aws

Cloud computing with AWS

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What is cloud computing?

"Cloud computing is the **on-demand** delivery of IT resources over the Internet with **pay-as-you-go pricing**. Instead of **buying, owning, and maintaining** physical data centers and servers, you can access technology services, such as computing power, storage, and databases, on an **as-needed basis** from a cloud provider."

How do customers benefit from the cloud?

Agility   Teams can experiment and innovate quickly and frequently

Cost Savings   Only pay for what you use, leveraging economies of scale

Elasticity   Easily scale up or down with the needs of the business

Innovation   Focus on business differentiators, not infrastructure

Global Footprint Extensive, reliable, and secure global cloud infrastructure

Businesses are transforming on AWS

Gained the **agility and automation** it needs to quickly and efficiently deliver **innovative services** to the state's citizens.

Transformed how they deliver social services to their citizens, driving **cross agency collaboration** and giving agencies **easier access to data** through a shared data repository.
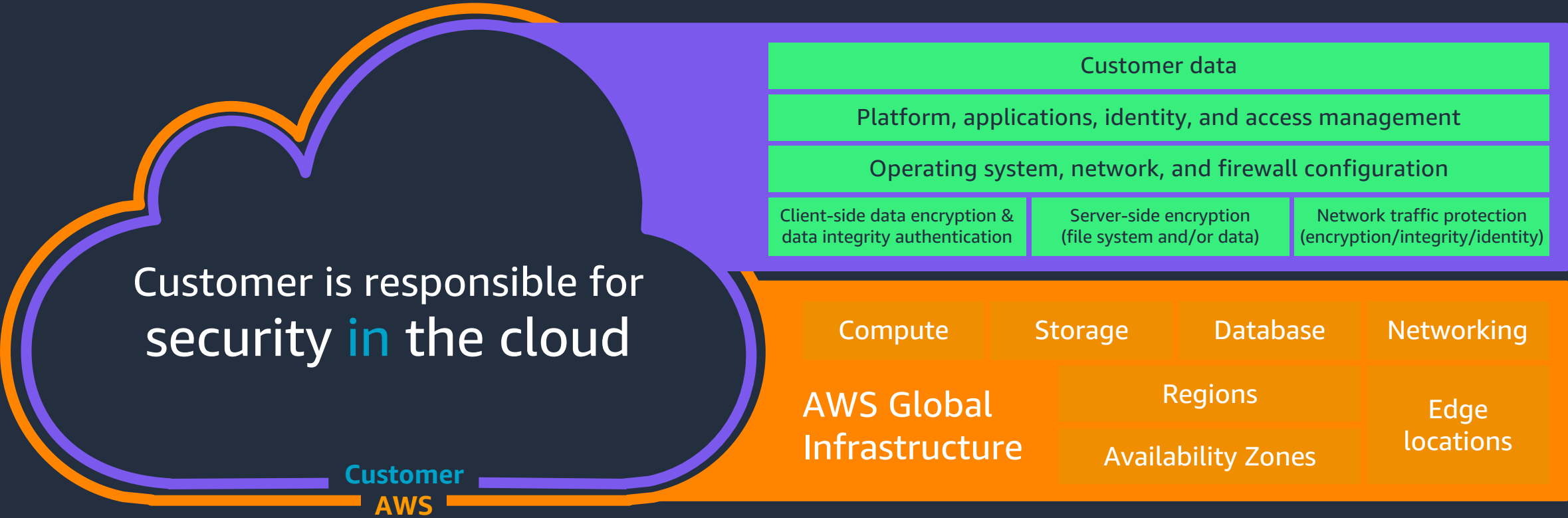
Through the Internet Crimes Against Children Data System on AWS GovCloud, the West Virginia State Police are helping investigators **rescue children faster** and **protect the privacy** of victims and suspects.

Migrated its multistate unemployment insurance system to AWS in less than 8 hours, **cutting costs by 72 percent** and scaling up **4,000 percent** to serve claimants.
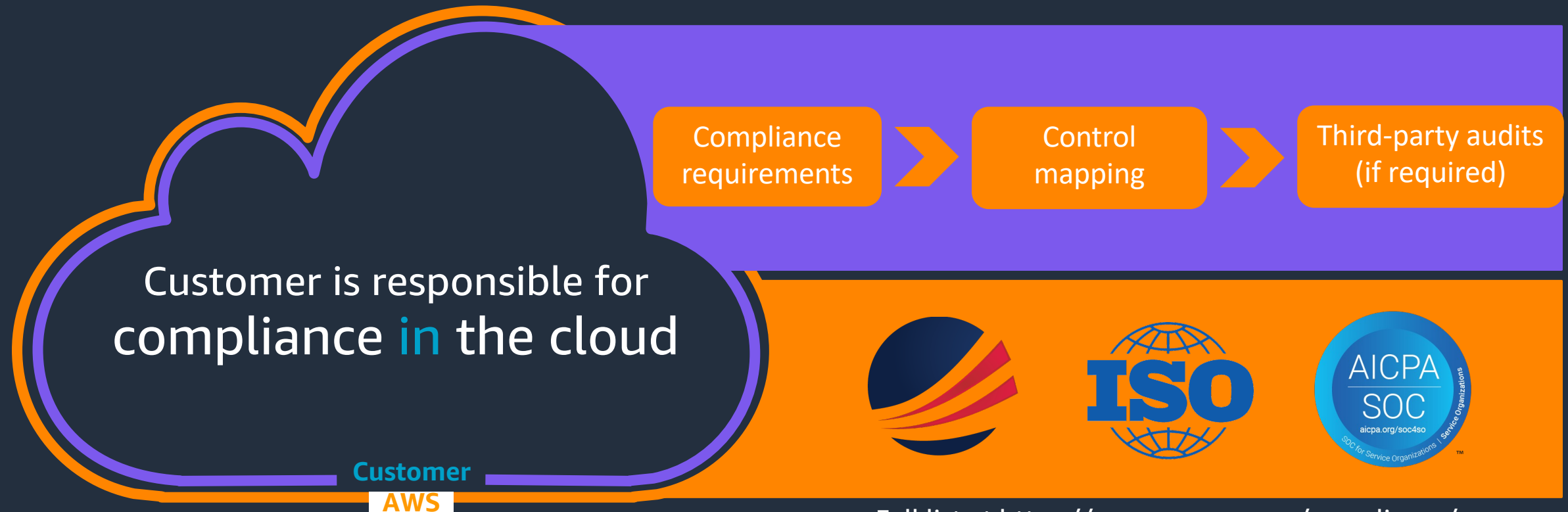
Share your security responsibility with AWS

Customer is responsible for security in the cloud

Customer
AWS

AWS is responsible for security of the cloud

Customer data
Platform, applications, identity, and access management
Operating system, network, and firewall configuration

Client-side data encryption & data integrity authentication	Server-side encryption (file system and/or data)	Network traffic protection (encryption/integrity/identity)

Compute	Storage	Database	Networking

AWS Global Infrastructure

Regions

Availability Zones

Edge locations

Shared Responsibility Model – Compliance and regulation

Compliance requirements → Control mapping → Third-party audits (if required)

Customer is responsible for **compliance in the cloud**

Customer

AWS

AWS is responsible for **compliance of the cloud**

Full list at https://aws.amazon.com/compliance/

Shared Responsibility Model – Sustainability

Customer is responsible for **sustainability in the cloud**

Customer

AWS

AWS is responsible for **sustainability of the cloud**

Data design and usage

Software application design

Platform deployments and scaling

Data storage	Code efficiency	Utilization and scaling

AWS Global Infrastructure

Servers	Cooling	Water	Waste

Data centers

Building materials

Electricity supply

Global Presence

105 Availability Zones
33 Regions

Planned expansion
+18 Availability Zones
+6 Regions

Map labels:
- Canada West
- AWS GovCloud West
- Oregon
- N. California
- Montreal
- Ohio
- AWS GovCloud East
- N. Virginia
- Mexico
- Sweden
- Ireland
- London
- Frankfurt
- Germany
- Paris
- Milan
- Zurich
- Spain
- Israel
- Kingdom of Saudi Arabia
- Bahrain
- UAE
- Hyderabad
- Mumbai
- Thailand
- Beijing
- Ningxia
- Seoul
- Hong Kong
- Tokyo
- Osaka
- Malaysia
- Singapore
- Jakarta
- São Paulo
- Cape Town
- Sydney
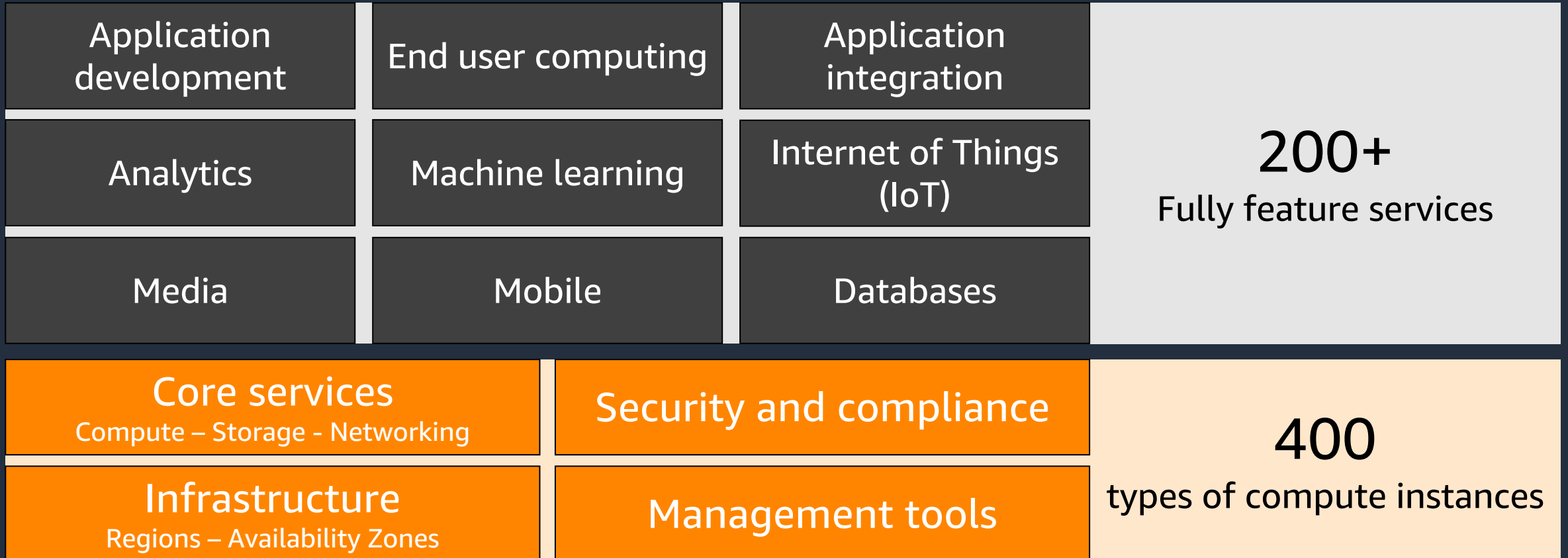- Melbourne
- Auckland

AWS Region design
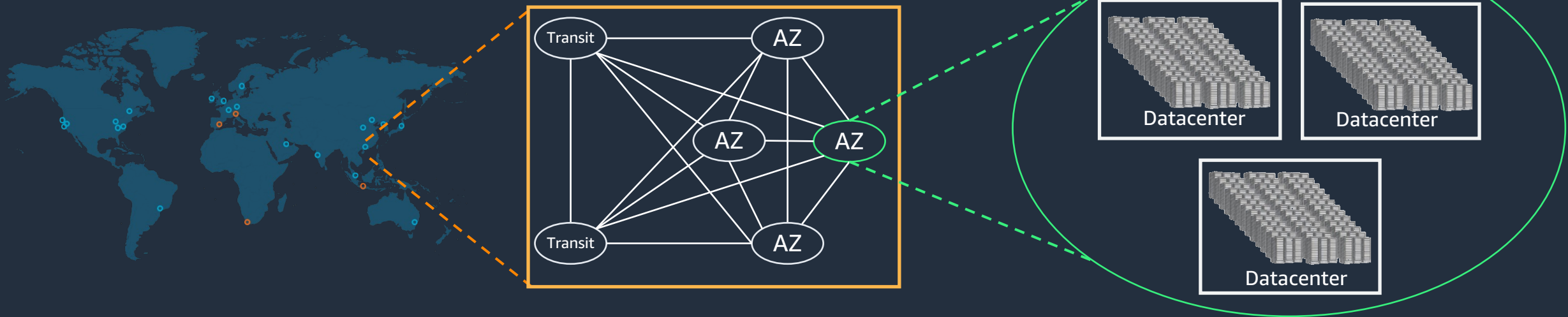
AWS Region

A Region is a physical location around the world where we cluster data centers.

We call each group of logical data centers an **Availability Zone**.

AWS Availability Zone (AZ)

Availability Zones consist of one or more discrete data centers, each with redundant power, networking, and connectivity, housed in separate facilities.

Support virtually any cloud workload

Application development	End user computing	Application integration	**200+** Fully feature services
Analytics	Machine learning	Internet of Things (IoT)	
Media	Mobile	Databases	

Core services Compute – Storage - Networking	**Security and compliance**	**400** types of compute instances
Infrastructure Regions – Availability Zones	**Management tools**	

AWS Customer Enablement

AWS Professional Services
Skills and experience from AWS experts to supplement your team

AWS Support
Go beyond reactive break-fix with proactive Support programs

APN Partners
A global network of APN Partners with deep AWS expertise

AWS Marketplace
A curated digital catalog of software, services, and data products

AWS Training and Certification
Advance your team's skills and build cloud fluency by learning from AWS experts

You
+
your AWS team

Pillars of AWS Well-Architected
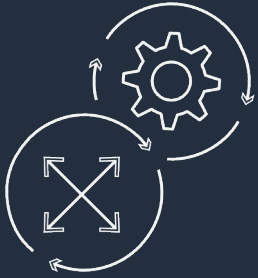
Operational excellence

Security

Reliability

Performance efficiency

Cost optimization

Sustainability

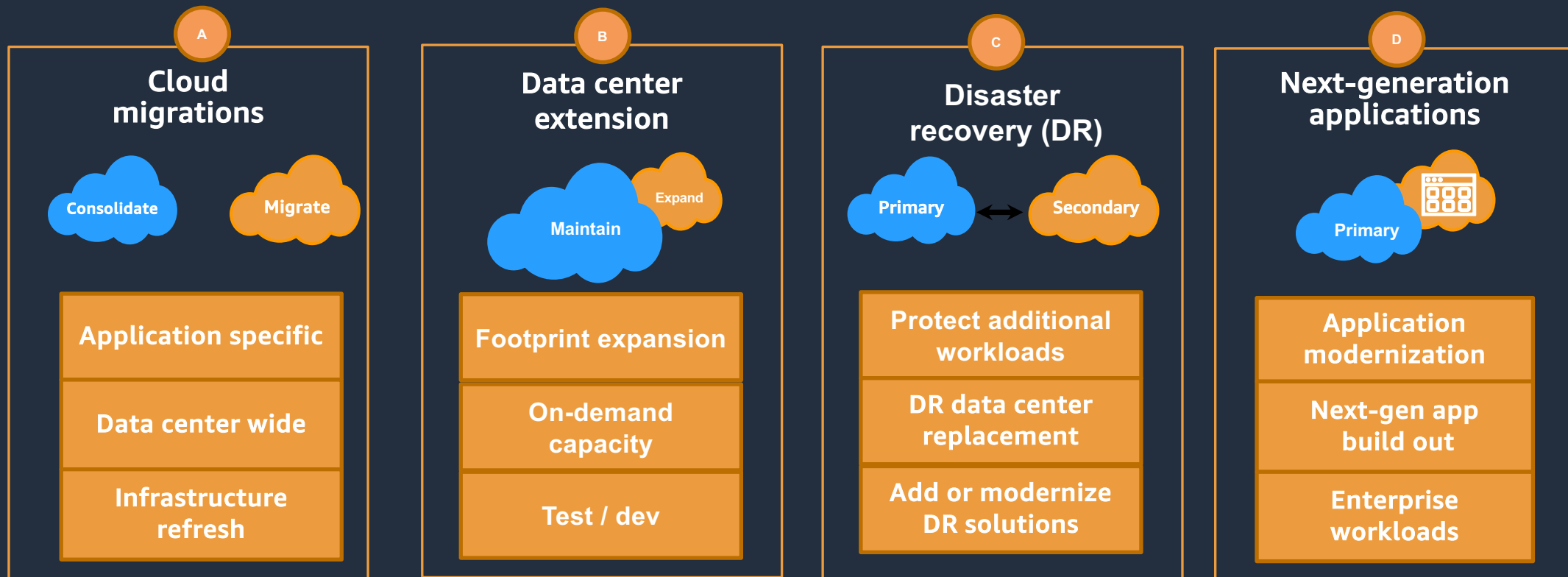# Hybrid cloud considerations

Creating a hybrid cloud strategy

A hybrid cloud strategy provides guidelines that govern consumption of cloud and on-premises resources to support your business objectives

Creating a technical strategy

A technical strategy for the hybrid cloud identifies the guiding tenets of the hybrid cloud architecture, and defines an implementation framework

Common hybrid use cases

A Cloud migrations
- Consolidate
- Migrate

- Application specific
- Data center wide
- Infrastructure refresh

B Data center extension
- Maintain
- Expand

- Footprint expansion
- On-demand capacity
- Test / dev

C Disaster recovery (DR)
- Primary ↔ Secondary

- Protect additional workloads
- DR data center replacement
- Add or modernize DR solutions

D Next-generation applications
- Primary

- Application modernization
- Next-gen app build out
- Enterprise workloads

Customer chooses and places workloads between on premises and AWS

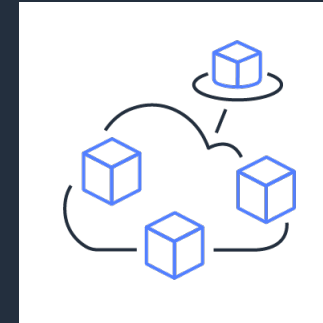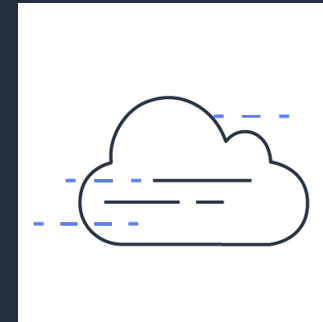# Getting started in your cloud journey
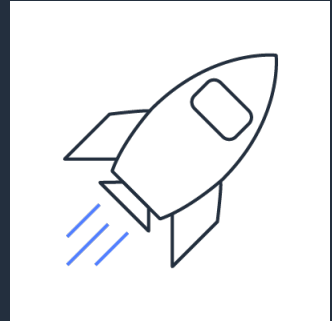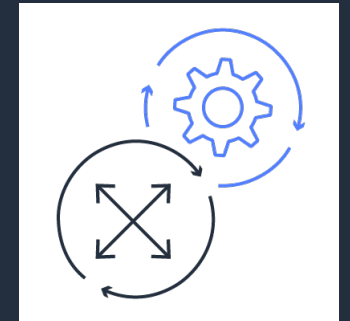

Project

Experimentation

Foundation
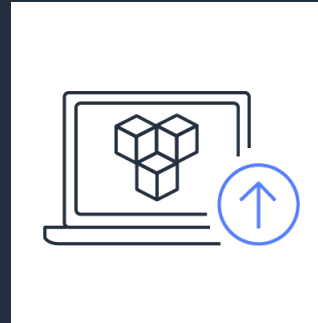
Migration

Modernization

Cloud native

Reinvention

Please complete the session survey by scanning the QR code

Thank you!

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Track: Getting started with AWS
Session: Introduction to Cloud Computing and AWS