

#### 善用AWS雲端科技協助非政府社會服 務機構智慧轉型

Cathy Li

Team Manager, SMB and Startup Sales

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## AWS Introduction





#### History of AWS

## amazon







#### Amazon Innovations



#### What is cloud computing?

**Cloud computing** is the ondemand delivery of IT resources and applications via the Internet with pay-as-you-go pricing.

## AWS serves over 22,000 NGO Globally provide scalable, costefficient solutions



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Trade capital expense for variable expense



Massive economies of scale



Stop guessing capacity



Increase speed and agility



Increase Reach to global





#### AWS Global Infrastructure

25 geographical regions, 81 availability zones, 200+ POPs

#### Region & Number of Availability Zones (AZs)

GovCloud (US) US-East (3), US-West (3)

US West Oregon (4) Northern California (3)

US East N. Virginia (6), Ohio (3)

Canada Central (3)

South America São Paulo (3)

Africa

Cape Town (3)
Announced Regions

Europe Frankfurt (3), Paris (3), Ireland (3), Stockholm (3), London (3), Milan (3)

**Middle East** Bahrain (3)

> Asia Pacific Singapore (3), Sydney (3), Tokyo (4), Osaka-Local (1)\* Seoul (4), Mumbai (3), Hong Kong (3)

**China** Beijing (2), Ningxia (3)

Three Regions and 9 AZs in Indonesia, Japan, and Spain

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#### AWS Region design

AWS Regions are comprised of **multiple Availability Zones** (AZs) for high availability, high scalability, and high fault tolerance. Applications and data are replicated in real time and consistent in the different AZs.



connectivity, housed in separate facilities.



#### Gartner names AWS a 2021 Magic Quadrant Leader

In Gartner's second evaluation covering both cloud infrastructure and platform services, AWS is evaluated as a Leader placed highest in both axes of measurement, Ability to Execute and Completeness of Vision.

This graphic was published by Gartner, Inc. as part of a larger research document and should be evaluated in the context of the <u>entire document</u>.



#### Downtime Hours By Major Cloud Provider

Downtime hours (January 2018- May 2020) as published by the major providers (<u>AWS</u>, MSFT <u>Azure</u>, <u>GCP</u>) Source: Gartner IDEAS Competitive Profiles-December



## AWS NPO Case Study



#### AWS Case Study : Comic Relief

Scales to process up to 350 donations per second on AWS.



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- UK Large Scale Charity on Mental Health, Early Childhood, Homeless
- Rent IT services they want, instead of paying the hosting and maintenance of physical server
- Scale to max traffic if they need to (7 hours TV shows that they got a majority of traffic)
- 93% cost saving compared to on premise : allow them to allocate more funding to their project

**Caroline Rennie** 

Product Lead



Cloud adoption path



#### Donor connection and understanding

- Answer key questions like
- "Who are my highest donors over the past 6 years?"
- "Which campaigns were the most effective?"
- in a quick and efficient way.
- Movable Ink uses Amazon Athena to query seven years' worth of historical data and get results in moments, with the flexibility to explore data for deeper insights.





## Security and Compliance in AWS



#### Security is a shared responsibility



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#### Inherit global security and compliance controls





### **Name Dropping References**















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#### AWS security tools and features



$\mathbb{A}\equiv$					
Identity & access management	Detection	Infrastructure protection	Data protection	Incident response	Compliance
AWS Identity & Access	AWS Security Hub	AWS Firewall Manager	Amazon Macie	Amazon Detective	AWS Artifact
AWS Organizations	Amazon GuardDuty Amazon Inspector	AWS Network Firewall AWS Shield	AWS Key Management Service (KMS)	CloudEndure DR AWS Config Rules	AWS Audit Manager
AWS Directory Service	Amazon CloudWatch AWS Config	AWS WAF – Web application firewall	AWS Certificate Manager	AWS Lambda	
Amazon Cognito AWS Resource Access	AWS Cloud Trail	Amazon Virtual Private Cloud (VPC)	AWS Secrets Manager AWS VPN		
Manager	AWS IoT Device Defender	AWS PrivateLink AWS Systems Manager	Server-Side Encryption		



## How to Save Cost for NGOs



## Pricing - Continually lowering prices for customers is in our DNA



Infrastructure Innovation

Ecosystem Global Footprint New Features New Services

We pass the savings along to our customers in the form of low prices and continuous reductions

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## AWS allows you to eliminate waste and match capacity and demand



#### Turning off non-production resources outside of work hours saved \$15,600 per month for this customer



![](_page_24_Figure_2.jpeg)

![](_page_24_Picture_3.jpeg)

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## Contract Pricing for one customer resulted in a 39% decrease in unit cost

![](_page_25_Figure_1.jpeg)

#### Amazon EC2 purchase options

#### **On-Demand**

Pay for compute capacity by **the second** with no long-term commitments

![](_page_26_Picture_3.jpeg)

Spiky workloads, to define needs

#### **Reserved Instances**

Make a 1 or 3 year commitment and receive a significant discount off On-Demand prices

Committed and steady-state usage

#### **Savings Plan**

Same great discounts as Amazon EC2 RIs with **more flexibility** 

![](_page_26_Picture_11.jpeg)

Committed flexible access to compute

#### **Spot Instances**

Spare Amazon EC2 capacity at **savings of up to 90%** off On-Demand prices

![](_page_26_Figure_15.jpeg)

Fault-tolerant, flexible, stateless workloads

#### Find unused resources using tools like AWS Trusted Advisor

![](_page_27_Picture_1.jpeg)

**AWS** Trusted

Advisor Unattached Idle Amazon EC2, Old snapshots Amazon RDS instances Elastic IPs Unattached Idle or unattached Amazon EBS load balancers

#### Start your AWS Cloud Financial Management journey

#### AWS Organizations

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#### AWS Cost Explorer

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#### AWS Cost Explorer (EC2 Rightsizing Recommendations)

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#### AWS Budgets

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#### AWS Cost Anomaly Detection

![](_page_28_Figure_12.jpeg)

#### 1. CFM ownership

Identify an owner (individual or team) responsible for driving cloud financial management activities

#### 2. Organizational partnership

Create a Finance and Technology partnership and establish a regular communication cadence to create and maintain alignment

#### 3. Cost allocation

Implement an account structure, and tagging strategy to allow allocation of cost to lines of business, products or teams

#### 4. Cost visibility

Report cloud costs to Technology teams in order to raise cost awareness, and establish efficiency KPIs for finance and business stakeholders

#### 5. Cost optimization

Use services and tools to identify and implement cost savings opportunities

#### 6. Cost forecasting and monitoring

Improve cost predictability and monitor spend variances

#### **Continuous: Education**

![](_page_28_Picture_26.jpeg)

![](_page_28_Figure_28.jpeg)

![](_page_29_Picture_0.jpeg)

## We don't make money when we sell things. We make money when we help customers make purchase decisions.

**Jeff Bezos** Founder and CEO, Amazon.com

![](_page_29_Picture_3.jpeg)

## Getting start your cloud journey

![](_page_30_Picture_1.jpeg)

![](_page_31_Picture_0.jpeg)

![](_page_31_Picture_1.jpeg)

#### Getting Start : AWS Partner Network (APN)

![](_page_31_Figure_3.jpeg)

![](_page_32_Picture_0.jpeg)

#### Getting Start : AWS Credit for NPO (US\$1,000 AWS Credit)

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#### Cloud Fluency Program 2022

- 3-days self learning material
- Half Day Live Webinar
- Exam Readiness : AWS Certificated Cloud Practitioner (CP)
- 50% discount voucher on CP Exam

![](_page_33_Picture_5.jpeg)

https://pages.awscloud.com/hk-awscloud-fluency-program.html

# <image>

Join this program and set a goal for earning the AWS Certified Cloud Practitioner certification, you can validate your cloud fluency with an industry-recognized credential from AWS and highlight your overall understanding on the AWS Cloud—with our support every step of the way. By signing up, you'll receive

- 1. 3-day self learning material about AWS Cloud Practitioner Essentials to prepare AWS Certified Cloud Practitioner certification exam
- 2. You are also enrolled automatically to below live webinars in one day -
- AWS Cloud Practitioner Essentials Day on February 14, 2022
- Exam Readiness: AWS Certified Cloud Practitioner on February 14, 2022

After attending above live webinars, you'll be eligible to receive a 50% discount voucher for the exam.

This challenge ends December 31, 2022.

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## Thank you!