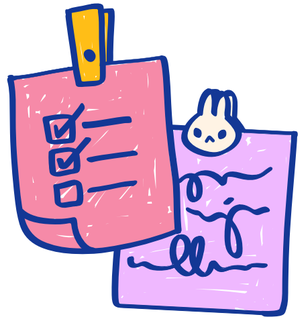
ARCHITECTING ON aws

DevKTOps

Module - 1 : Introduction

COMING UP?

- What is the Cloud? What is AWS?
- The Well-Architected Framework
- AWS Global Infrastructure
- Support Plan

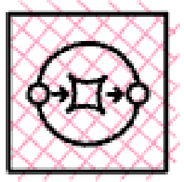


HOW AWS BECOME?

amazon

AWS Journey

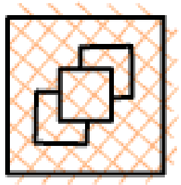
2004 November



SQS

2006 March

S3 Bucket



EC2

Amazon's Problem

Applications and architectures were build without proper planning

Services had to be separated from each other

Solution :

Tools , Well-document APIs, Standard service development

Amazon still Struggle

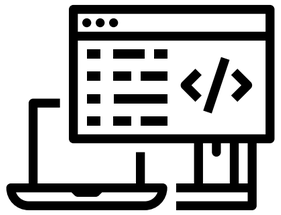
Database Compute
Storage
Took 3 months to build

No planning for scale or reusability

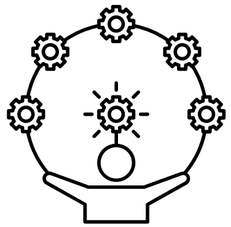
Solution:

Build Internal Services for HA, Scalable and reliable architectures

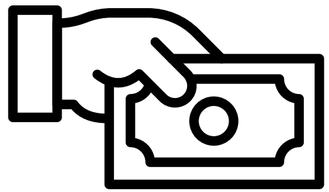
What is Cloud?



Programmable Resources



Dynamic Abilities



Pay As You Go

Six Advantages of Cloud

Expense

Scale

Capacity

Speed

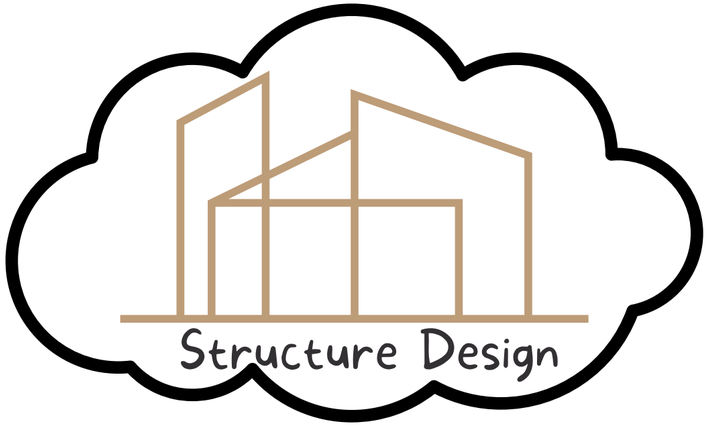
Focus

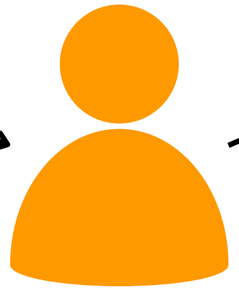
Global

Cloud Architecture

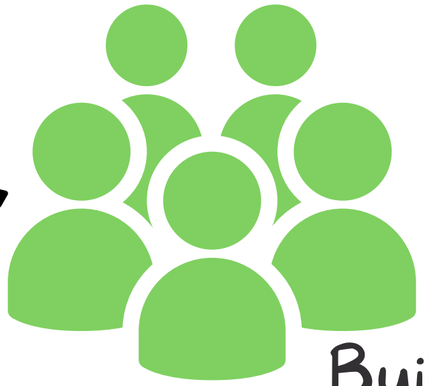
DevKTOps

Client

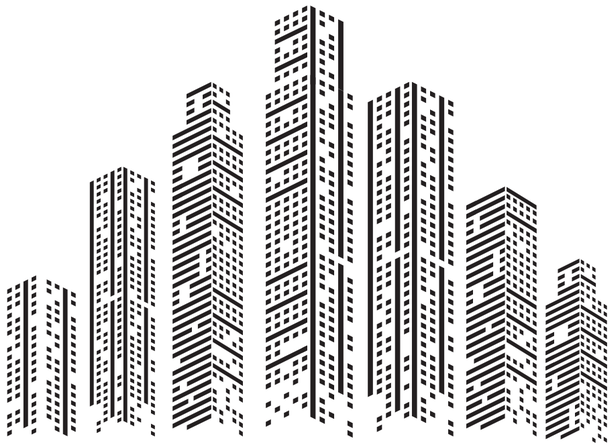




Architect



Builders



Completed

DevKTOps

AWS Well-Architected Framework

Six Pillars

Well-Architected Six Pillars

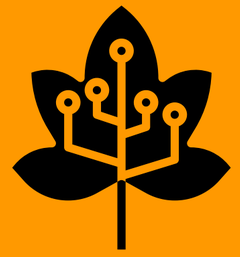
Security

Reliability

Cost Optimization

Performance Efficiency

Operational Excellence



Sustainability

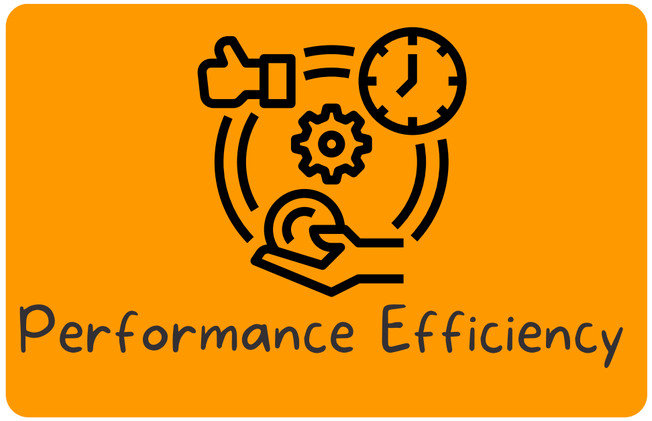
- Implement a strong identity foundation
- Enable traceability
- Apply security at all layers
- Automate security best practices
- Protect data in transit and at rest
- Keep people away from data
- Prepare for security events

DevKTOps

- Test recovery procedures
- Scale horizontally to increase aggregate workload availability
- Stop guessing capacity
- Manage change in automation

DevKTOps

- Implement cloud financial management
- Adopt a consumption model
- Measure overall efficiency
- Stop spending money on undifferentiated heavy lifting
- Analyze and attribute expenditure



- Democratize advanced technologies
- Go global in minutes
- Use serverless architectures
- Experiment more often

- Perform operations as code
- Make frequent, small, reversible changes
- Refine operations procedures frequently
- Anticipate failure
- Learn from all operational failures

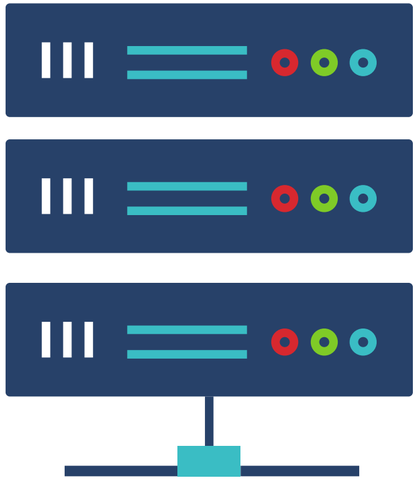
DevKTOps

- Understand your impact
- Establish sustainability goals
- Maximize utilization
- Anticipate and adopt new, more efficient hardware and software offerings
- Use managed services
- Reduce the downstream impact of your cloud workloads

AWS Global Infrastructure

AWS Data Centers

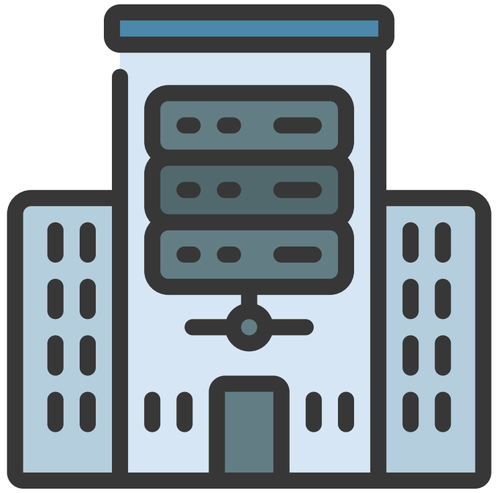
Tens of Thousands of servers



All DCs are online

AWS custom network equipment

DevKTOps



Availability Zone

- Made with one or more DCs
- Designed for fault isolation
- Using high-speed private links for interconnecting with other AZs
- Can choose your desired AZ
- Replication across AZs make resiliency
- 105 Availability Zones

Region

- Made with two or more AZs
- 33 Launched Regions Worldwide
- AWS backbone network

Local Zones

- A type of infrastructure deployment that places compute, storage, database, and other select AWS services close to large population and industry centers.

Edge Locations

Edge locations are AWS data centers designed to deliver services with the lowest latency possible. Amazon has dozens of these data centers spread across the world. They're closer to users than Regions or Availability Zones, often in major cities, so responses can be fast.

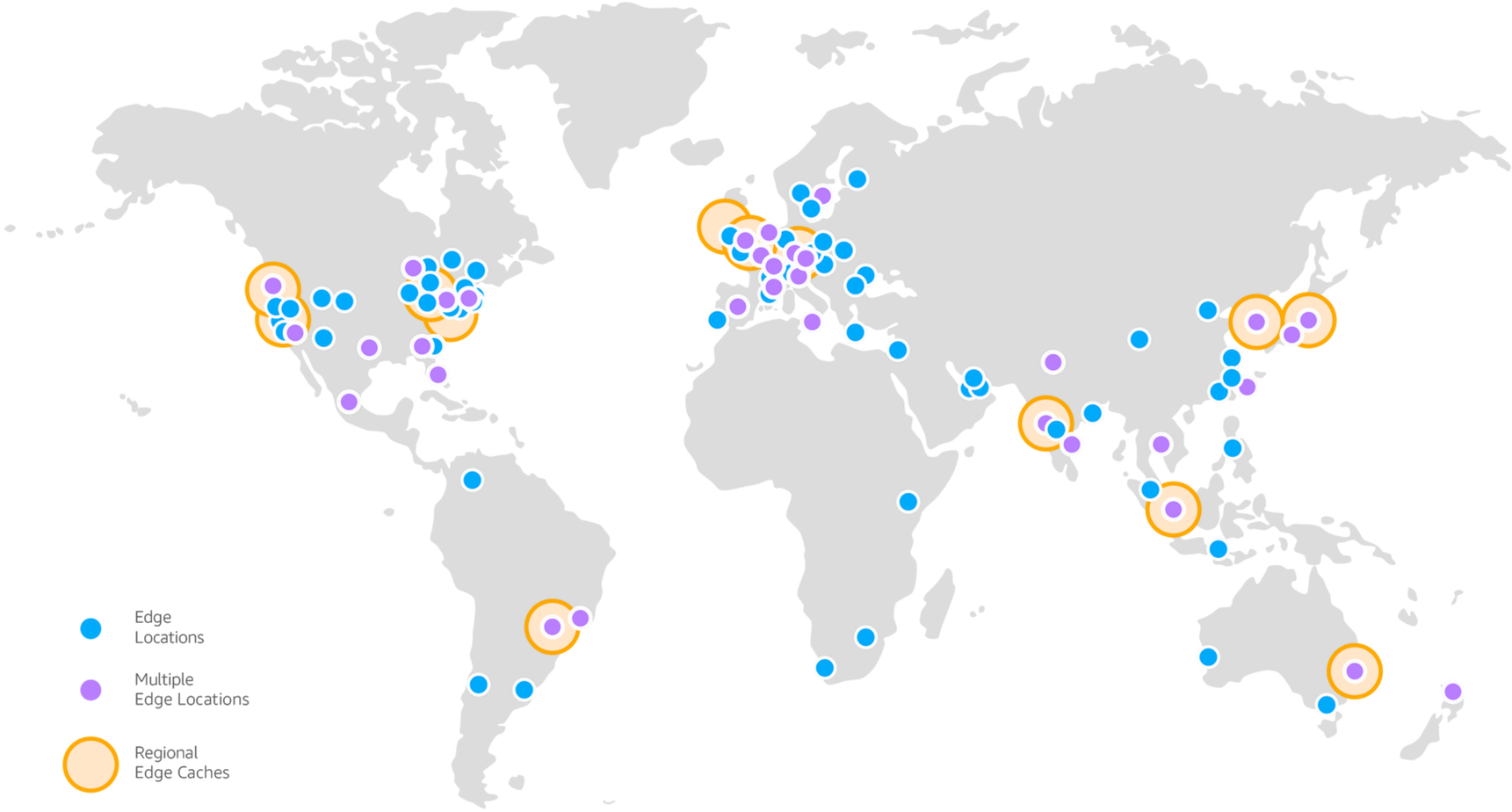
Regional Edge Caches

Regional Edge Caches are located between origin web servers and global edge locations and have a larger cache.

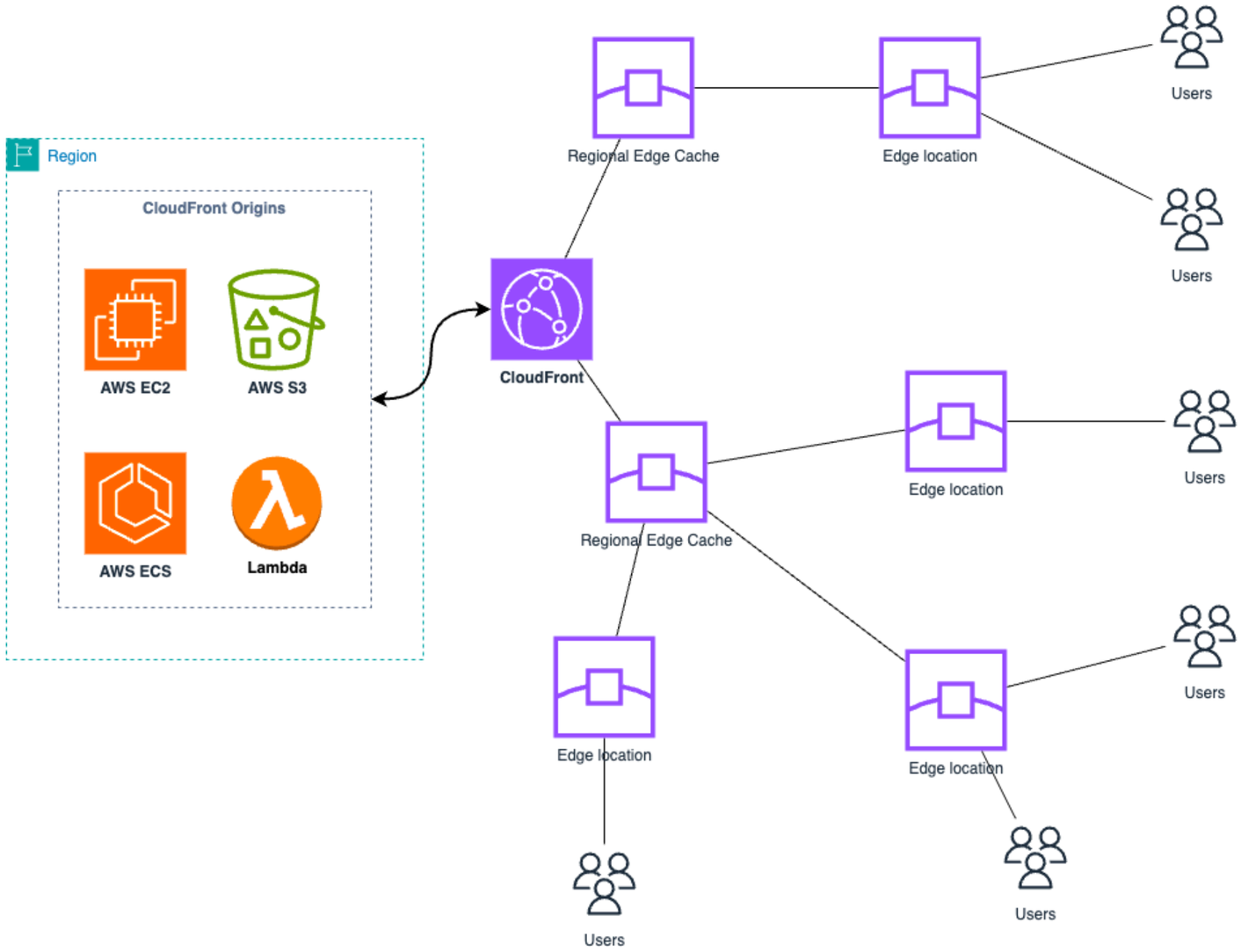
Regional Edge Caches have larger cache-width than any individual edge location, so your objects remain in cache longer at these locations.

Global Infrastructure: Regions

Global Infrastructure: Edge Locations



Regional Edge Cache and Edge Location



Support Plans

DevKTOps

	DEVELOPER	BUSINESS	ENTERPRISE ON-RAMP	ENTERPRISE
Case Severity / Response Times*	General guidance:< 24 business hours**	General guidance: < 24 hours	General guidance: < 24 hours	
	System impaired:< 12 business hours**	System impaired: < 12 hours	System impaired: < 12 hours	
		Production system impaired: < 4 hours	Production system impaired: < 4 hours	
		Production system down: < 1 hour	Production system down: < 1 hour	
			Business-critical system down: < 30 minutes	Business-critical system down: < 15 minutes

Support Plan Pricing

Basic Support Plan is included

Select a support plan

Developer	Business	Enterprise On-Ramp	Enterprise
Greater of $29.00	Greater of $100.00	Greater of $5,500.00	Greater of $15,000.00
- or -	**- or -**	**- or -**	**- or -**
3% of monthly AWS charges	10% of monthly AWS charges for the first $0--$10K	10% of monthly AWS charges	10% of monthly AWS charges for the first $0--$150K
	7% of monthly AWS charges from $10K--$80K		7% of monthly AWS charges from $150K--$500K
	5% of monthly AWS charges from $80K--$250K		5% of monthly AWS charges from $500K--$1M
	3% of monthly AWS charges over $250K		3% of monthly AWS charges over $1M
			*Add-on available for addition fee: AWS Incident Detection and Response

DevKTOps

Thank you!

Architecting on AWS : Module 1