AWS vs AZURE: Which Is Right For You?

Mike Czerniak
Data Center and Cloud Practice Leader

Mindsight℠
Technology. Transparency. Trust.

Agenda

- Introduction
- AWS and Azure History
- Services Comparisons
- Which is Right for You
- Closing

Introduction

What to Expect in This Session

- Review where public cloud has been to understand where we are today
- Share my unique definition of public cloud
- Provide technical comparison of services and terms
- Discuss Cloud Assessment

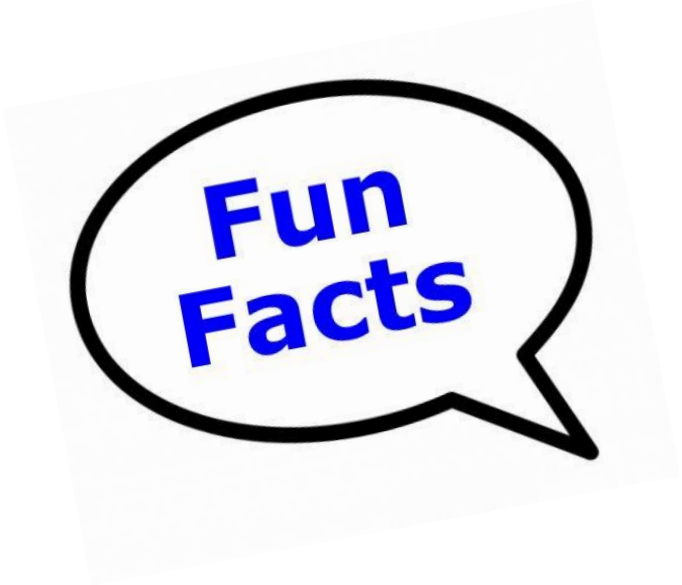
My Background

- Joined Mindsight 5 years ago
- Cloud Practice Leader
- Performed numerous cloud migrations
- Focused on assisting customers with their cloud strategy
- Amazon and Microsoft Certified Architect and Engineer
- Offering *Cloud before Cloud*
  - *Both SaaS and IaaS offerings*

AWS and Azure - Past and Present

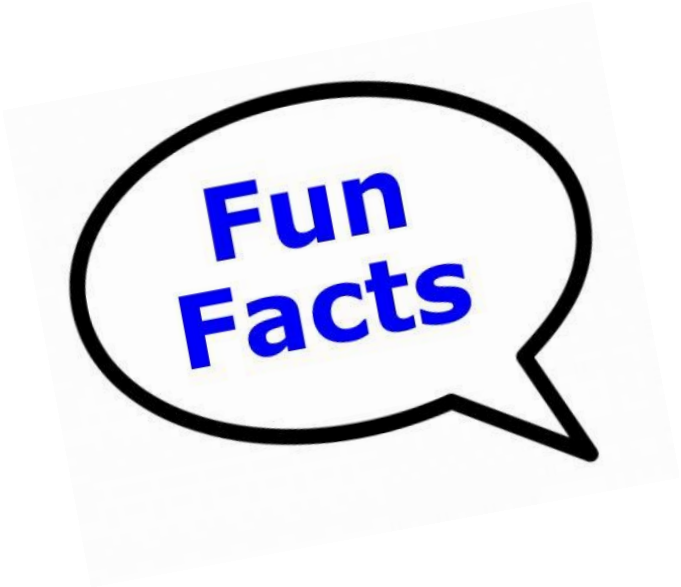
AWS History

- Started in beta in 2002 and publicly launched in 2006
- Many of the popular services use AWS such as Netflix, Reddit, Fortnite, Dropbox and many, many more
- 80 features launched in 2011; over 700 in 2015
- Over $25 billion in revenue last year
- Largest consumer of Microsoft licenses

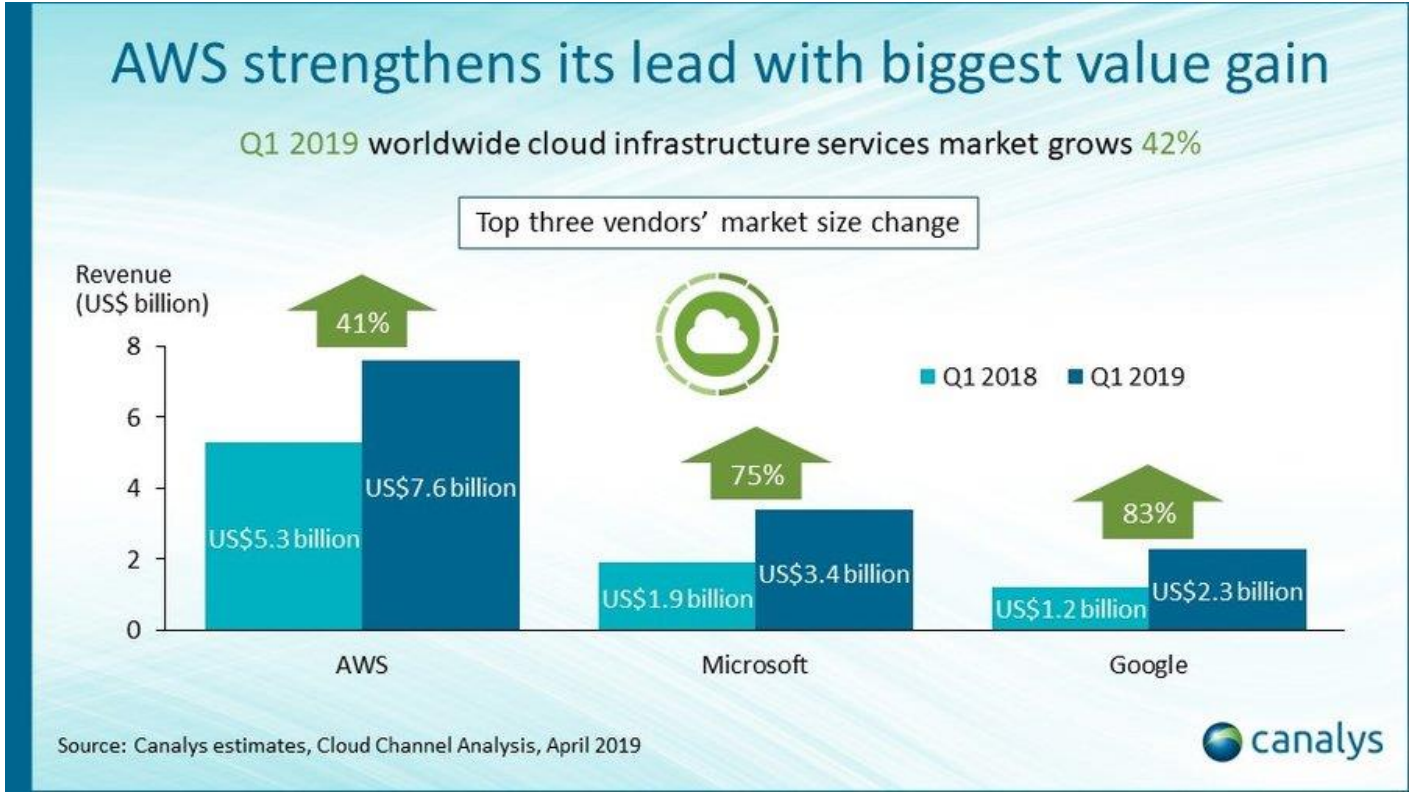


Azure History

- Publicly available in February 2010
- Originally resisted the open source community but changed positions
- Prevalent in the enterprise
- Used to be called Windows Azure and now Microsoft Azure



Current Revenue Comparison



Public cloud has morphed from Infrastructure as a Service to something much larger.....
a Cloud OS

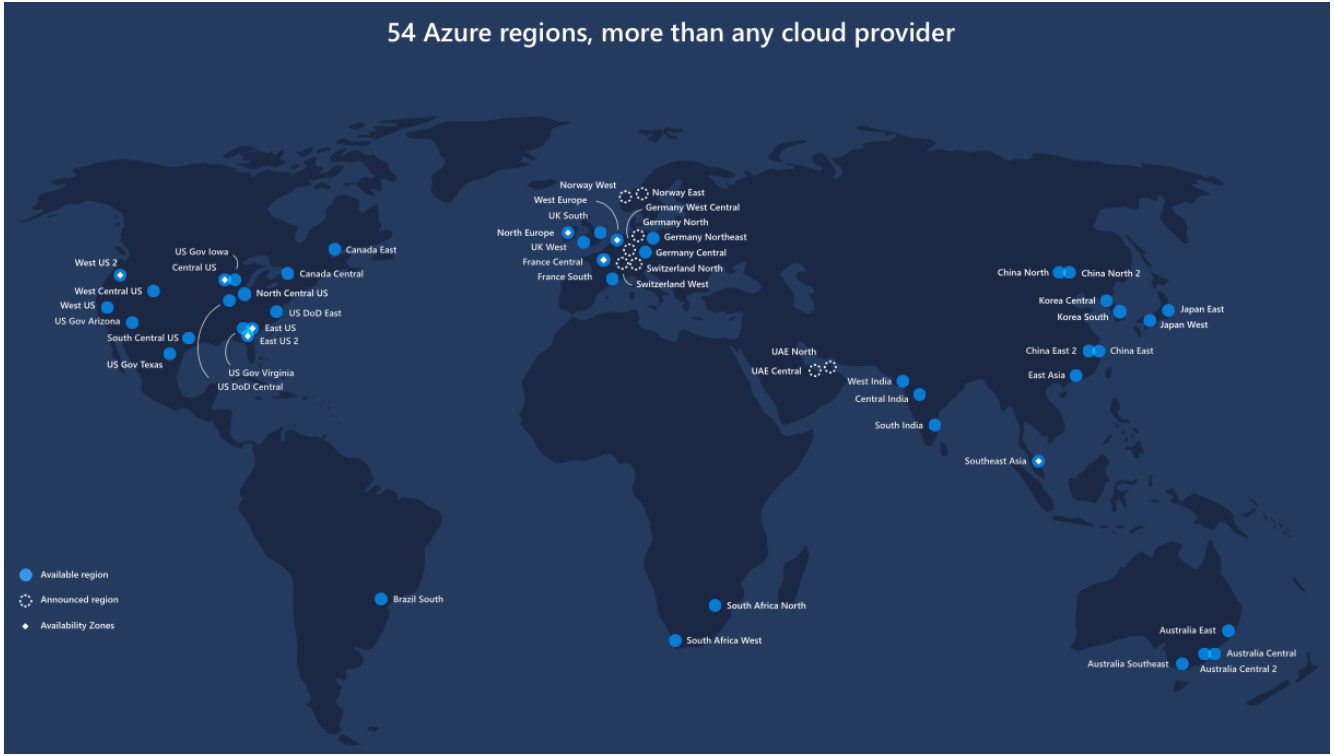
Services Comparisons

Regions / Availability Zones

- **AWS – 21 Regions I 64 AZs**
- **Azure – Geographies I 54 Regions I 100+ AZs**
- **Summary – Both environments are highly redundant and able to meet nearly all customer requirements**

AWS Regions / Availability Zones

Azure Regions / Availability Zones



Pricing - Overview

- On demand, reserved instances, Spot (AWS Spot, Azure Low Priority)
- From a VM instance standpoint, Azure tends to be less costly
- Need to actively monitor environment and look at changes to pricing and usage
- Use calculators provided by both providers

Pricing - Example

VM Type	AWS OD Month	Azure OD Month	AWS OD / GB RAM	Azure OD / GB RAM
Standard 2 vCPU with Local SSD	$95.76	$72.00	$12.96	$9.36
Standard 2 vCPU no Local Disk	$72.00	$72.00	$9.36	$9.36
Highmem 2 vCPU with Local SSD	$119.52	$95.76	$7.92	$5.76
Highmem 2 vCPU no Local Disk	$95.76	$95.76	$6.48	$5.76
Highcpu 2 vCPU with Local SSD	$75.60	$61.20	$20.16	$15.12
Highcpu 2 vCPU no Local Disk	$61.20	$61.20	$15.12	$15.12

Network

Service	aws	Azure
Isolated Private Cloud	Virtual Private Cloud (VPC)	Virtual Network (VNET)
Content Delivery Networks	CloudFront	Content Delivery Network (CDN)
DNS Services	Route 53	Traffic Manager
Dedicated Connection	DirectConnect	ExpressRoute

Security

Service		
Authentication/ Authorization	Identity and Access Management (IAM)	Active Directory/Active Directory Premium
Data Encryption	Key Management Service	Storage Service Encryption
Firewall	Web Application Firewall	Application Gateway
Identity Management	Cognito	Active Directory B2C

Compute

Service	aws	Azure
Virtual Servers	EC2 (Elastic Compute Cloud)	Virtual Machines
Docker Container Registry	ECR (EC2 Container Registry)	Container Registry
Platform-as-a-Service	Elastic Beanstalk	Cloud Services
Serverless	AWS Lambda	Event Grid Web Jobs Functions

Compute – VM Categories

AWS	Azure	General Purpose
	A	Entry Level
A		ARM based workloads, cheaper
T	B	Burstable
M	D	General Purpose
	DC	Full Encryption
		Compute
C	F	CPU Intensive
	H	High Performance (Intense Computation)
		Memory
R	M	Memory to CPU
X	E	Heavy Memory Workloads
		GPU
P	N	More intense GPU apps
G		Graphics Intensive
F		Custom Hardware Acceleration
		Storage
D		High Disk Throughput
I	L	NVMe SSD
H		High Disk but balance
	G	Memory to Storage Optimized

Database

Service	aws	Azure
Relational Databases	RDS (Hosted DBs for Aurora, PostgreSQL, MySQL, MariaDB, Oracle, MS SQL)	MS SQL on VM Hosted MariaDB Database Hosted MS SQL Database Hosted MySQL Database Hosted PostgreSQL
Non Relational DBs	DynamoDB	Azure Cosmos DB Table Storage

Storage – Object Based

Service	aws	Azure
Name	S3	Azure Storage - Blobs
Hot	S3 Standard	Hot Blob Storage
Cool	S3 Standard - Infrequent Access	Cool Blob Storage
Cold	Amazon Glacier	Archive Blob Storage
Object Size Limits	5 TB	4.75 TB
# of Object Limits	Unlimited	Unlimited

Storage – Block Based

Service	aws	Azure
Service Name	EBS	Managed Disks
Volume Types	General Purpose SSD Throughput Optimized HDD	Standard Premium SSD
Availability SLA	99.9%	99.9%

Miscellaneous

Service	aws	Azure
Marketplace	400+ Apps	Over 1000
Automation	AWS CLI Powershell	Azure CLI Cloud Shell (Powershell and/or Bash)
Government Cloud	GovCloud	Azure Government
Gaming	Gamelift	Playfab
IoT	AWS IoT	Azure IoT Suite

Which One?

Factors to Consider

- **Existing Cloud Services** – Build upon existing cloud provider
- **On Premise** – Build upon the skills and knowledge you have for on premise environment
- **Staff** – Utilize the skills of your IT team
- **Features** – Exclusive features like Snowball or Azure Stack
- **Enterprise Systems** – ERP systems sometimes drive a decision
- **Technology Partners** – Build upon the guidance of your partnerships
- **Licensing** – Review current license investment
- **Industry/Competitor Adoption** – Find out what your industry is using

Industry Adoption - Verticals

Conclusions

In Closing

- Both services are incredible
- Comparing is difficult because of constant changes
- There are additional providers
- There is no winner; both have pros and cons
- Tremendous growth over the next few years; according to a recent article by Gartner, cloud growth over the next 3 years will be over $100 Billion.

Cloud Assessment

- Mindsight experts conduct a two-hour dive into your infrastructure
- We identify what you have, where, and why
- After the 2-hour session, we create and hand deliver your **Cloud Insights Report**

Thank You!

Mike Czerniak
mczerniak@gomindsight.com
630.981.5064