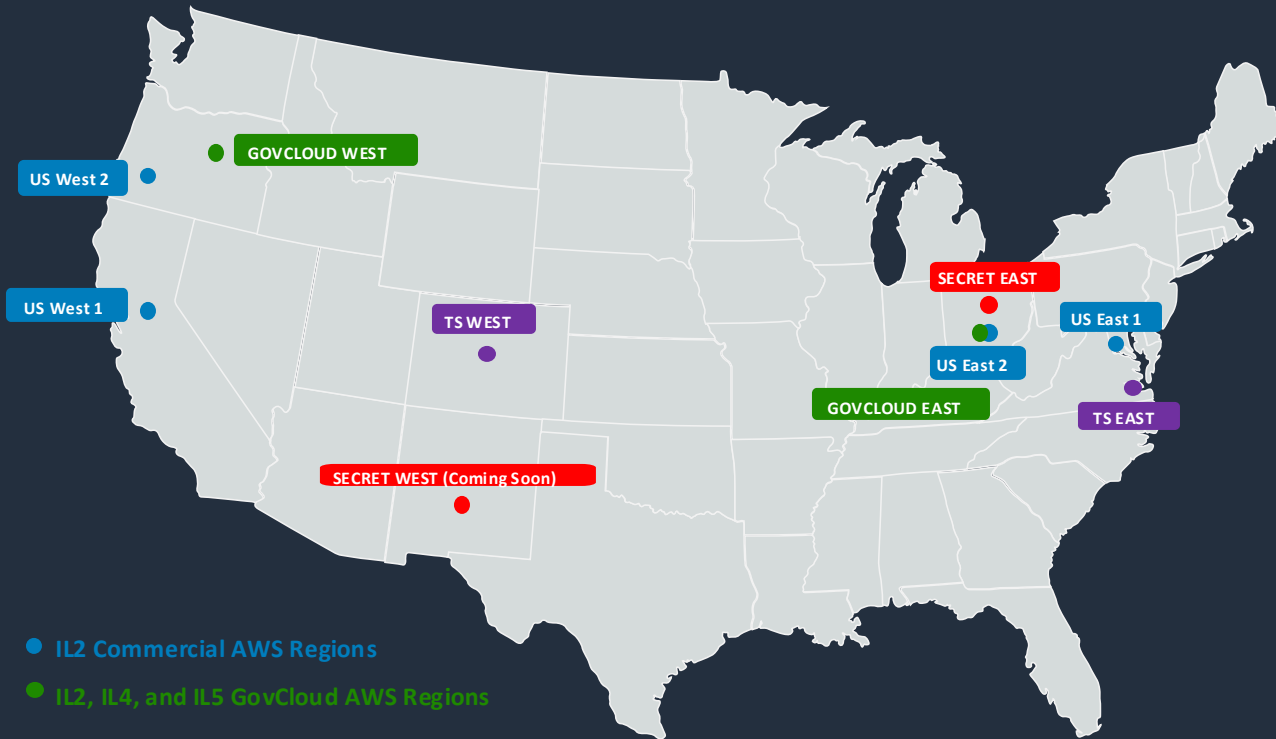
INTERCONNECTION

Datacenters connected via fully redundant and isolated metro fiber

AWS Regions for DoD



AWS GovCloud (US)



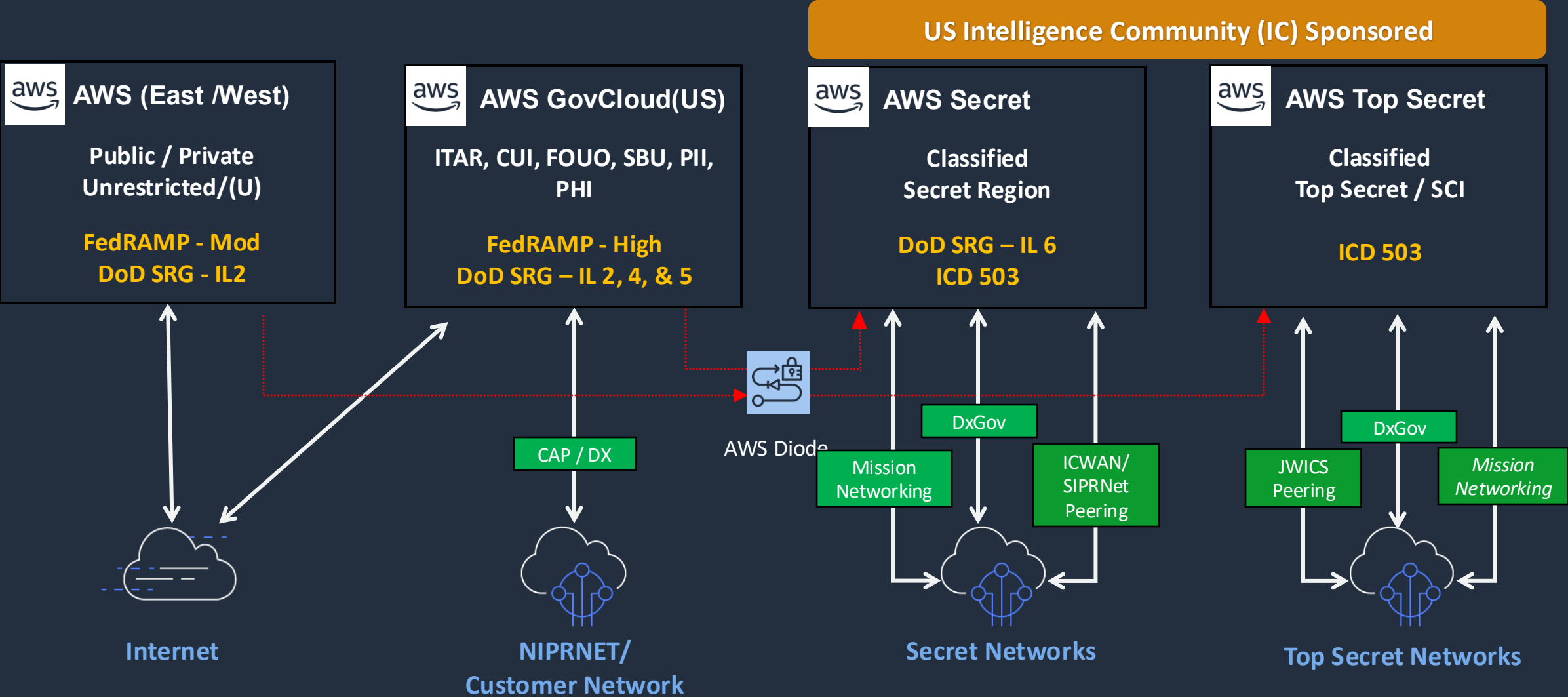
- 2 regions: US-East & US-West
- Accounts issued to US persons/companies only (to administer according to their security compliance regime)
- Data, network, and machine isolation
- Unique authentication with separate & isolated credential database and dedicated management console
- Managed by U.S. citizens on U.S. soil
- FIPS 140-2 compliance
- Service(s) are deployed into Region based on customer demand

GovCloud Regions offers the same high level of security as the other AWS Regions... restricted to approved US Persons

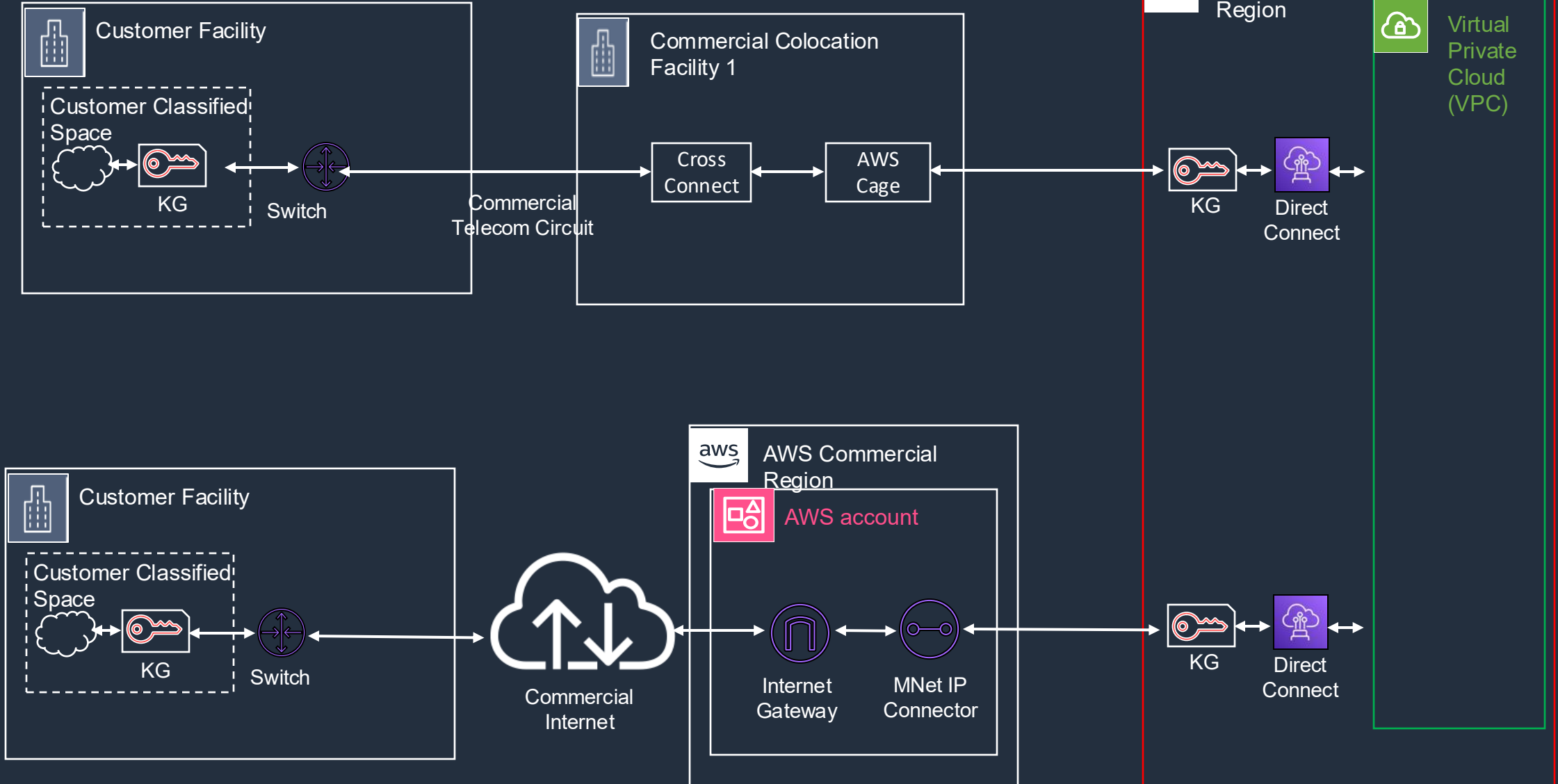


AWS US Regions Infrastructure

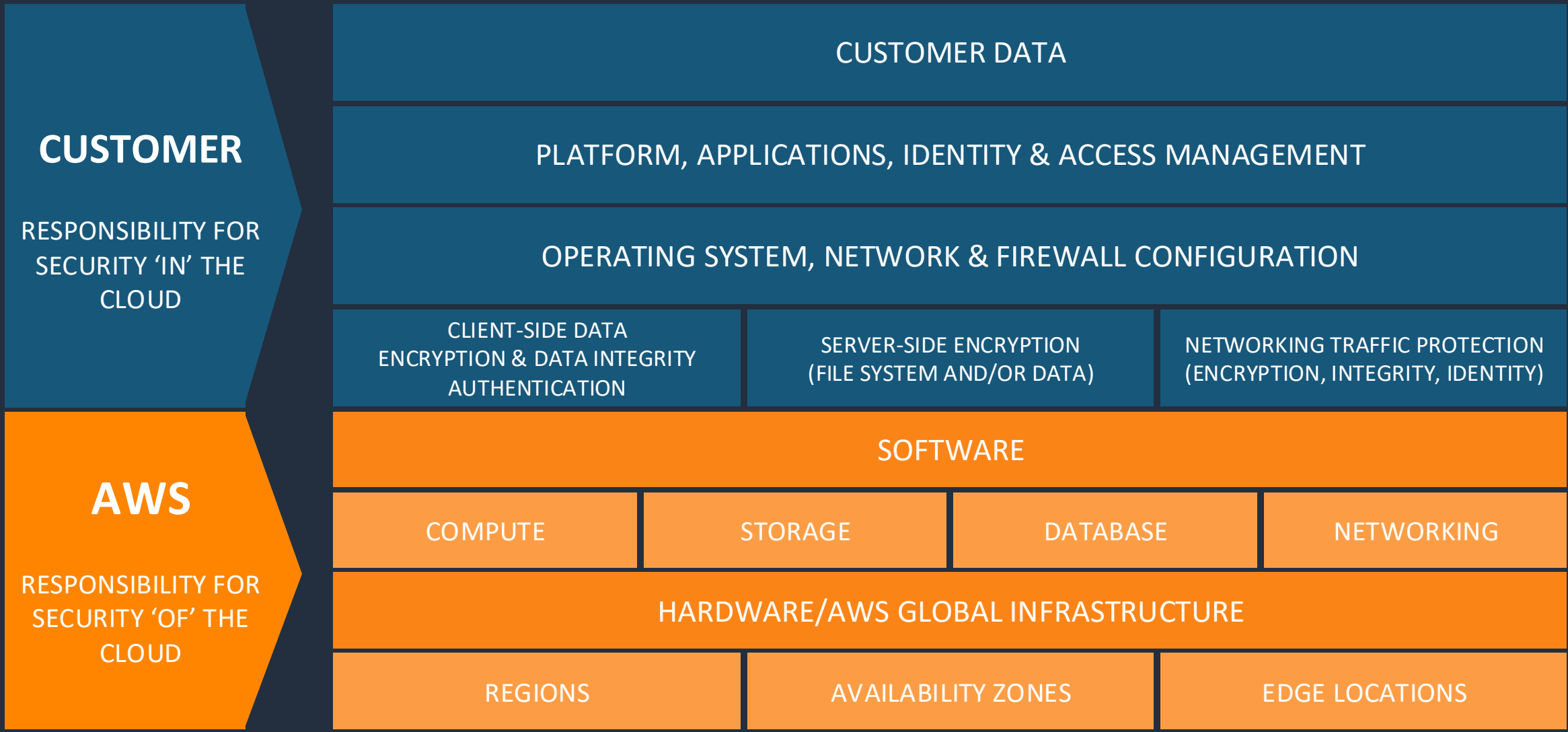
First Cloud provider to offer regions for Unclassified, Sensitive, Secret and Top Secret data



AWS Mission Networking Options

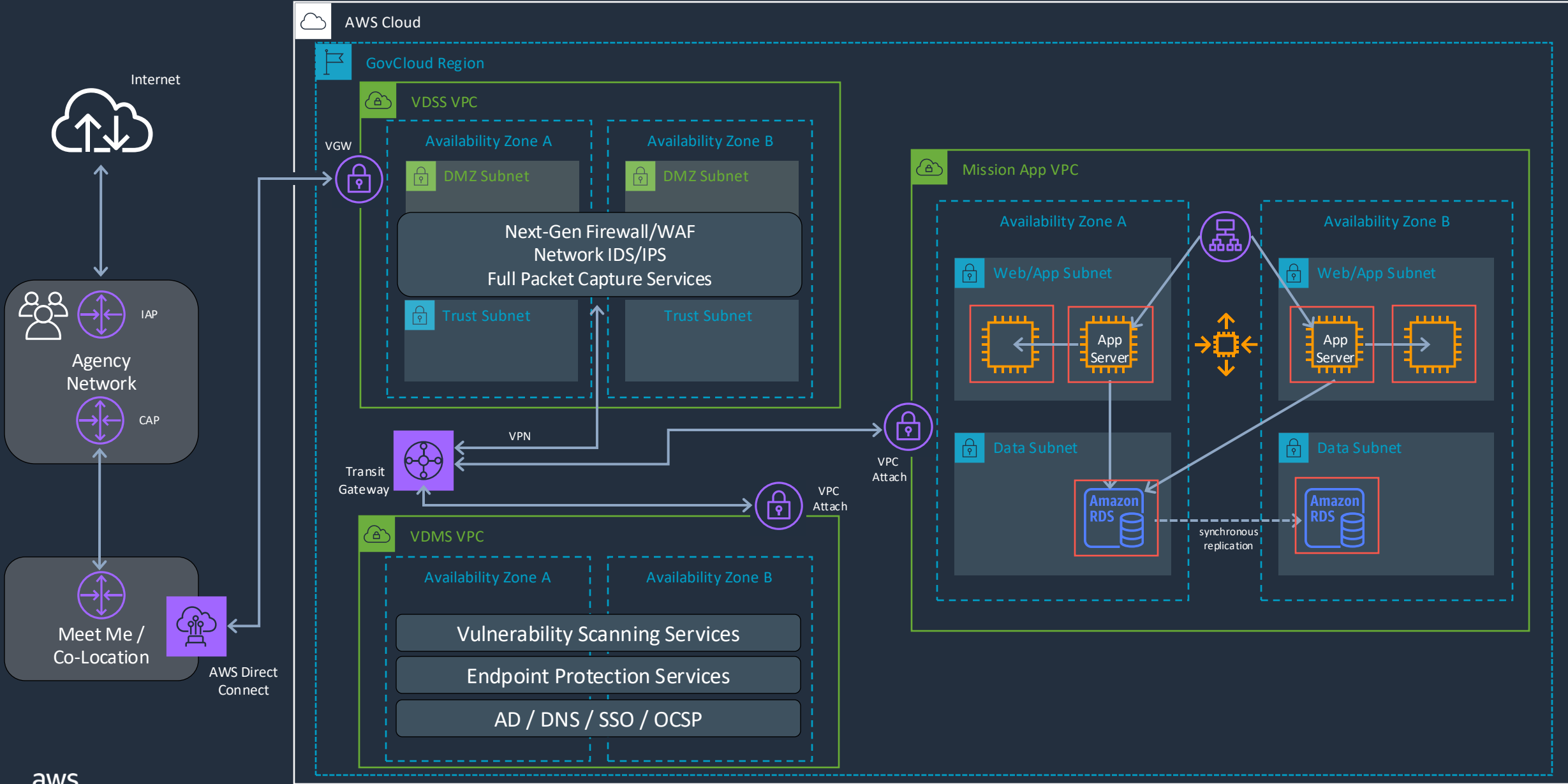


AWS Shared Responsibility Model



SCCA Architecture Approach in AWS

From DoD SCCA section 2.2



Digital Training: real-world learning experiences, at scale, with AWS Skill Builder

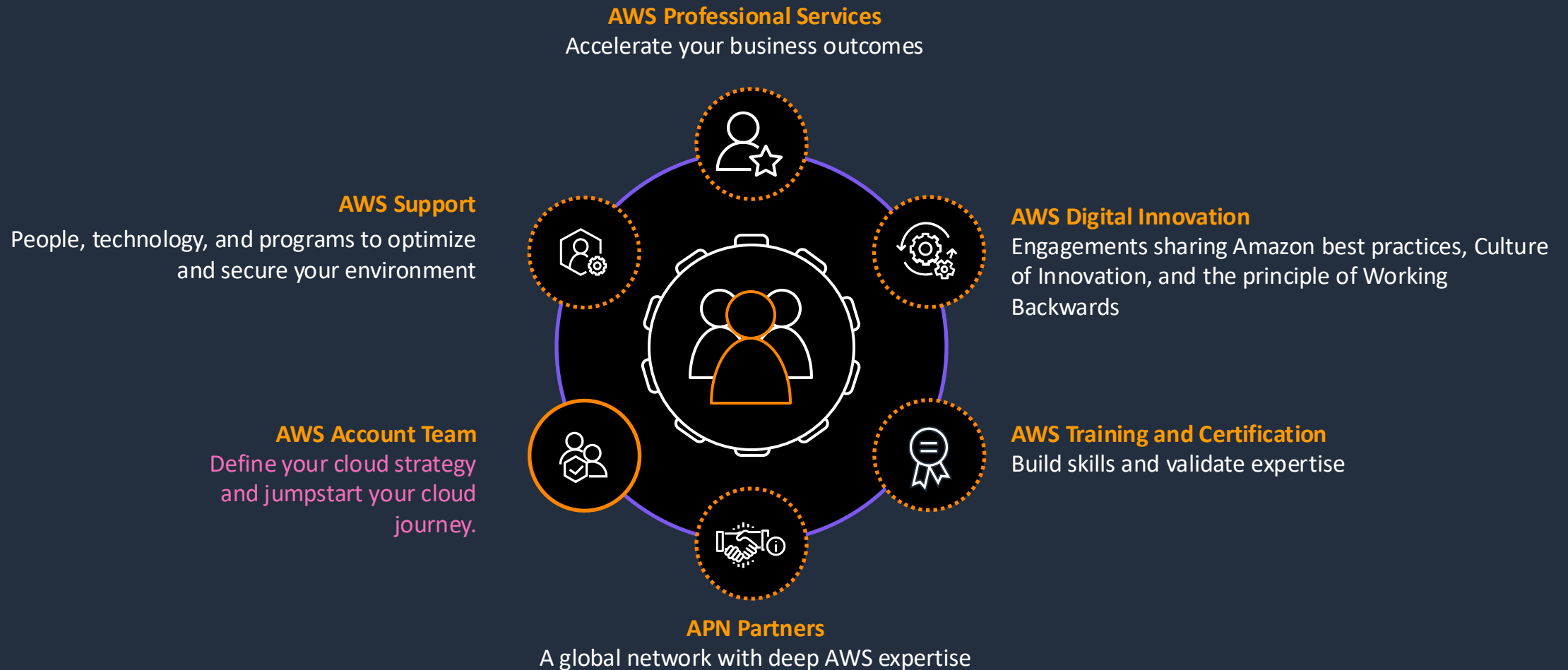
- Learn from AWS experts
- 600+ free digital courses: Free/Premium
- 20+ languages
- Learning plans by role or solutions
- Administrative Dashboard
- skillbuilder.aws

skillbuilder.aws



AWS Customer Enablement

Migrate and build faster in the cloud



Learn more about AWS GovCloud (US)

- AWS GovCloud (US) Overview: <https://aws.amazon.com/govcloud-us/>
- AWS GovCloud (US) User Guide: <http://docs.aws.amazon.com/govcloud-us/latest/UserGuide/welcome.html>
- AWS Services in Region: <https://aws.amazon.com/about-aws/global-infrastructure/regional-product-services/>
- Requesting AWS GovCloud (US) access: <https://aws.amazon.com/govcloud-us/getting-started/>
- AWS Compliance Programs: <https://aws.amazon.com/compliance/programs/>
- AWS Artifact – The Self-service Compliance portal: <https://aws.amazon.com/artifact/>
- AWS Services-in-Scope (compliance regimes): <https://aws.amazon.com/compliance/services-in-scope/>
- Simple Monthly Calculator: <https://calculator.s3.amazonaws.com/index.html>



Thank you (Questions?)

Alex Evans
Solutions Architect, USAF
Amazon Web Services
evnsale@amazon.com

John Remy
Solutions Architect, USAF
Amazon Web Services
johnremy@amazon.com



Appendix



Why customers choose AWS

EXPERIENCE

17 years

helping millions
of customers

GLOBAL REACH

33 Commercially available
regions (and more for DoD/IC)
spanning 105
Availability Zones and over 130
Direct Connect locations

SECURITY

300+
security features

INNOVATION

200+
service offerings

AWS INFRASTRUCTURE

3.6x+

energy efficient than the
median of surveyed U.S.
enterprise data centers

TCO

134

price reductions
since 2006

ECOSYSTEM

4500

software listings from
1,400 ISVs



Understanding the AWS Global Infrastructure

REGION

A physical location where we cluster data centers. Each Region consists of a minimum of three isolated, and physically separate AZ's.

AVAILABILITY ZONE (AZ)

One or more discrete data centers with redundant power, networking, and connectivity in an AWS Region.

LOCAL ZONES

AWS Local Zones place compute, storage, database, and other AWS services closer to end-users so you can run latency-sensitive applications and meet data residency requirements in more locations

POINTS OF PRESENCE

Reduce latency by delivering data through 450+ globally dispersed Points of Presence (PoPs) with automated network mapping and intelligent routing using Amazon CloudFront.

WAVELENGTH ZONES

AWS infrastructure deployments that embed AWS services within telecommunications providers' data centers at the edge of the 5G network.

DIRECT CONNECT LOCATIONS

The Direct Connect service establishes a private, physical network connection between AWS and your data center or office environment – bypassing the public internet.

OUTPOSTS

AWS Outposts are a family of fully managed solutions delivering AWS infrastructure and services to virtually any on-premises or edge location for a truly consistent hybrid experience.

Snow Family

The AWS Snow Family supports intense edge compute and storage workloads in the most austere environments, to include Denied, Degraded, Intermittent, and Latent (DDIL).



The line varies...



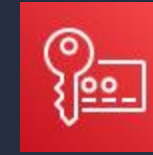
Amazon EC2



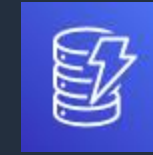
Amazon RDS



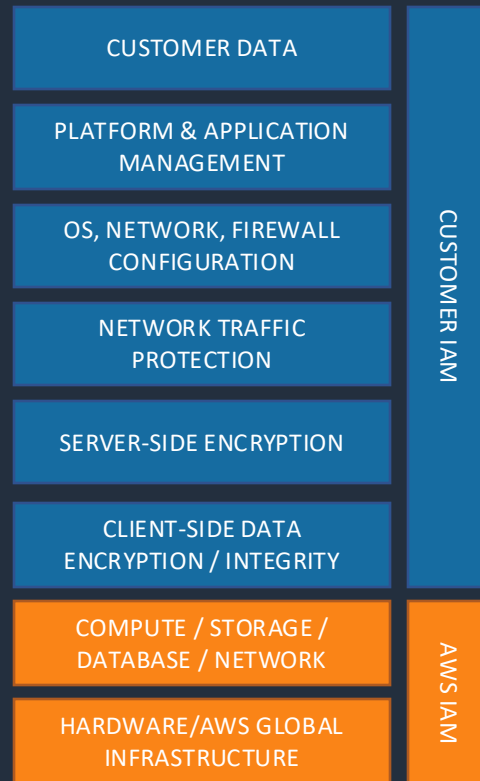
Amazon S3



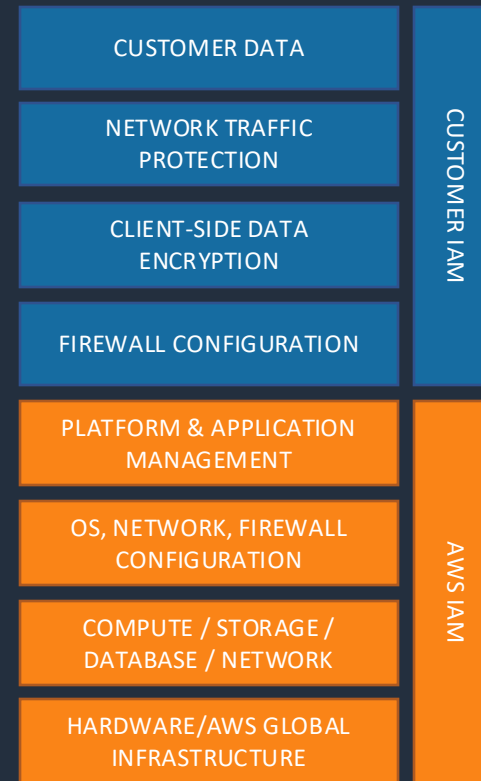
AWS KMS



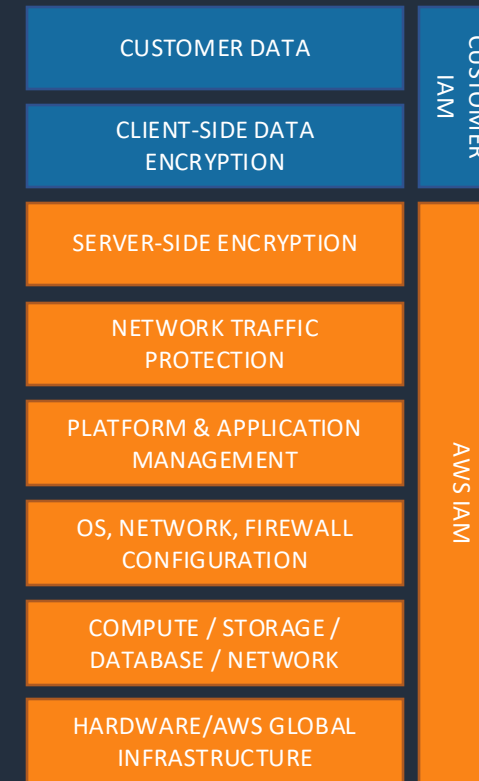
Amazon
DynamoDB



INFRASTRUCTURE
SERVICES



CONTAINER
SERVICES



ABSTRACTED
SERVICES

Less Customizable
+
Less Customer
Responsibility
+
More Best Practices
built-in

More Customizable
+
More Customer
Responsibility



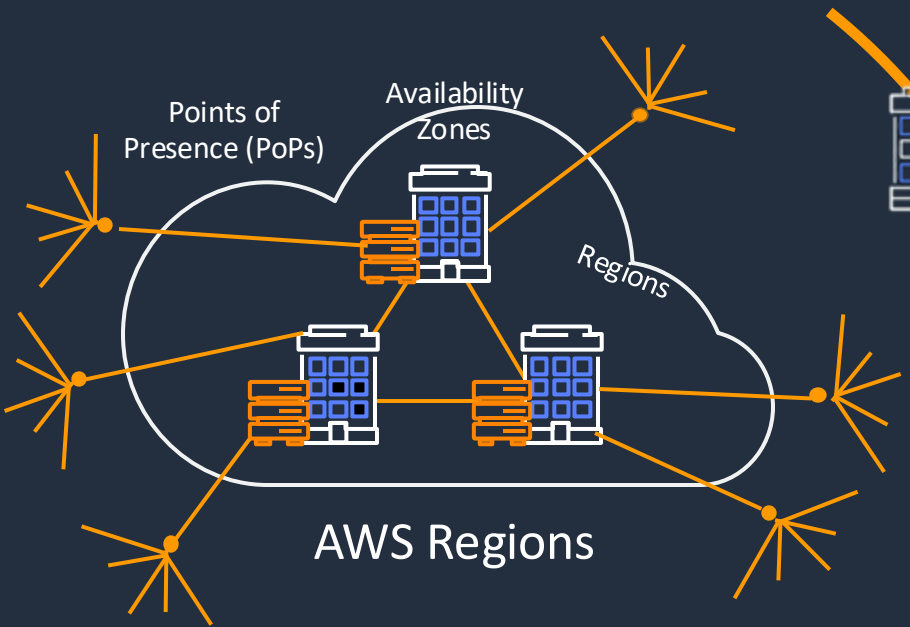
DoD SCCA FRD V2.9

- Secure Computing Architecture (SCCA) Functional Requirements Document (FRD)
- Released March 9th 2017
- Replaces the Draft CAP FRD
- Provides implementation flexibility
- Freedom to architect and manage as a shared services enclave



AWS cloud-to-edge continuum

For most use cases



For low latency, local data processing, and data residency

On premises

- AWS Outposts
- AWS Storage Gateway

Metro centers

- AWS Local Zones

5G networks

- AWS Wavelength

IoT / robotics

- AWS IoT Greengrass
- AWS IoT SiteWise
- FreeRTOS
- AWS RoboMaker

Rugged, Mobile edge

- AWS Snowball Edge
- AWS Snowcone
- AWS Snowblade
- AWS Modular Data Center (MDC)

