

SESSION-1:

AWS FUNDAMENTALS

Important Links

- AWS Website —> <https://aws.amazon.com>
- AWS Documentation —> <https://docs.aws.amazon.com>
- AWS Management Console —> <https://aws.amazon.com/console/>
- AWS Command Line Interface Download —> <https://aws.amazon.com/cli/>
- AWS Certification —> <https://aws.amazon.com/certification/>

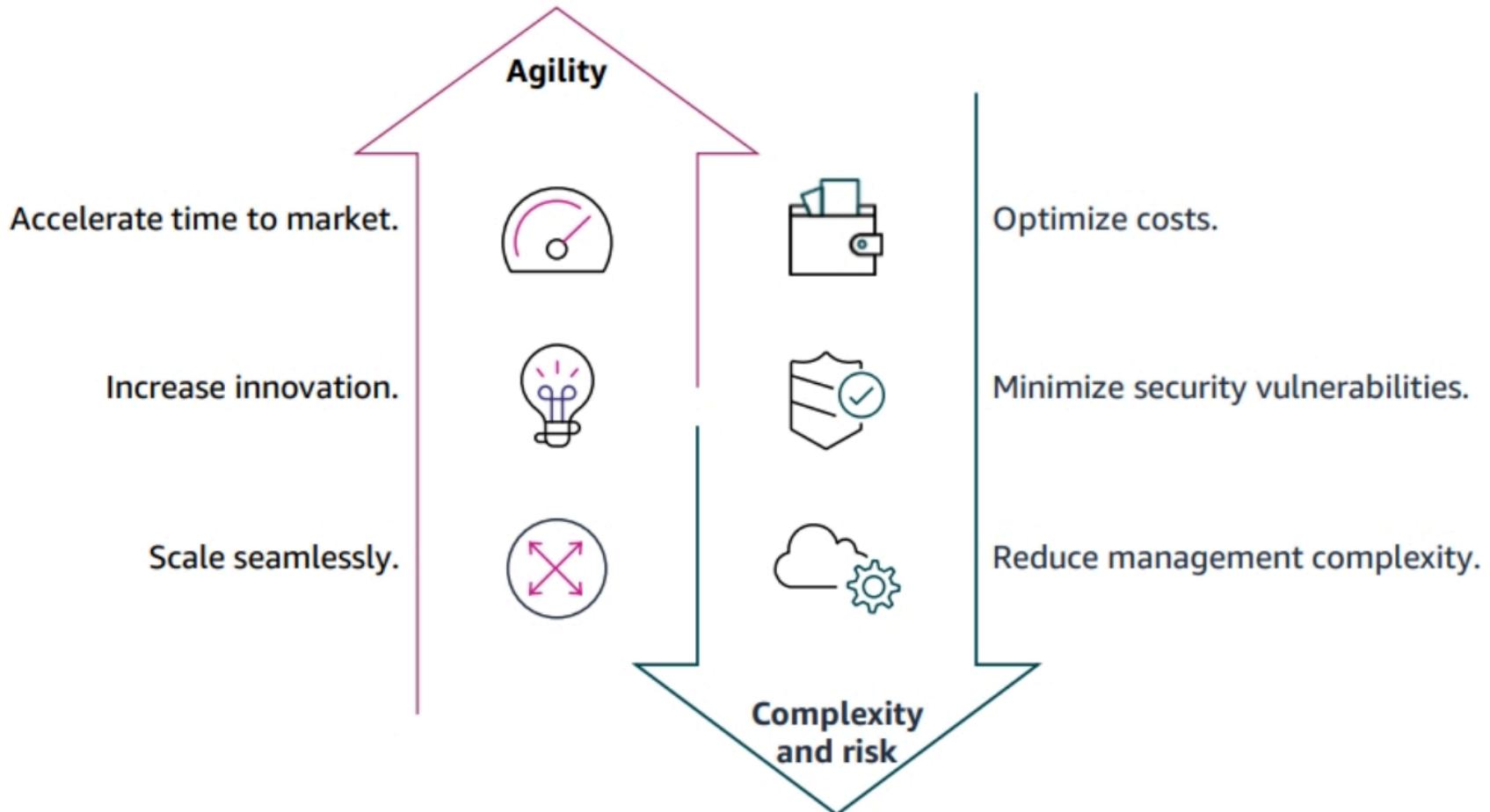
Amazon Web Services (AWS)

- Global Data Centers and more than 200 services
- Pay as you go
- Built for business needs
- Secure and robust

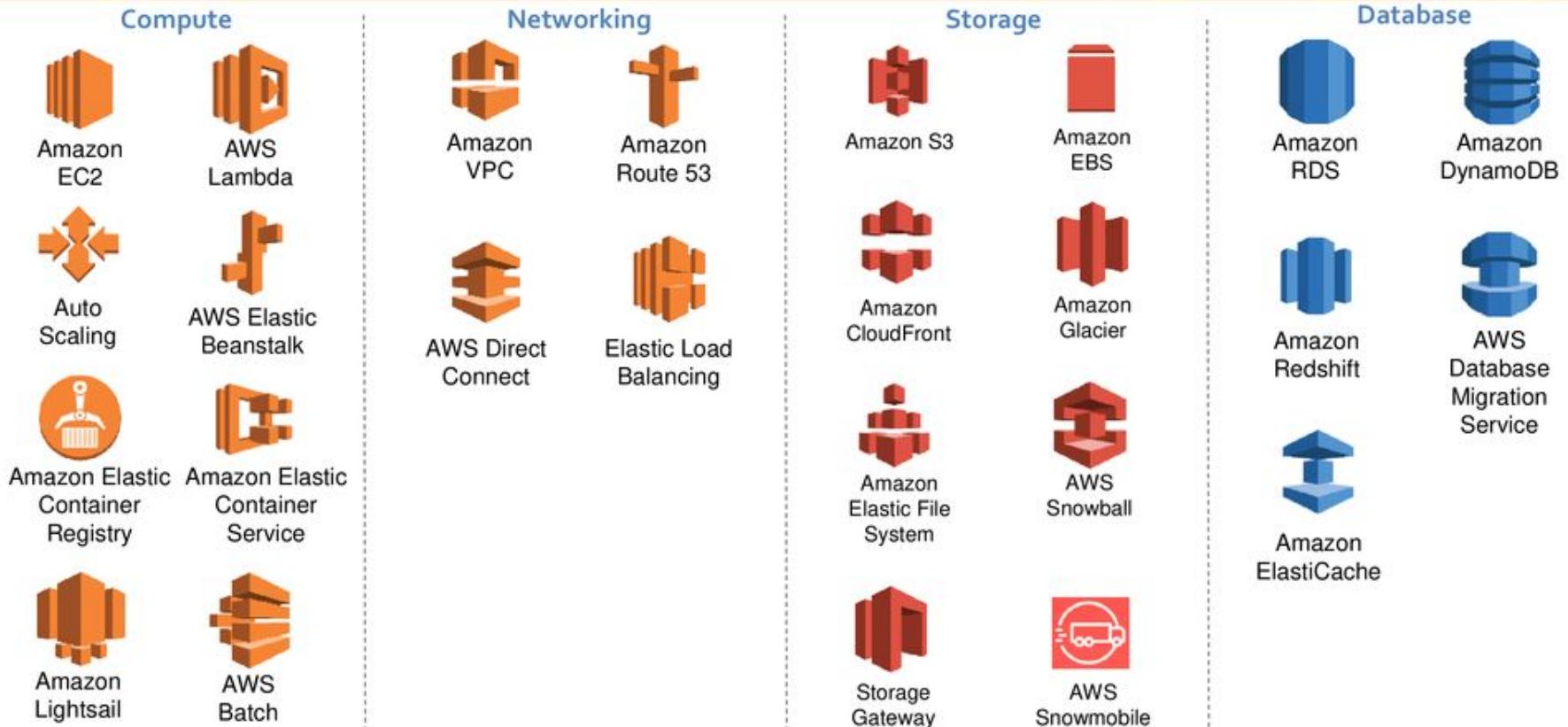




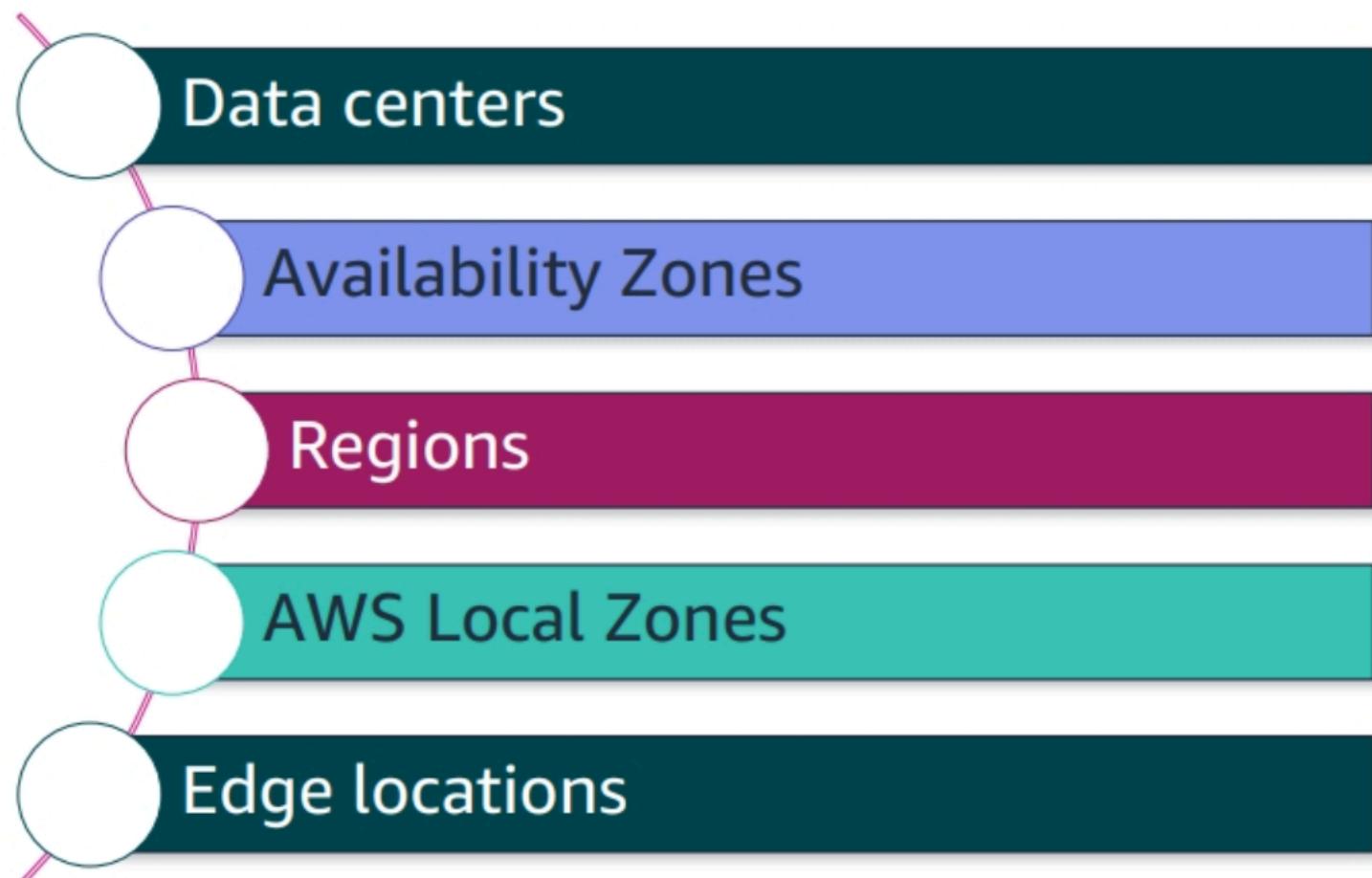
Why AWS?



AWS by Category: Core Services



AWS Infrastructure



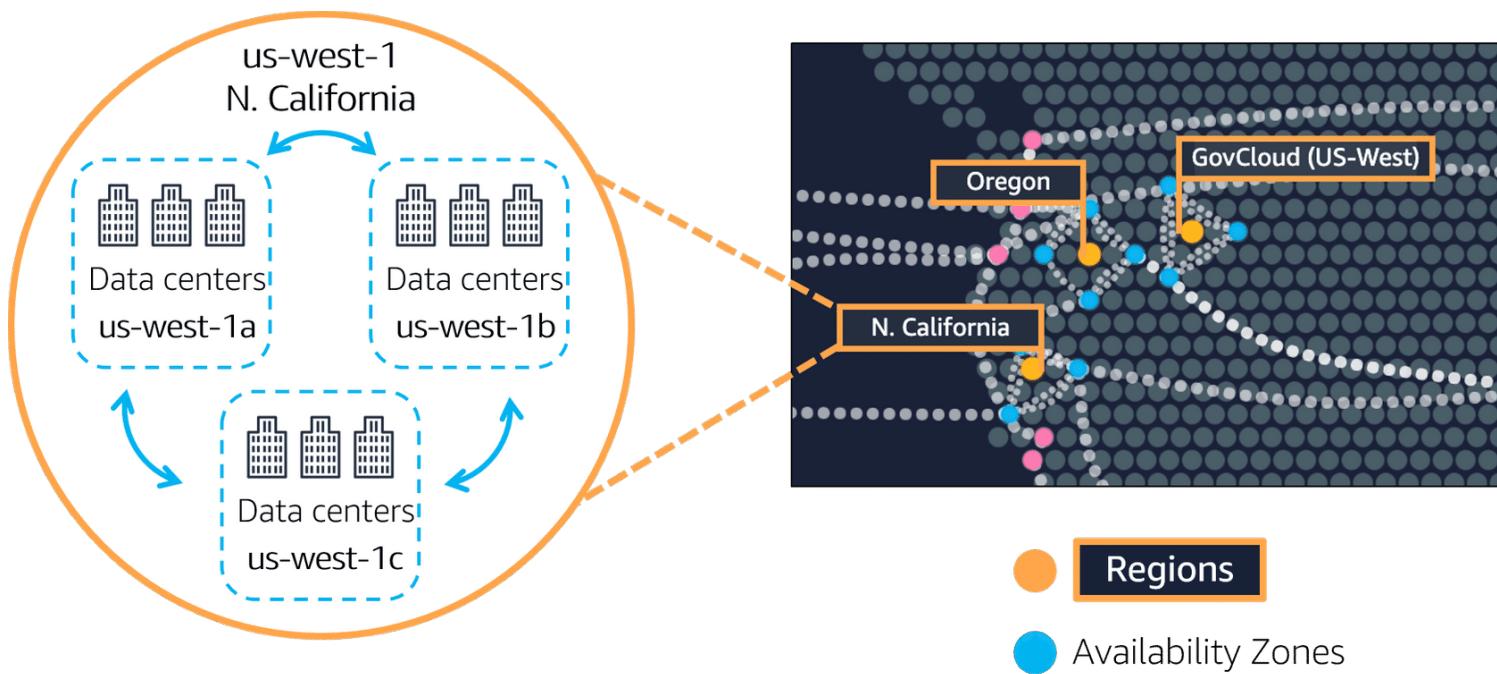
AWS Data Centers

- AWS Services operate within AWS Data Centers which consist of thousands of servers.
- Each location uses AWS proprietary network equipment.
- Data Centers are organized into Availability Zones.



Availability Zones

- Data centers in a Region which interconnected by high-speed private links.
- Designed for fault tolerance.
- Used to achieve high availability.



Regions

- They are completely independent from each other.
- They use AWS network infrastructure.
- They have multiple Availability Zones.





Region Selection Factors



Governance



Latency



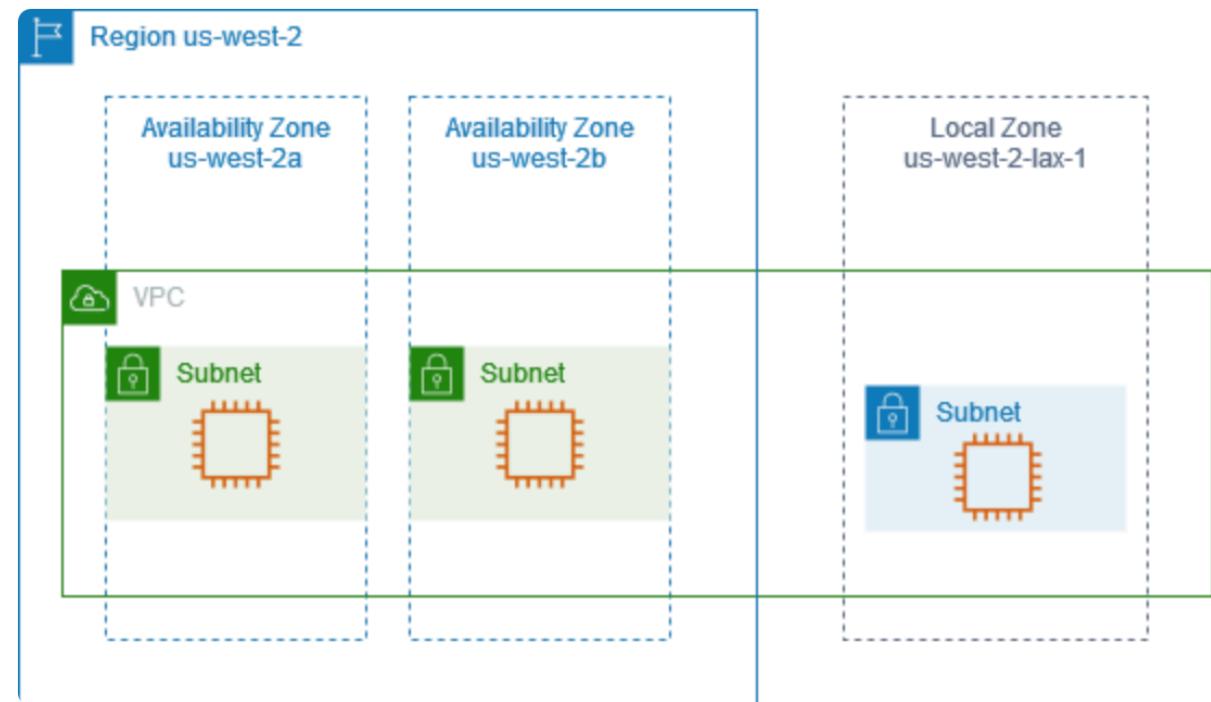
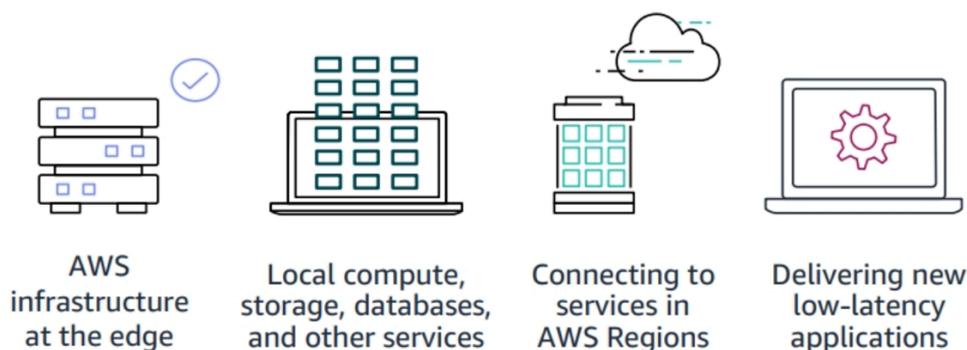
Service availability



Cost

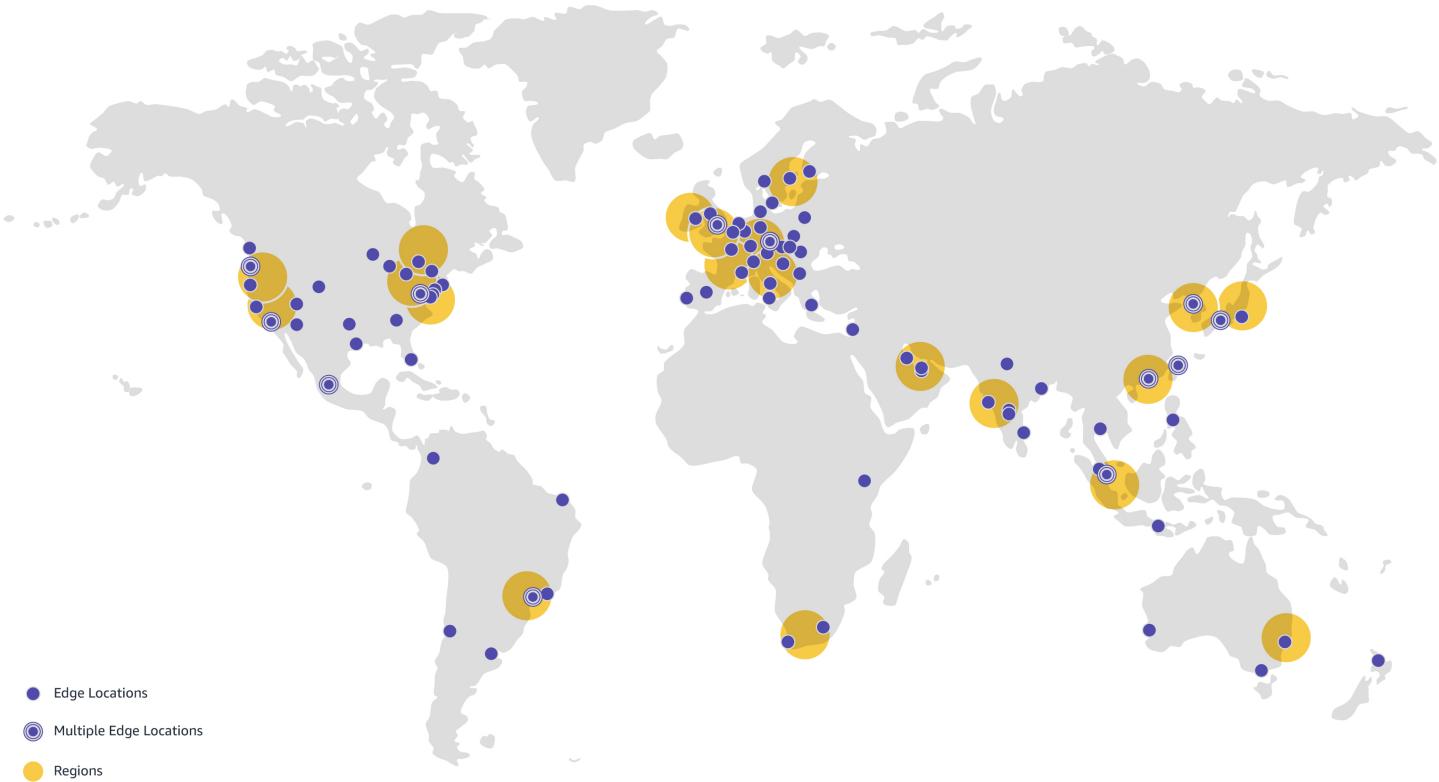
Local Zones

- Use cases: Media and entertainment content creation, real-time gaming, machine learning inference, live video streaming, augmented virtuality (AR) and virtual reality (VR)



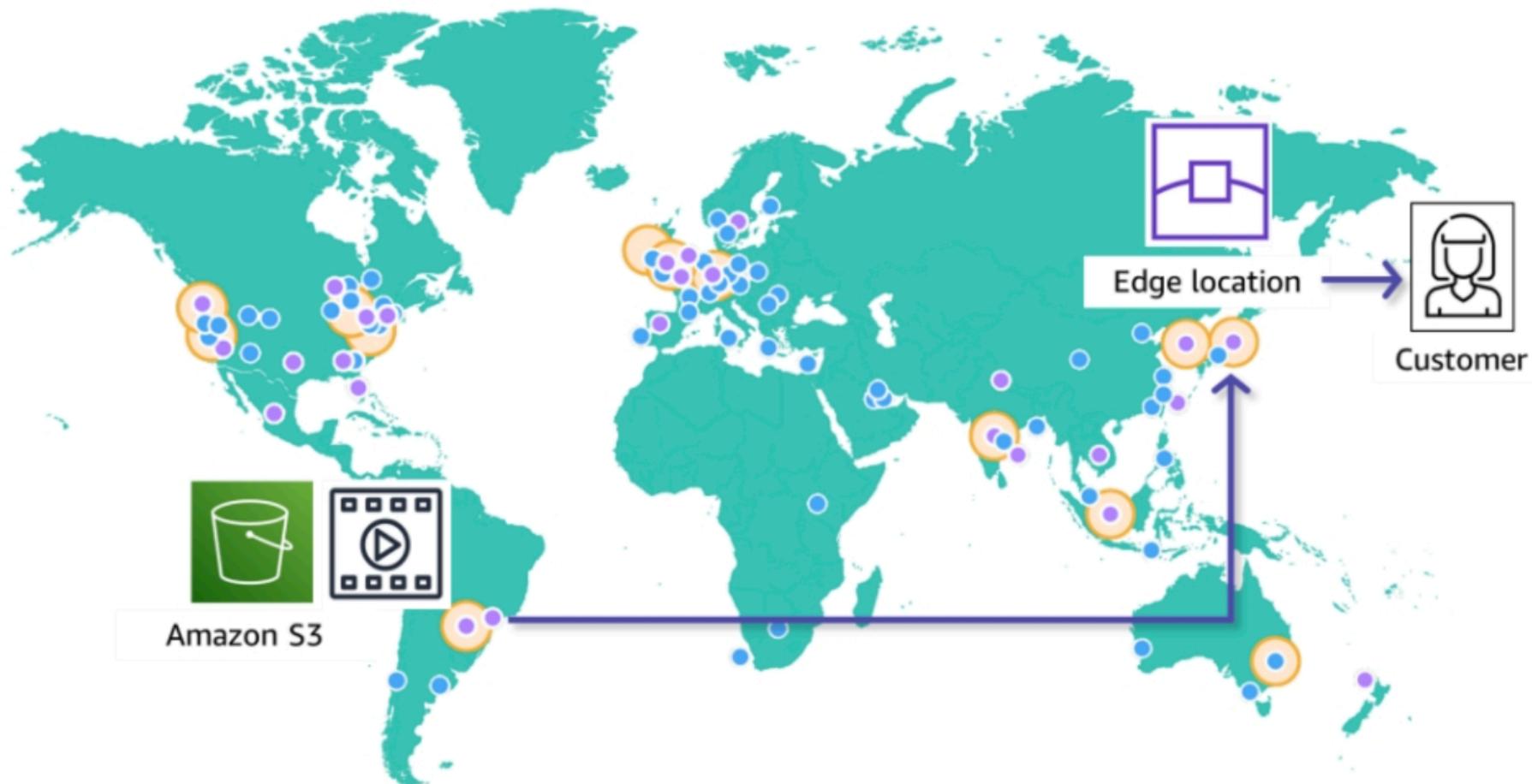
Edge Locations

- Supports AWS Services such as Amazon Route 53 and Amazon Cloudfront.





Edge Locations - Example





Summary

Feature	AWS Region	Availability Zones	Edge Locations
Type	Geographic Area	Data Centers Within Region	Individual Sites
Purpose	Host all AWS services	High Availability within the Region	Faster Content Delivery
Redundancy	Geographically spread	Independent within Region	Not applicable
Services offered	All core AWS services	Same as Region	Limited (e.g., caching)
User selection criteria	Latency, data residency	High Availability	User proximity
Examples	US East (Virginia)	us-east-1a, us-east-1b	Palo Alto, California

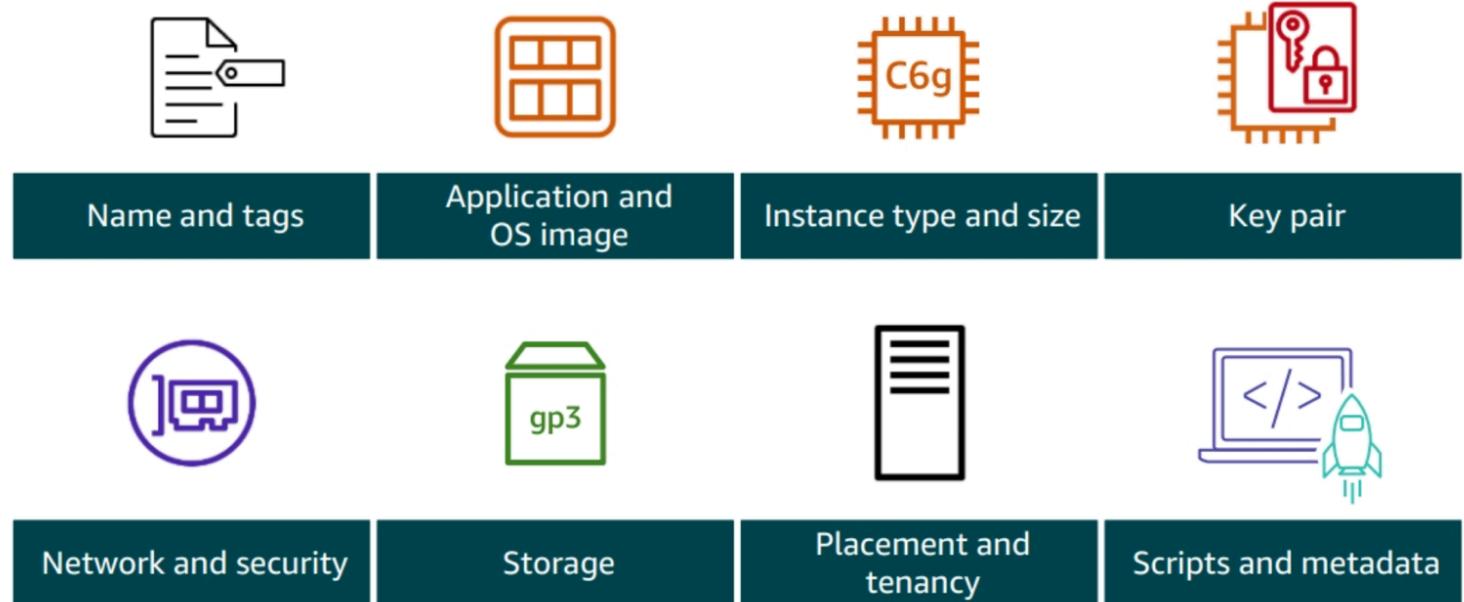
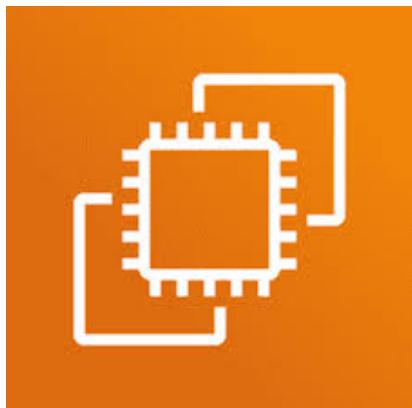
AWS Core Services - Simple Storage Service (S3)

- It is a durable object storage solution.
- Reduce Cost
- Increase Agility
- Accelerate Innovation
- Strengthen Security
- Cost factors: Storage Type, Replication, Versioning, Data Transfer, Requests and Retrievals, Management and Analytics



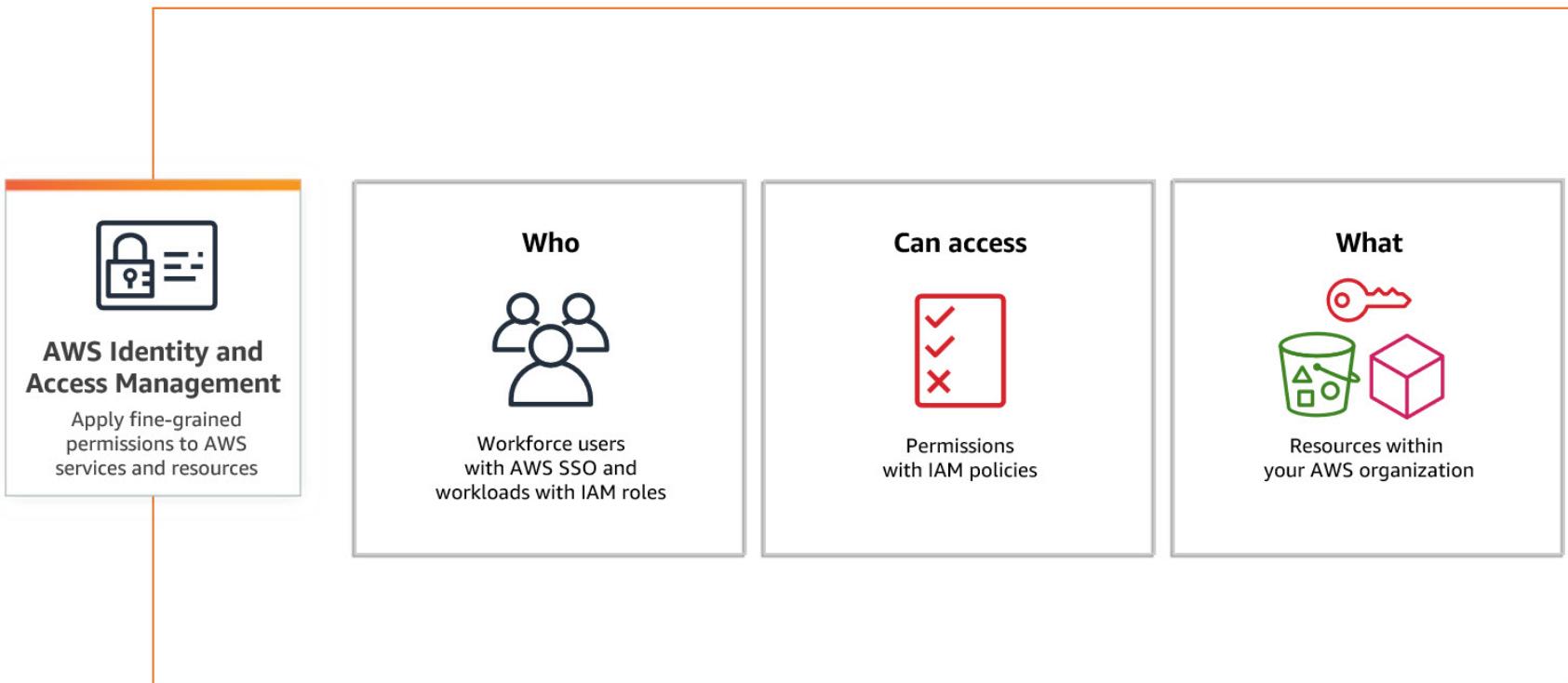
AWS Core Services - Elastic Compute Cloud (EC2)

- Physical servers host EC2 instances in AWS Regions.
- EC2 instances give secure and resizable compute capacity in the cloud.
- The number of EC2 instances can be changed based on demand.



AWS Core Services - Identity and Access Management (IAM)

- Create and manage users, groups and roles.
- Manage access to AWS resources and services.



AWS Architecting Steps



Plan

- Set technical cloud strategy with business leads.
- Analyze solutions for business needs and requirements.

Research

- Investigate cloud services specs and workload requirements.
- Review existing workload architectures.
- Design prototype solutions.

Build

- Design the transformation roadmap with milestones, work streams, and owners.
- Manage the adoption and migration.



AWS Pillars



Security

- Apply at all layers
- Enforce the principle of least privilege
- Use multi-factor authentication (MFA)



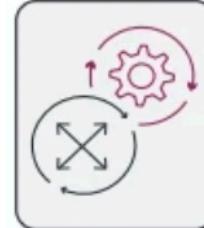
Performance efficiency

- Reduce latency
- Use serverless architecture
- Incorporate monitoring



Cost optimization

- Analyze and attribute expenditures
- Use cost-effective resources
- Stop guessing



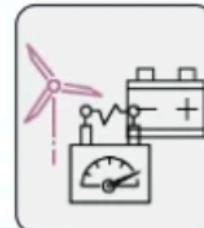
Operational excellence

- Perform operations with code
- Test response for unexpected events



Reliability

- Recover from failure
- Test recovery procedures
- Scale to increase availability



Sustainability

- Understand your impact
- Maximize utilization



AWS Certifications

FOUNDATIONAL

Knowledge-based certification for foundational understanding of AWS Cloud.

No prior experience needed.



PROFESSIONAL

Role-based certifications that validate advanced skills and knowledge required to design secure, optimized, and modernized applications and to automate processes on AWS.

2 years of prior AWS Cloud experience recommended.



ASSOCIATE

Role-based certifications that showcase your knowledge and skills on AWS and build your credibility as an AWS Cloud professional. **Prior cloud and/or strong on-premises IT experience recommended.**



SPECIALTY

Dive deeper and position yourself as a trusted advisor to your stakeholders and/or customers in these strategic areas. **Refer to the exam guides on the exam pages for recommended experience.**



THANKS FOR LISTENING