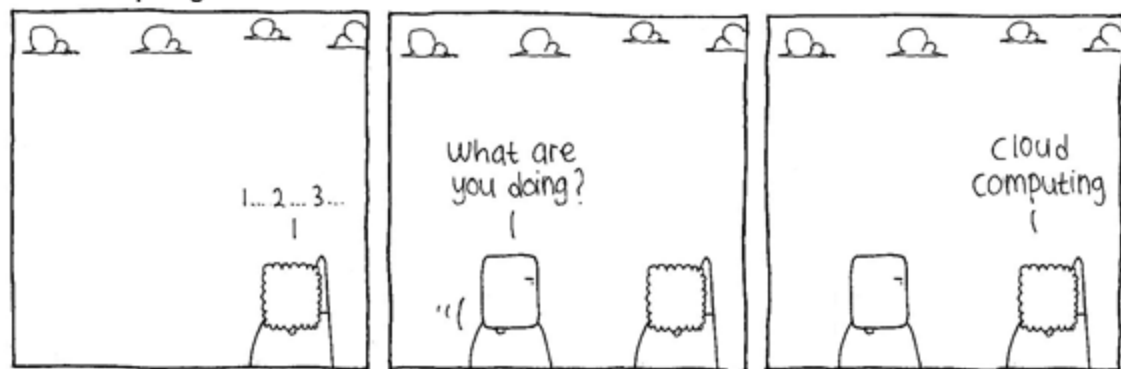




amazon
web services™

A Primer on Cloud Computing

Cloud Computing



LOCOMOSTRIP.COM

First, some terms

- **SaaS:** Software as a Service
- **PaaS:** Platform as a Service
- **IaaS:** Infrastructure as a Service

Software as a Service

SaaS is a software delivery and licensing model based on the idea that clients access and use software using a web browser or other thin client through the internet. A recurring fee is usually charged to access the software.

Examples: Gmail, Intuit Quickbooks, Salesforce, LucidChart, Google Apps

Pros: No additional hardware costs, scalable usage, effortless updates, cross device compatibility, accessible from any location

Cons: External control of data, recurring fees, risk of vendor going bankrupt or discontinuing service

Platform as a Service

PaaS is a category of cloud computing services that provide a **Platform** for allowing customers to develop, deploy, and use web applications. They act as an abstraction layer on top of infrastructure.

Examples: Heroku, Google App Engine, Apache Stratos

Pros: Automates deployment and scaling, faster time to market, lower initial costs

Cons: Less customizable than working directly with infrastructure, adds a middleman

Infrastructure as a Service

IaaS provides access to physical and virtual machines for performing any general computing tasks. Other services may be offered for databases, data processing, graphics, messaging, and other more specialized uses.

Examples: Amazon Web Services, Microsoft Azure, Rackspace, Google Compute Engine

Pros: Completely scalable, fine grained control, lowest cost for raw compute

Cons: Can be difficult to control costs and inventory, requires training, interoperability issues between providers

Why the Cloud?

- No capital expenditure
- Pay as you go, and only for what you use
- Completely elastic; Scale up and down easily
- Improves time to market
- Protection against disaster
- Focus on product engineering, not infrastructure

Amazon Web Services

- AWS is the largest provider in the IaaS market
- Goal: To allow developers to focus more on their business rather than managing their own cloud infrastructure.
- Launched in 2006, now serves over a million active customers

Core Services



Elastic Compute Cloud (EC2): Scalable virtual private servers



Simple Storage Service (S3): Web-based storage



Relational Database Service (RDS): Scalable database servers

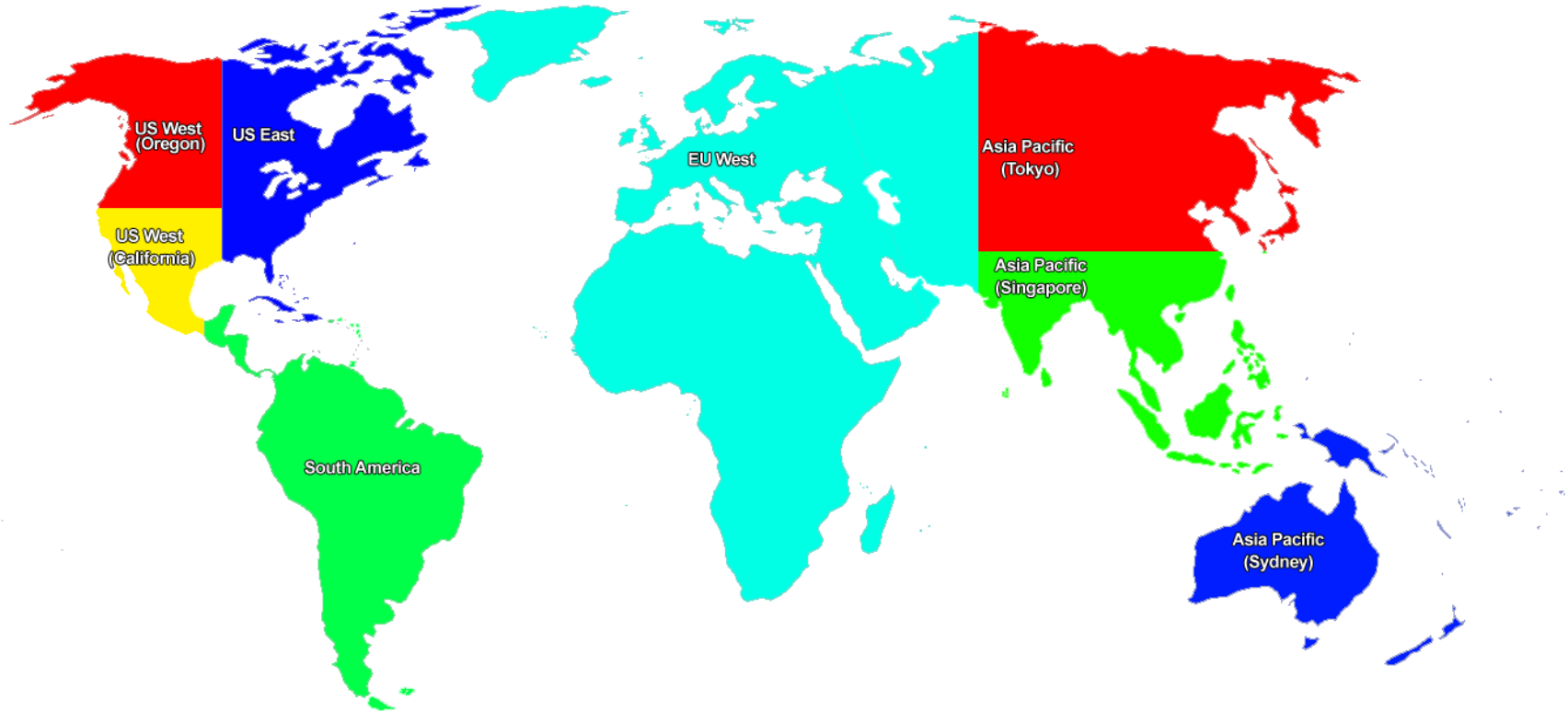


Simple Notification Service (SNS): Multi-protocol push messaging



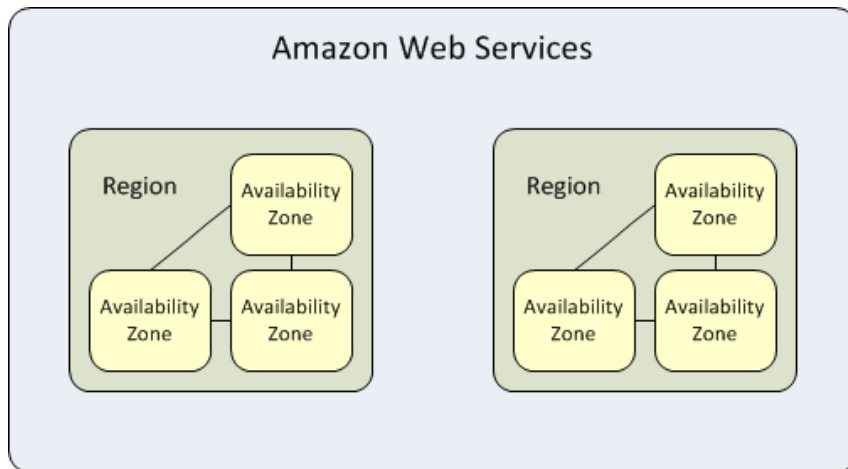
Identity and Access Management (IAM): Authentication and access control for other services

Regions and Availability Zones



Regions and Availability Zones

- Non-geographical zones: GovCloud, CIA Cloud (Airgapped)\
- Load balancing between regions and AZs



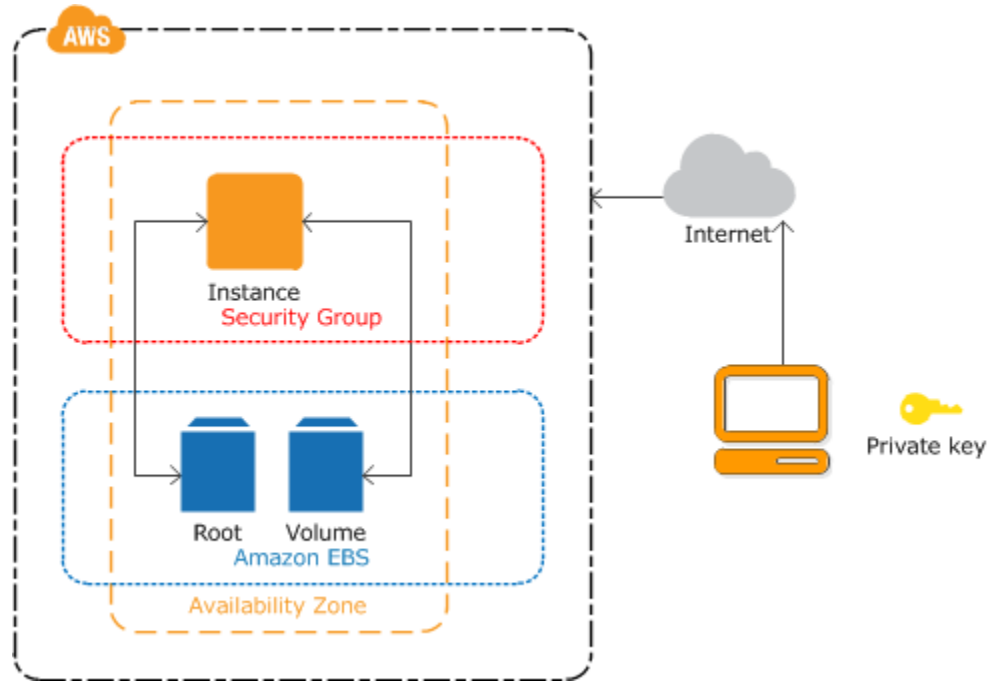
Elastic Compute Cloud

AMAZON EC2



[AWS.AMAZON.COM/EC2](https://aws.amazon.com/ec2)

Elastic Compute Cloud



The slide features a decorative header with a blue sky and white clouds. The title 'AWS Dashboard Demo' is centered in a blue font. A solid blue horizontal bar is at the bottom.

AWS Dashboard Demo

Questions/Comments?



EC2 Activity

- Get in a group with someone who has or is willing to create an AWS account.
- Credit card is required to sign up (but this activity shouldn't cost you anything)
- Instructions on course website

aws.amazon.com