AWS State, Local, and Education Learning Days

Phoenix, AZ

11:30am – 12:30pm

200
level

Cloud architectural patterns:

Master Cloud Architecture: Build Secure, Scalable Solutions with AWS Best Practices and Enterprise-Grade Design Strategies.

aws Learning Days
State, Local, and Education

Cloud architectural patterns:

Platform and application best practices

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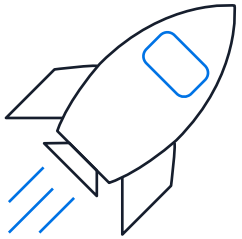
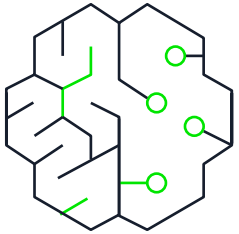
Why Cloud Architecture Matters



Build and deploy faster

Lower or mitigate risks



Make informed decisions

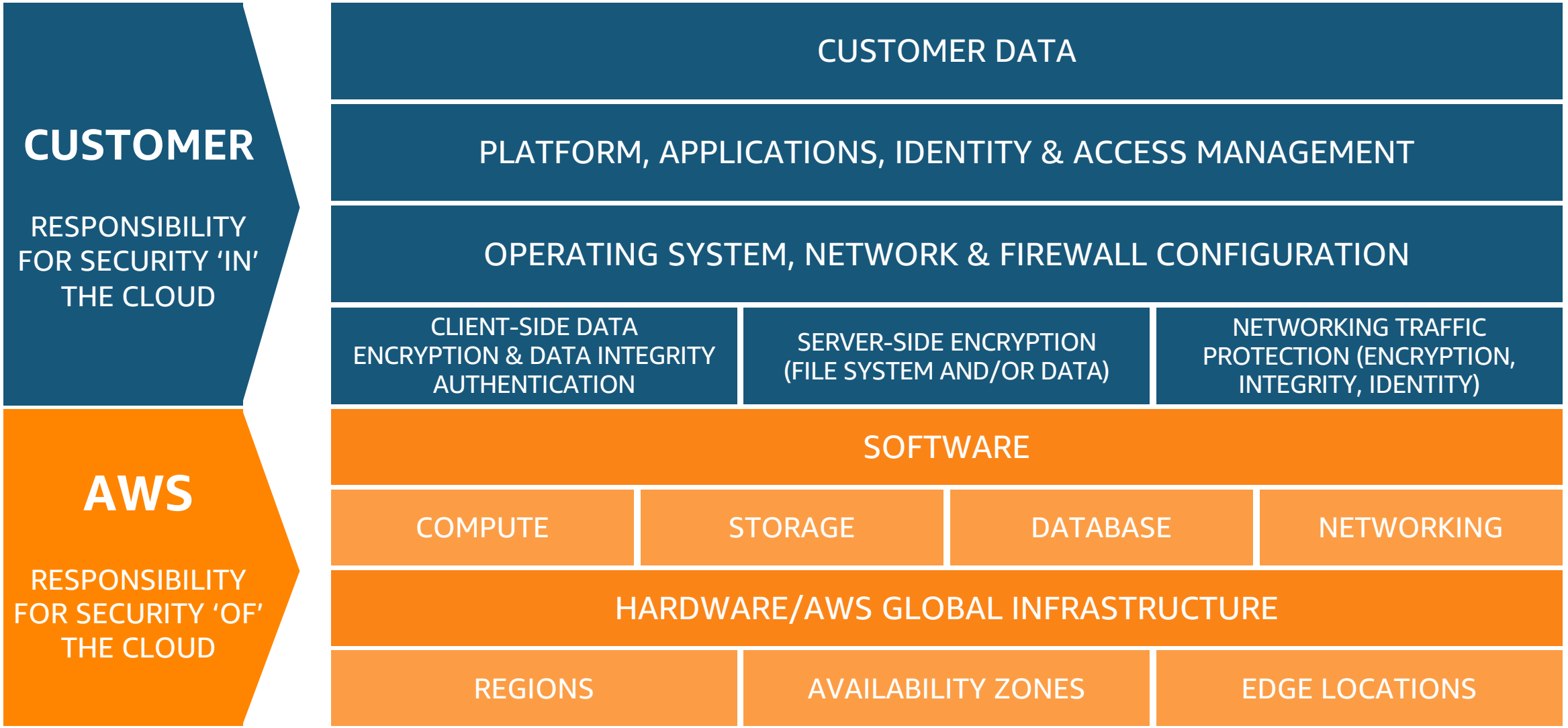
Also -

“Everything fails, all the time.”

Werner Vogels

CTO, Amazon.com

AWS Shared Responsibility Model



The Situation

Meet Bob – Our new Junior developer, and taco enthusiast.

Bob just joined the team three months ago, fresh out of college. When he's not dreaming about finding the perfect taco truck, he's eager to prove himself as a developer. His manager just gave him his first solo project: deploying a WordPress site for a major government service that's expected to go viral once citizens discover how much time it will save them.

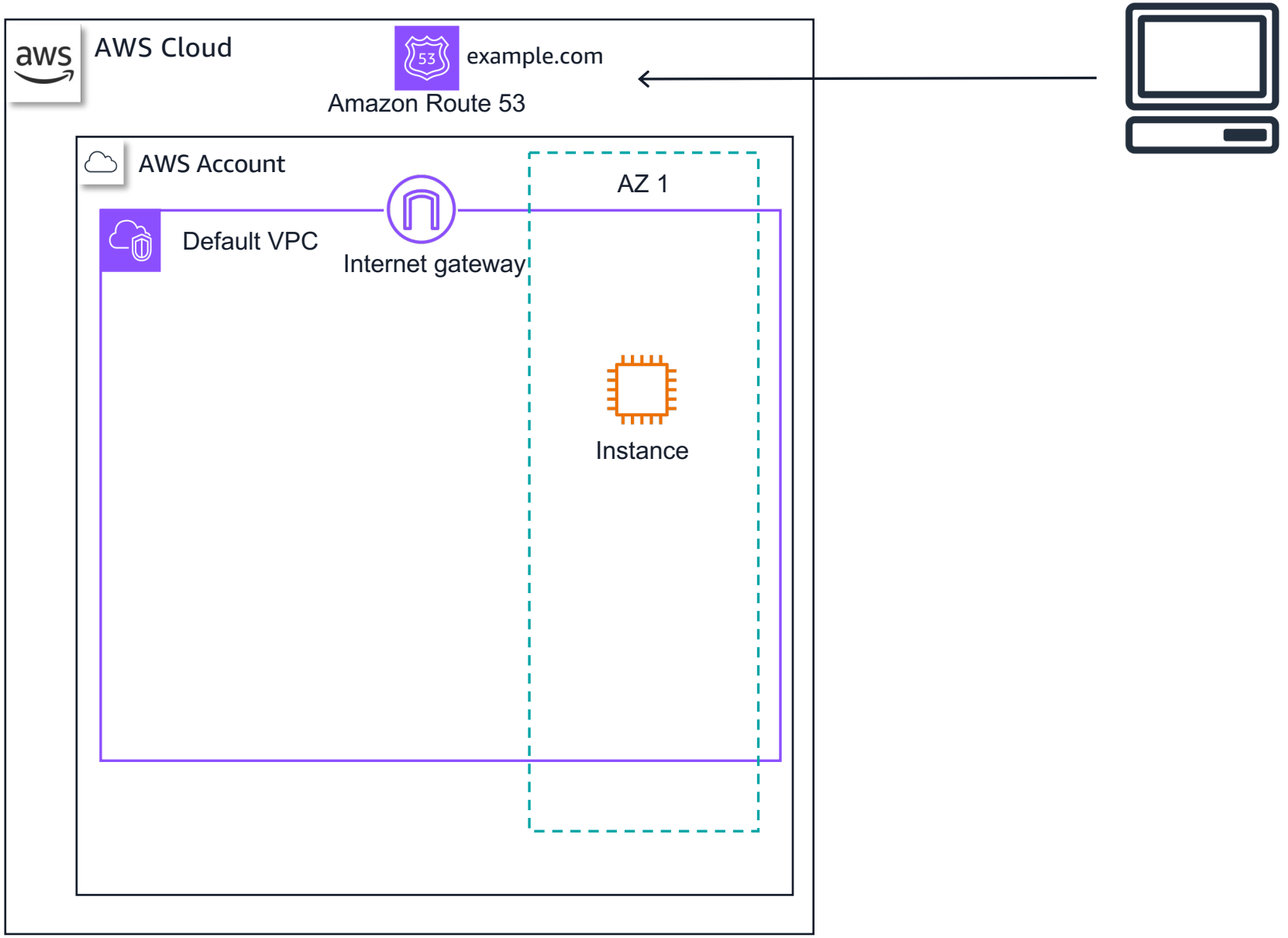
The conversation went something like this:
Manager: "Bob, can you get this WordPress site up in AWS for the client?"
Bob (confidently): "No problem! I've built WordPress sites on my laptop before!"

Bob gets to work. Here's what he did:

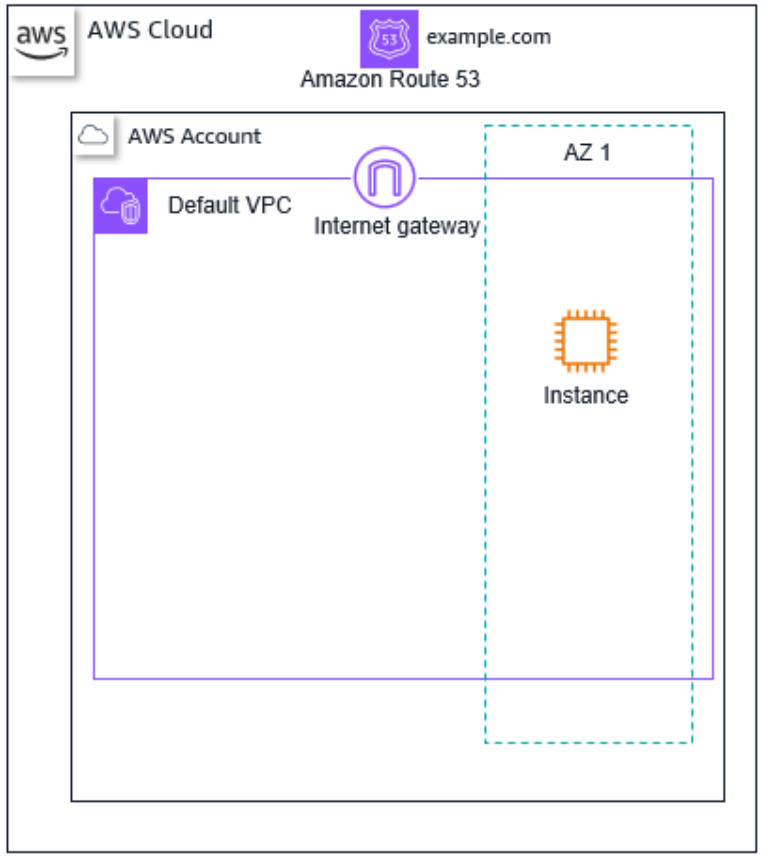
- Launched a single t2.micro EC2 instance in the default VPC
- Installed Apache, MySQL, and PHP directly on the instance
- Opened port 80 and 22 to 0.0.0.0/0 in the security group
- Proudly told his manager "It's live!" while heading out for his celebratory taco lunch

Pillars of the AWS well-architected framework

Bob’s Architecture



Bob’s Bad Day

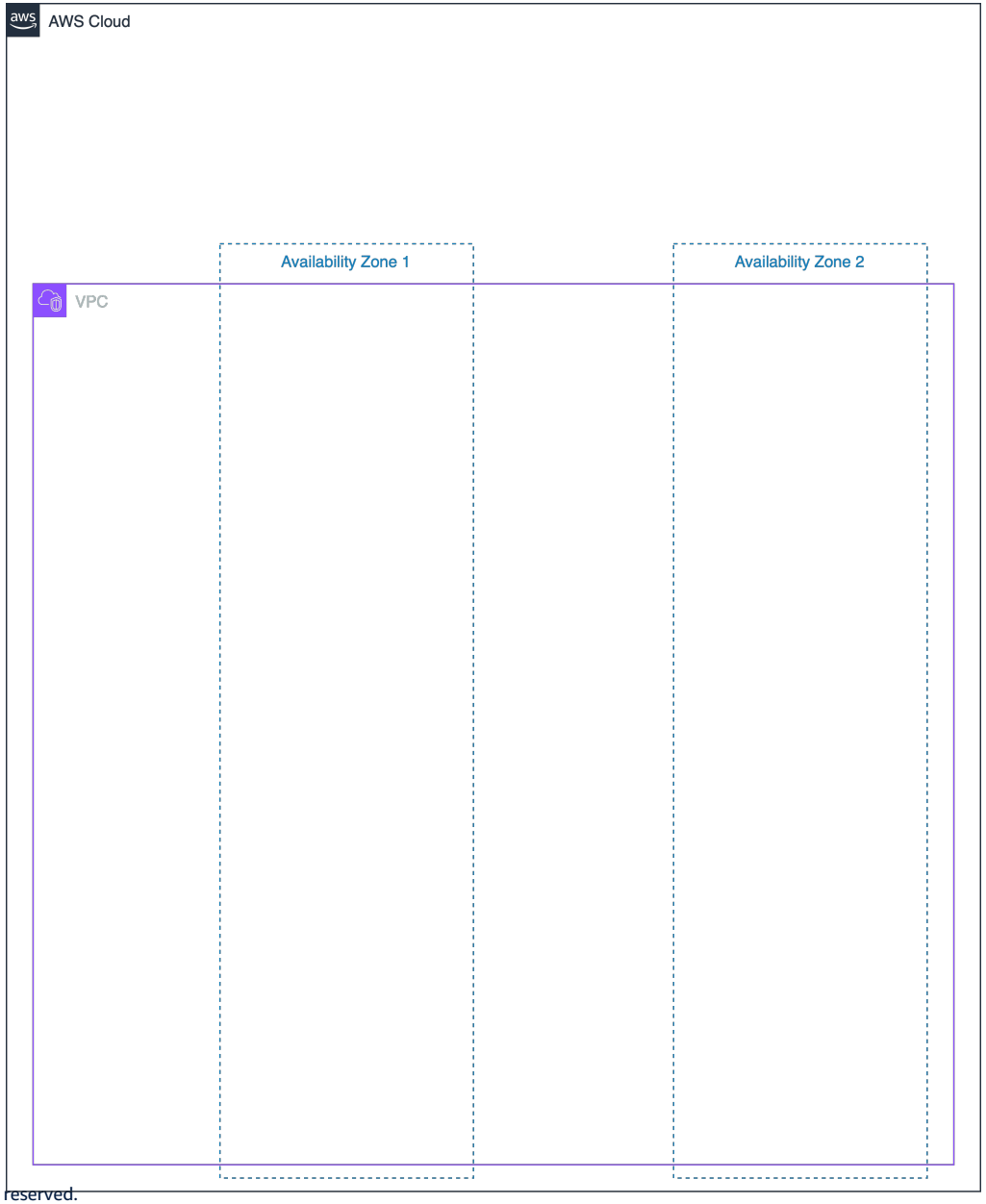


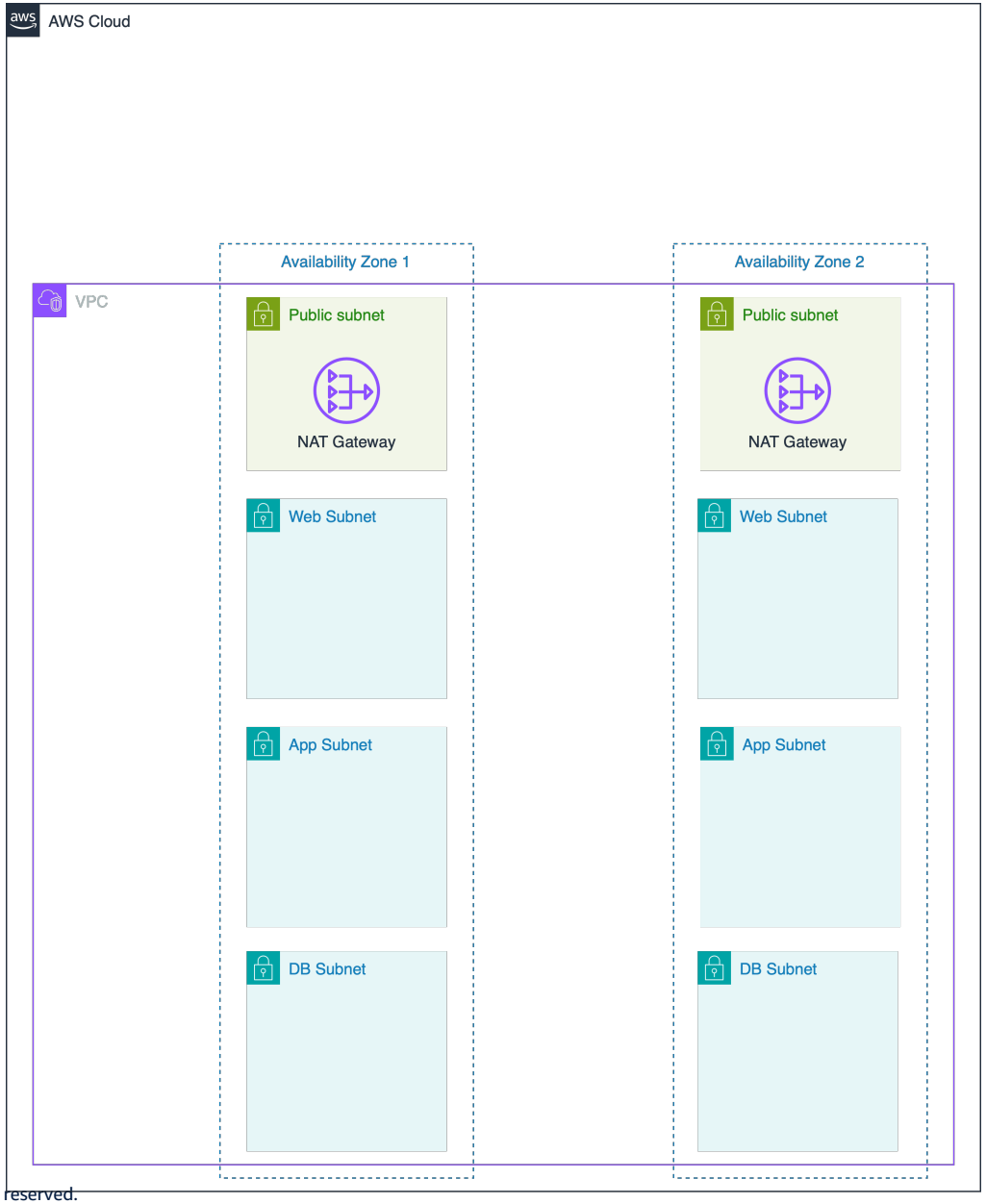
Security

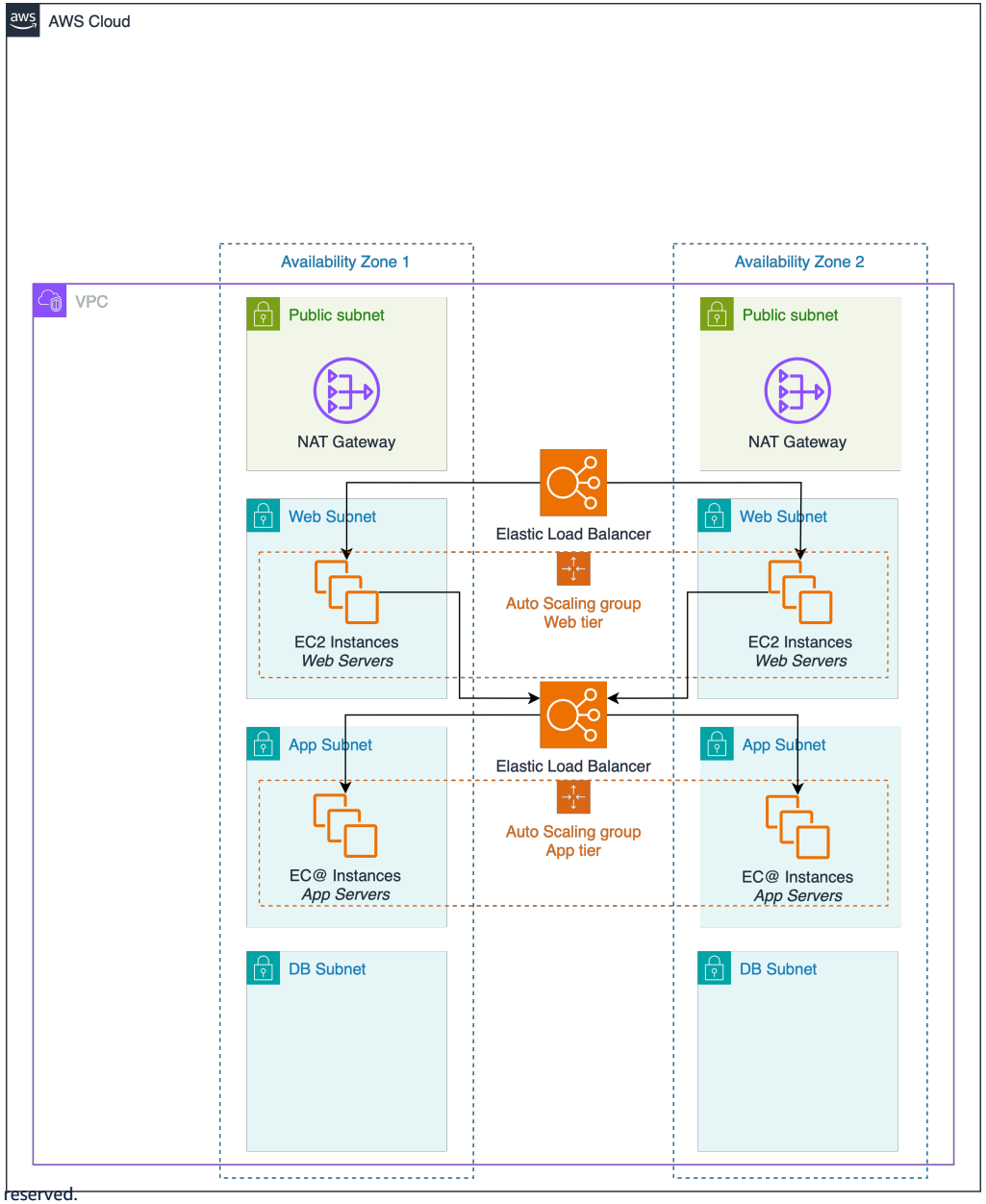
Reliability

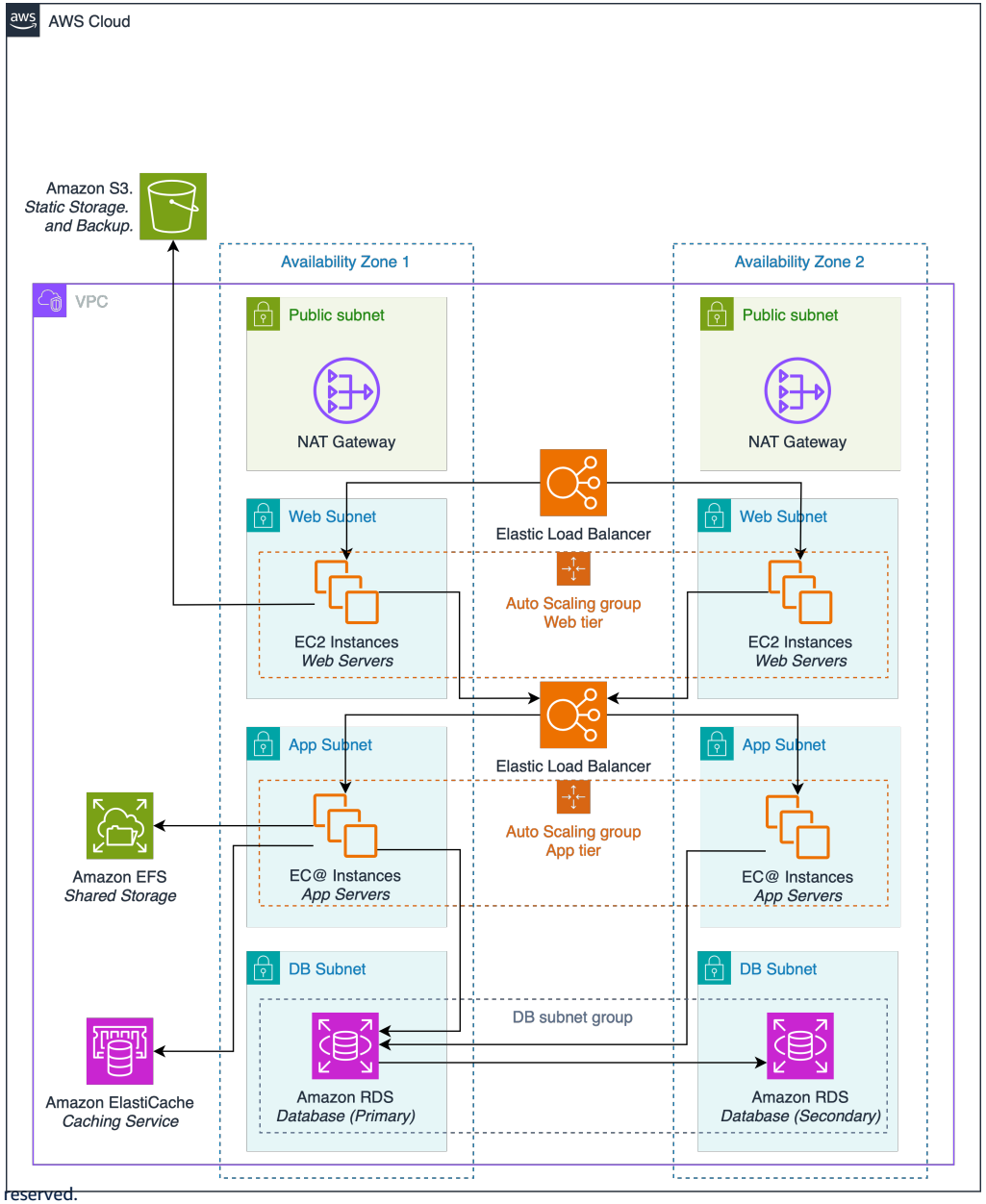
Operational Excellence

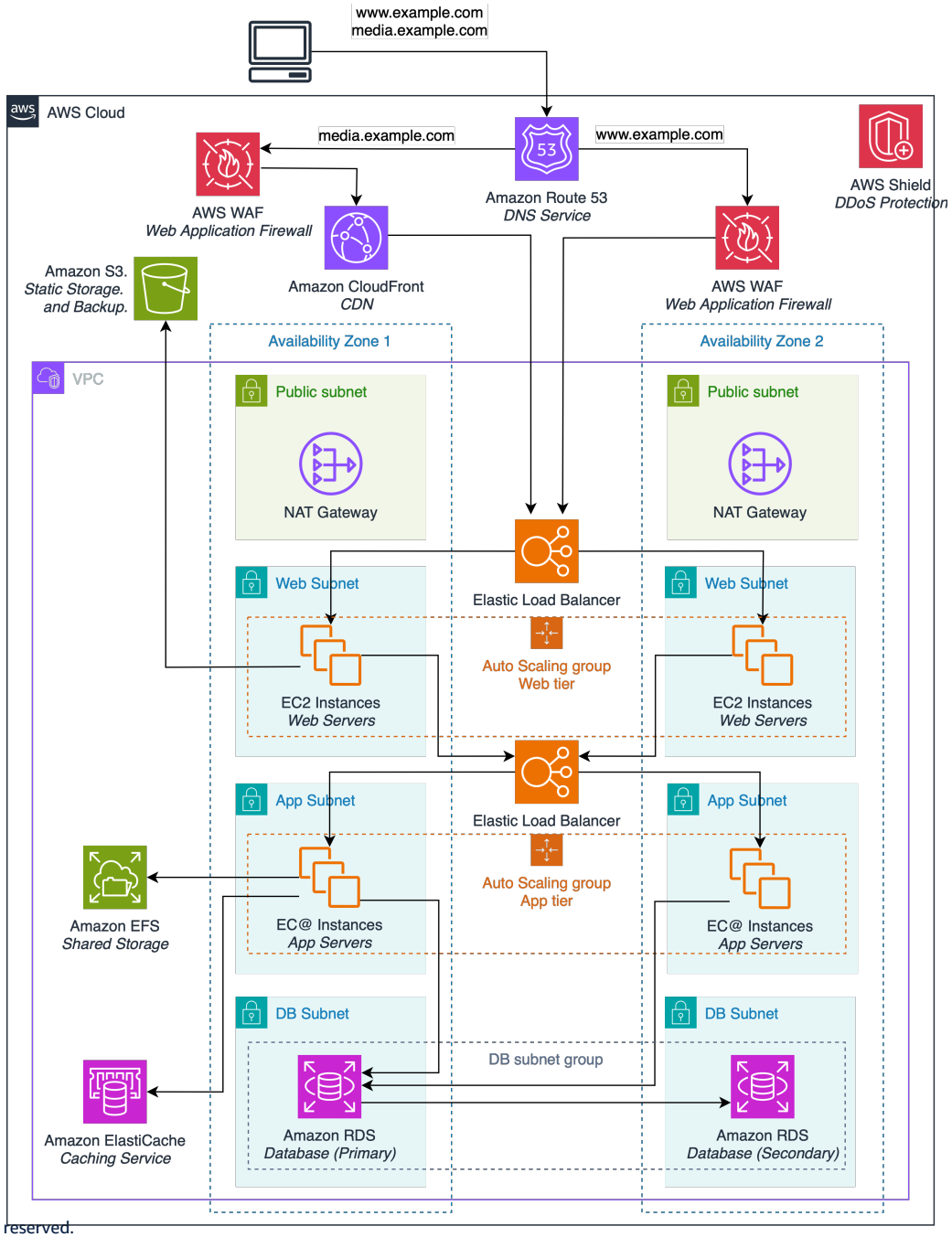
Performance Efficiency / Cost Optimization







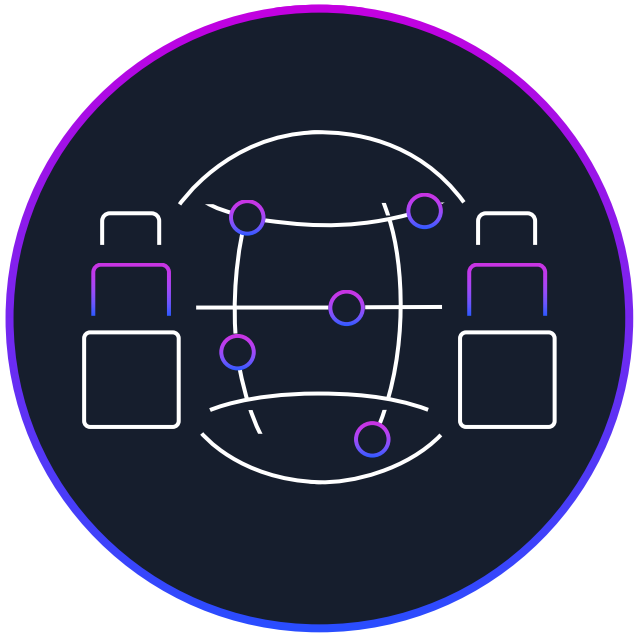




Security – Top design principles

- Implement a strong identity foundation
- Maintain 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

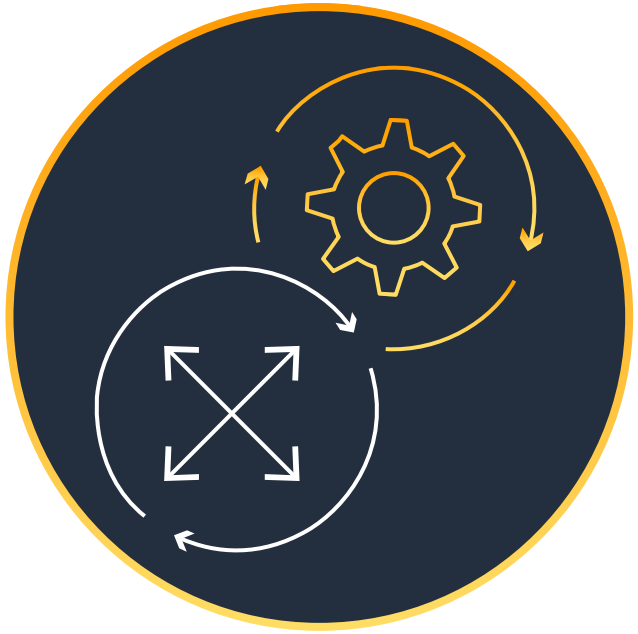
Reliability – Top design principles



- Automatically recover from failure
- Test recovery procedures
- Scale horizontally to increase aggregate workload availability
- Stop guessing capacity
- Manage change through automation

Operational Excellence

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

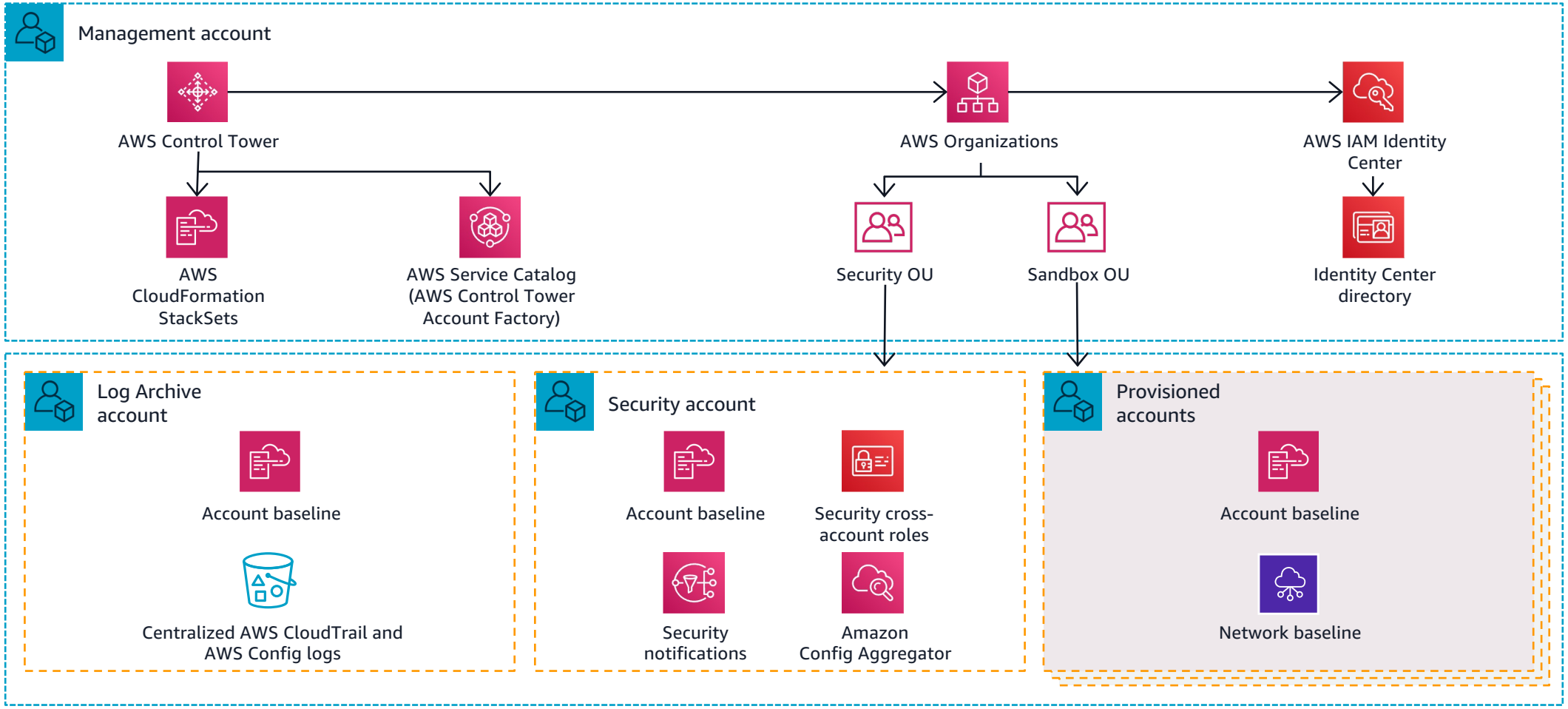


Performance efficiency & cost optimization

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

…but how do you scale this?

Scaling beyond one application with landing zone foundation of AWS Control Tower



Thank you!

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Please complete the survey for this session

Track: Cloud Fundamental

Session: Cloud architectural patterns: Platform and application best practices

Coming up NEXT

(after lunch)
1:30pm – 3:00pm

300 level

Cloud Lab Potpourri

Hands-On Cloud Adventure: Customize Your AWS Learning with Interactive Technical Workshops

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