Amazon Cloud Services Overview

CHAPTER 1

Cloud Computing Defined

AWS (Amazon Web Services)

- Cloud Computing Defined
- Benefits of Cloud Computing
- Cloud Computing Models
- AWS History
- AWS Platform
- AWS Products Overview
- AWS Security and Compliance
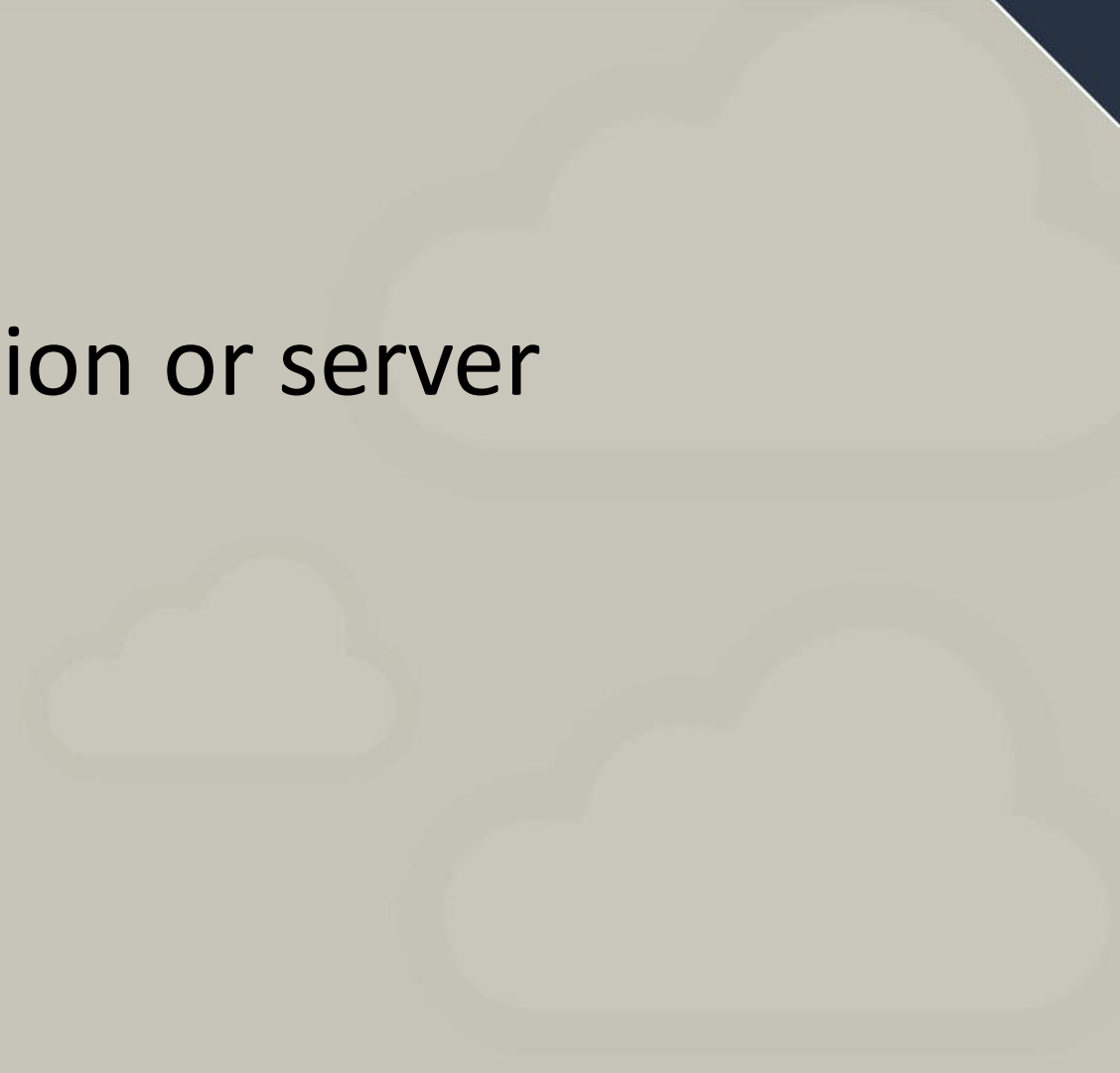- Regions and Availability

AWS Benefits

- Reduced:
  - Hardware cost
  - Operational cost
  - Deployment cost

- Increased:
  - Resiliency
  - Performance
  - Capacity

The Cloud

- Internet-based solution
- Operates on servers
- Limited knowledge of location or server hardware capabilities

Origins of the Cloud

- Engineers used a cloud icon to represent networks they didn't manage

- The cloud indicated, "We're connected to it, but we don't manage it or care about the details of how it works."

Cloud Examples

- Dropbox
- Google
- Microsoft Azure
- Amazon Web Services

Benefits of Cloud Computing

AWS Benefits

- Reduced:
  - Hardware cost
  - Operational cost
  - Deployment cost

- Increased:
  - Resiliency
  - Performance
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Cloud Computing Models

Full Cloud Deployment

- All components in the cloud
  - Database
  - Processing
  - Storage
  - Application logic
- Nothing on premises

Hybrid Deployment

- Some resources are internal, others are in the cloud
  - Processing
  - Databases
  - Storage
  - Application logic
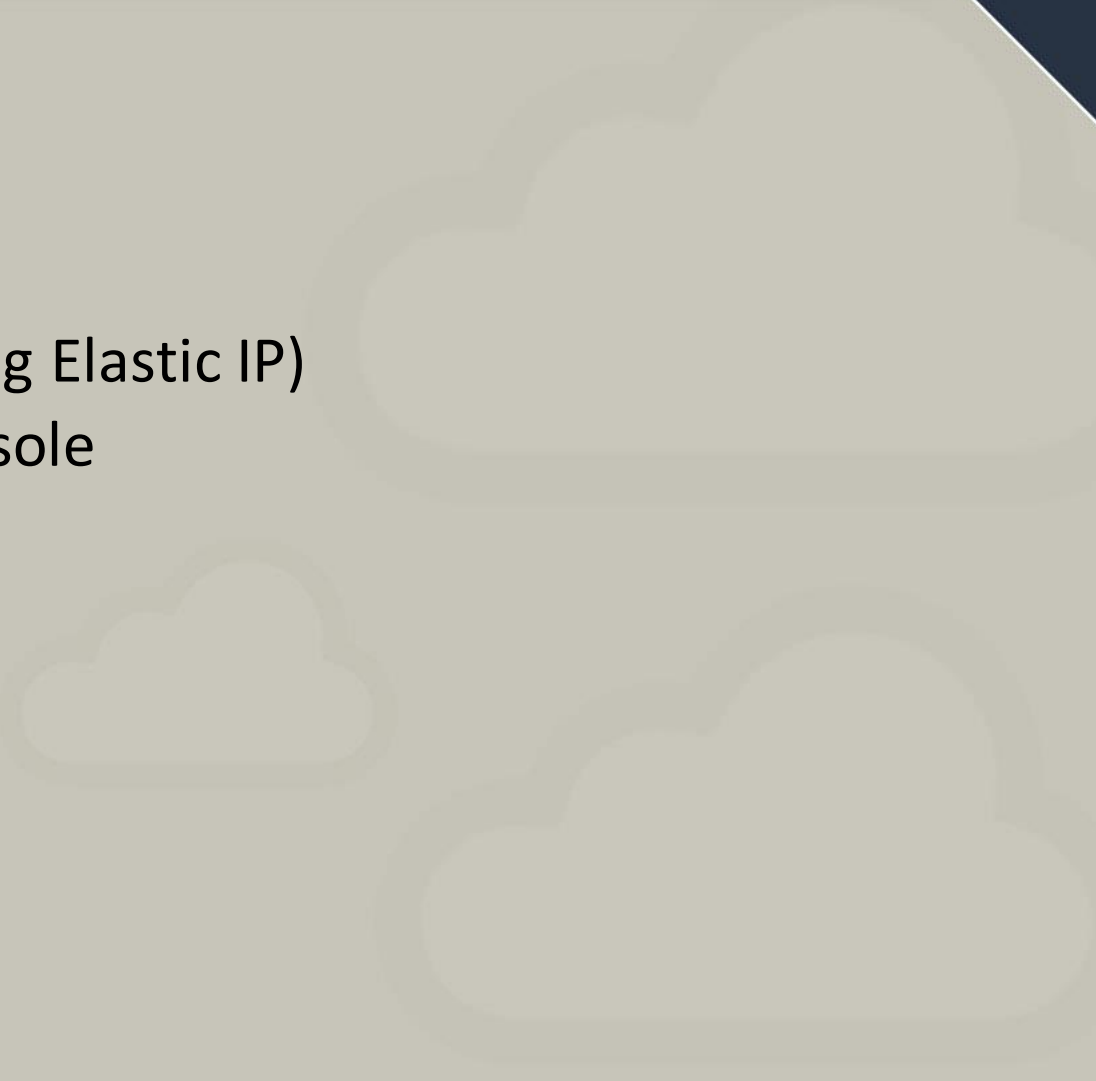
Cloud Service Models

- Infrastructure as a Service (IaaS)
  - Entire infrastructure in the cloud
  - Platforms and software run on others' infrastructure
  - You must manage it all

- Platform as a Service (PaaS)
  - You don't manage the infrastructure
  - Applications are deployed on platforms

- Software as a Service (SaaS)
  - Someone else develops the software
  - You use it from the cloud

AWS History

AWS History

- Launched in 2006 as we know it today
  - Included three services: S3, SQS and EC2
- SQS launched as a single service in 2004
- Simple DB launched in 2007
- More than 10 new services in 2008 (including Elastic IP)
- 2009 introduced the AWS management console
- 2010 gave us Route 53
- 2011 ElastiCache was introduced
- Dynamo DB was introduced in 2012
- AWS certifications launched in 2013
- 2014 added Redshift (SSD-based storage)
- Amazon QuickSight launched in 2015
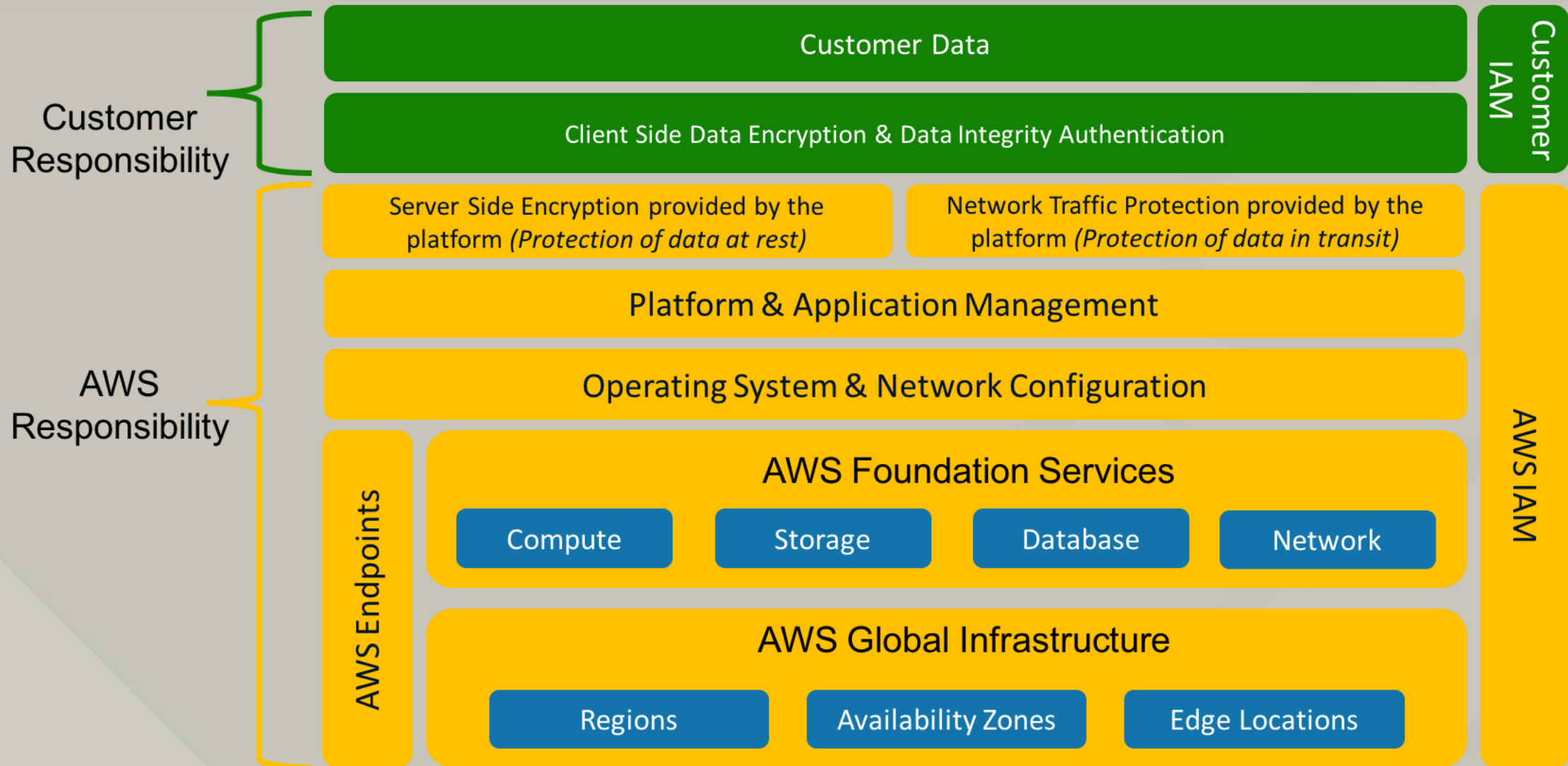
AWS Platform

Services, Part 1

DEMO

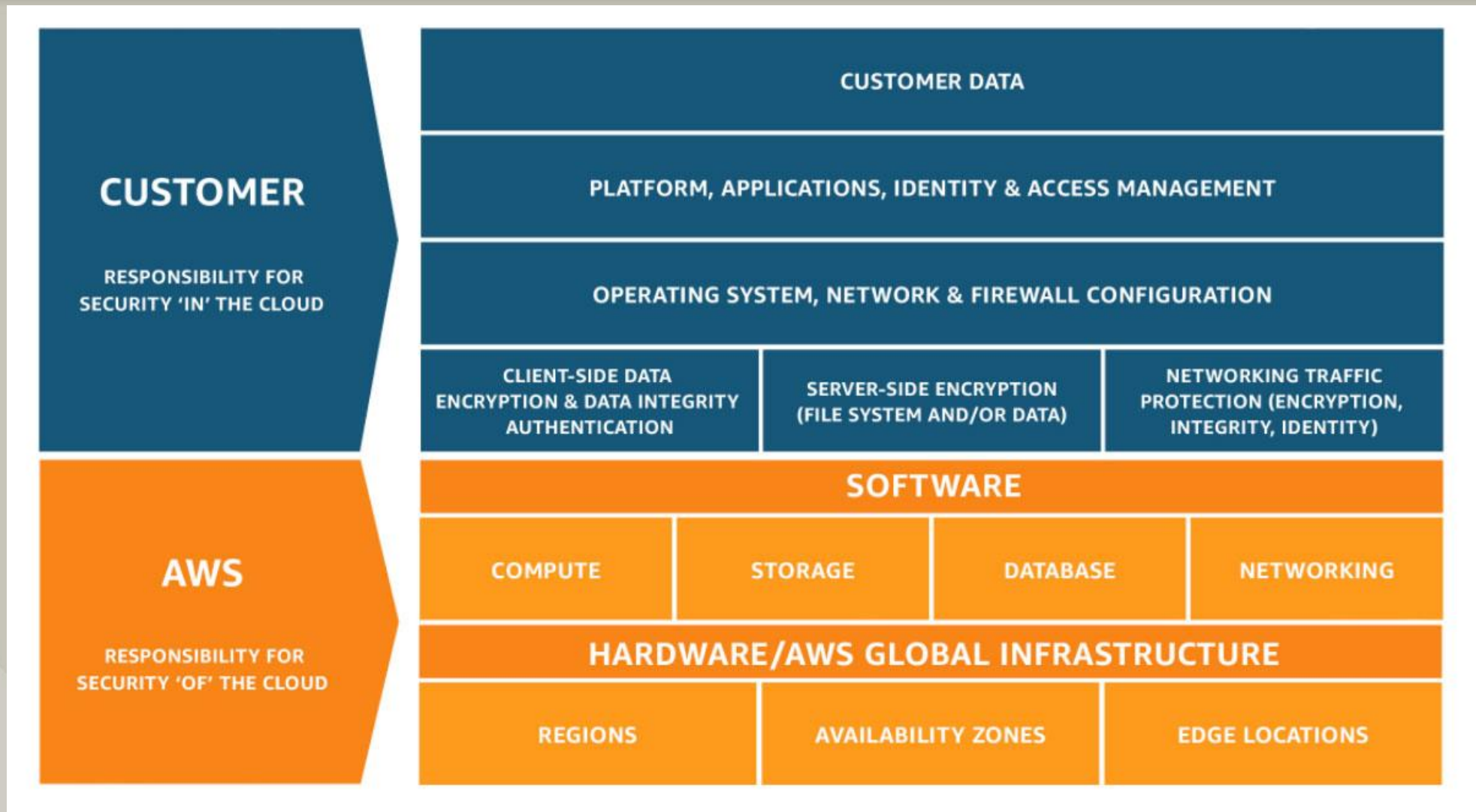- Explain services by browsing through them in AWS

Services, Part 2

AWS Security and Compliance

Security and Compliance

Shared Responsibility Model

Regions and Availability

Regions and Availability Zones

- Region
  - Physical location or boundary with AWS data centers

- Availability Zone
  - 1-6 data centers
  - Redundant power and networking
  - Multiple availability zones are within regions

DEMO

- https://aws.amazon.com/about-aws/global-infrastructure