Benefits of Cloud Computing

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Why AWS?

AWS sales grew 49% year over year

#1 in market share

Over million active users in 190 countries

High Paying Jobs

Interacting with AWS Services

AWS provides multiple mechanism to interact with the services:

- AWS Management Console – Web based user interface
- AWS Command Line Interface (CLI)
- AWS SDK – Invoke services from a variety of programming languages

All these use underlying service specific RESTful APIs

Six Advantages of Cloud Computing

1. Trade Capital Expense for Variable Expense

- Traditional on premise datacenters require upfront heavy capital investment
- With cloud, you pay only when you consume resources and pay only for how much you consume
- Detailed Billing Reports - Helps you optimize your costs

Six Advantages of Cloud Computing

2. Benefit from Massive Economies of Scale

- Shared infrastructure used by hundreds of thousands of customers
- Lower pay-as-go prices
- Lower variable cost with cloud computing than traditional on premise data centers

Six Advantages of Cloud Computing

3. Stop Guessing about Capacity

- Eliminate guessing on your infrastructure capacity needs
- Capacity decision prior to deploying an application often results in overcapacity with idle resources or under capacity with constrained resources
- With Cloud, you can scale up or down with only a few minutes notice

Six Advantages of Cloud Computing

4. Increase Speed and Agility

- In cloud, new resources are only a click away
- Developers can get resources in minutes instead of waiting for weeks
- Cost to experiment and develop is significantly lower
- Hourly pricing model – try new products at very low cost

Six Advantages of Cloud Computing

5. Stop spending money running and maintaining data centers

- Avoid undifferentiated heavy lifting
- Focus on projects that differentiate your business, not infrastructure

Six Advantages of Cloud Computing

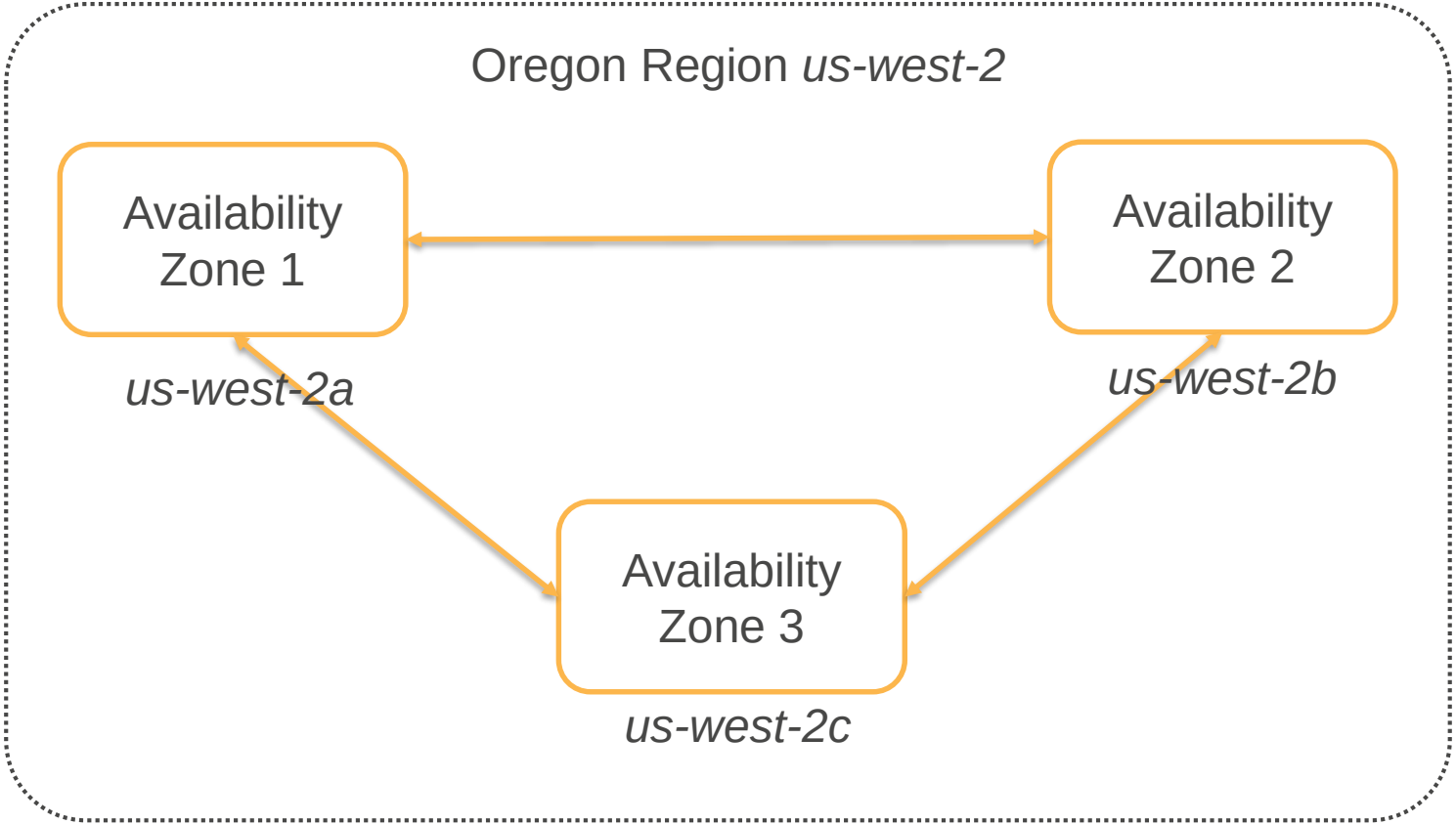
6. Go Global in Minutes

- Easily deploy application in multiple regions around the world
- Keep resources near the customer for lower latency and compliance requirements
- Better end user experience at minimal cost

AWS Global Infrastructure

- Geographic Regions
- Regions
- Availability Zones
- Global network of Edge Locations
- Steadily expanding

Region and Availability Zone



Region

- Named set of resources (N. Virginia, Oregon, Ireland, Sao Paulo and so forth)
- Completely independent and isolated from other regions
- Achieve greatest possible fault tolerance and stability
- Launch Resources in AWS region of choice
- Services offered varies by region
- Identified by region code. Example: Oregon region code is *us-west-2*

Region - Exceptions

- AWS GovCloud – Restricted to US Government agencies and organizations in government regulated industries
- AWS China – limited to China Based and Multinational companies with customers in China
- Requires separate account and process

Availability Zones

- Availability Zone is equivalent to a data center
- Two or more availability zones per region – usually three
- Isolated and Physically separated within a typical metropolitan region
- Low latency link connection between Availability Zones within a region

Availability Zone

- Located in lower risk flood plains
- UPS and backup generators onsite
- Fed via different electricity grids from independent utilities
- Multiple redundant tier-1 transit providers

Availability Zone

- Identified by region code followed by a letter. Oregon: *us-west-2a*, *us-west-2b*, *us-west-2c*
- AWS Identifier name to Availability Zone mapping is different for each account – to ensure resources are distributed
- New customers may not see all availability zones – due to capacity constraints
- Existing customers may not be able to launch New resources - if there is a capacity constraint