

THE CLOUD: WHAT'S DIFFERENT?

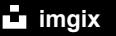
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Every business required a system that can satisfied the
customer

Happy customer == More money



TRADITIONAL (OWNED AND OPERATED) IT INFRASTRUCTURE



imgix

BUSINESS POINT OF VIEW

1. Higher investment in Hardware
2. Too much server is costly
3. Too few server is making Our Customer unhappy
4. Higher Total Cost Of Ownership (TCO)

TECHNICAL POINT OF VIEW

1. More time for capacity planning
2. Harder to keep up with Customer Data
(Harder to Scale)
3. More "Server" team
4. Slower in delivering software

CLOUD

 Pero Kalimero

BUSINESS POINT OF VIEW

1. No investment in Hardware
(Pay as you go, pay per use)

2. Too much server is **less** costly
(Add more server when needed)

3. No more too few server
(Autoscaling to the rescue)

4. Lower Total Cost Of Ownership (TCO Calculator)

TECHNICAL POINT OF VIEW

1. Less time for capacity planning
2. Easier to keep up with Customer Data
(Easier to scale)
3. Less "Server" team
4. Faster in delivering software

AIRBNB IN 4 YEARS (2010 - 2013)

2 Billion rows stored in RDS

From 24 EC2 instances to 1000 EC2 instances

From 300GB of Photos to 50TB of Photos in S3

5 person operations team



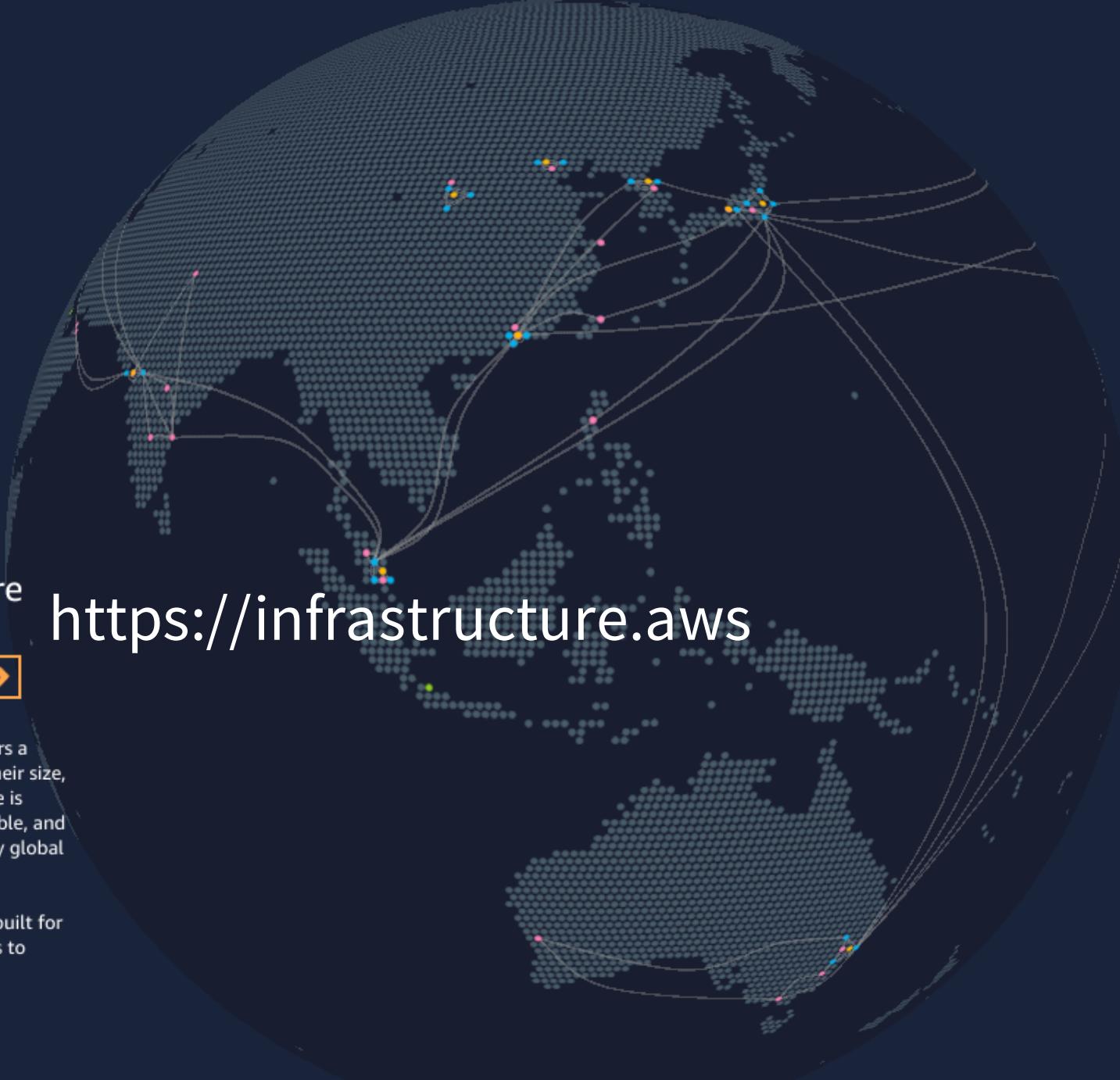
The Most Extensive, Reliable and
Secure Global Cloud Infrastructure
Available

SEE HOW WE DO IT ➤

The Amazon Web Services (AWS) Global Infrastructure delivers a cloud infrastructure companies can depend on—no matter their size, changing needs, or challenges. The AWS Global Infrastructure is designed and built to deliver the most flexible, reliable, scalable, and secure cloud computing environment with the highest quality global network performance available today.

Every component of the AWS infrastructure is designed and built for redundancy and reliability, from Regions to Availability Zones to networking links to load balancers, routers and firmware.

<https://infrastructure.aws>



The background of the slide is a photograph of a vast, fluffy landscape of clouds under a clear blue sky. A large, dark, billowing cloud formation is centered in the lower half of the frame, partially obscuring the text.

SERVERLESS ARCHITECTURES FOR WEB APPLICATIONS

 Kaushik Panchal

WHAT IS SERVERLESS? [1][2][3]

Native architecture of the cloud that enables you to focus on business not infrastructure

Build and run applications and services without thinking about servers

No need to thinking about: server provisioning, patching, maintenance and capacity provisioning

WHY USE SERVERLESS?

Build modern applications with increased agility and
lower TCO

Built-in high availability and fault tolerance, security is
included

Developers can focus on code not infrastructure, more
vacation time

WHO USE SERVERLESS?

BETTER AUSTRALIAN CENSUS WEBSITE (ORIGINAL)

Cost \$9,000,000 with \$400,000 on load testing alone

Load tested at a 150% of expected usage levels

"It crashed pretty much straight away" - Austin
Wilshire

BETTER AUSTRALIAN CENSUS WEBSITE (SERVERLESS)

Cost \$500 and under 24 hours of total work

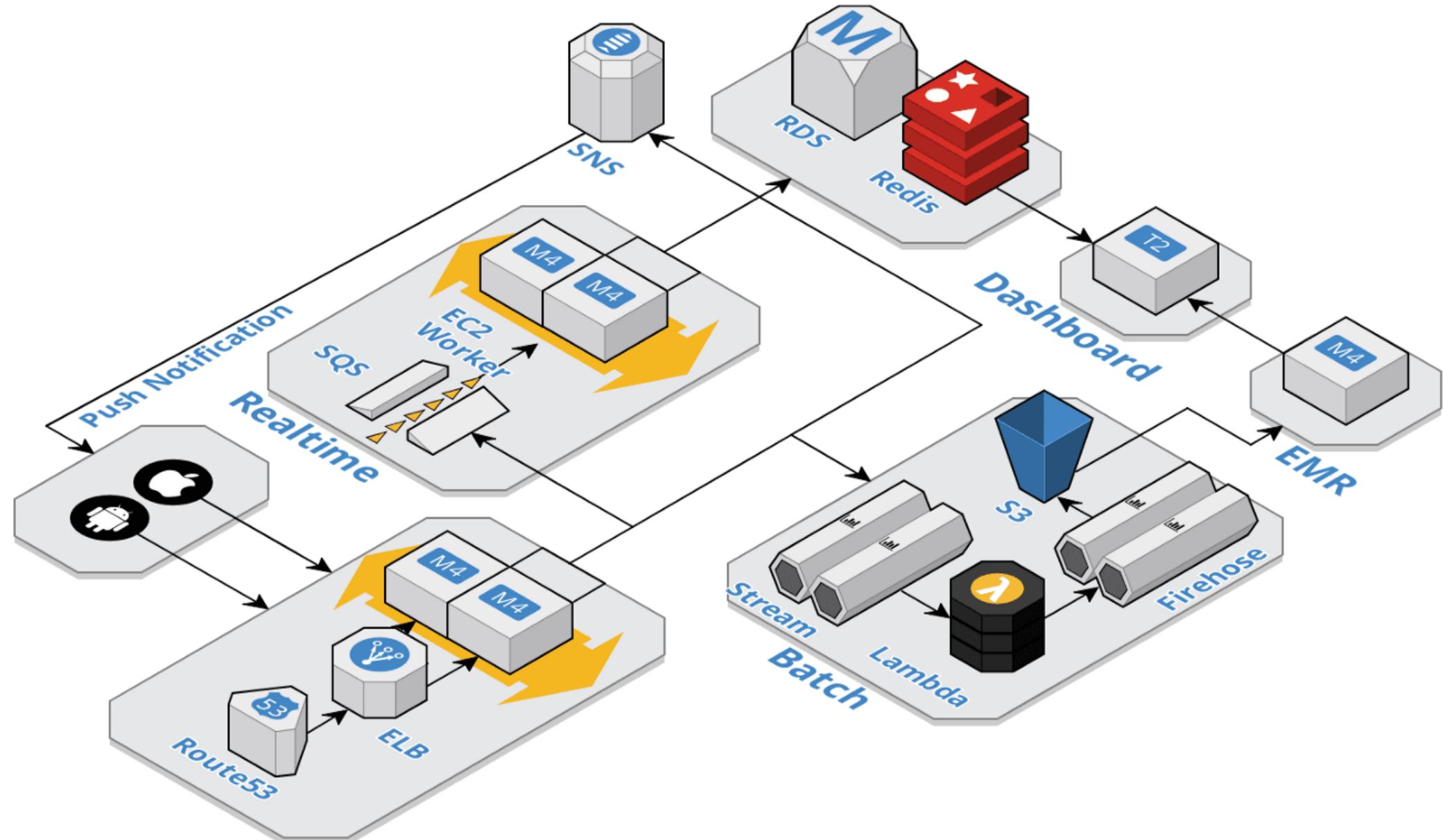
Built by 2 University student that totally new to AWS

Tested with [goad.io](#) to achieve up to 100k requests per second

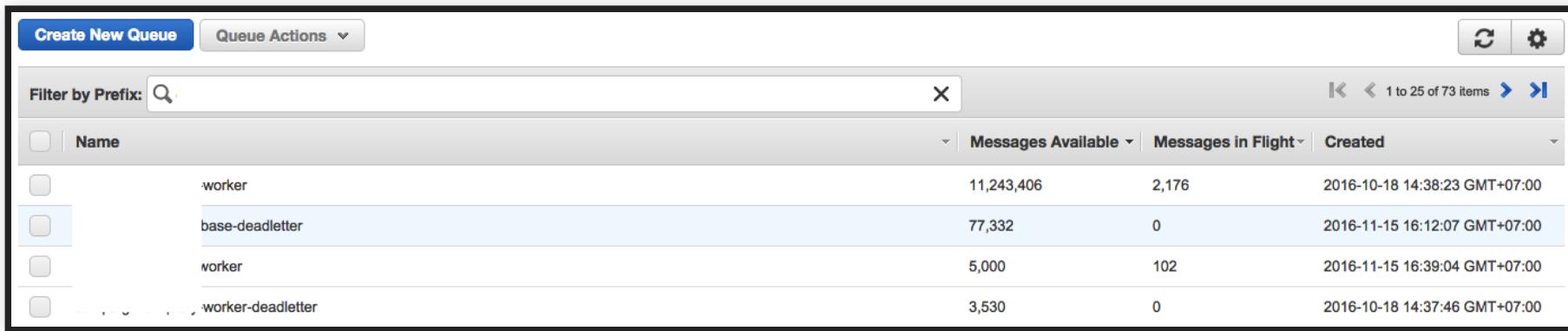
"cool: QUT Students built an Australian Census system for \$500 that does not #CensusFail"

[Werner Vogels](#) [1] [2]

MOBILE ANALYTICS AS A SERVICE



11 million messages in SQS



The screenshot shows the AWS Simple Queue Service (SQS) console interface. At the top, there are buttons for "Create New Queue" and "Queue Actions". Below that is a search bar labeled "Filter by Prefix:" with a magnifying glass icon. To the right of the search bar are navigation icons for "1 to 25 of 73 items" and "1 to 25 of 73 items". The main area displays a table of four queue entries:

Name	Messages Available	Messages in Flight	Created
worker	11,243,406	2,176	2016-10-18 14:38:23 GMT+07:00
base-deadletter	77,332	0	2016-11-15 16:12:07 GMT+07:00
worker	5,000	102	2016-11-15 16:39:04 GMT+07:00
worker-deadletter	3,530	0	2016-10-18 14:37:46 GMT+07:00

How big is 10 million messages?

$$100 \text{ KB} * 10 = 1,000 \text{ KB} = 1 \text{ MB}$$

$$100 \text{ KB} * 100 = 10,000 \text{ KB} = 10 \text{ MB}$$

$$100 \text{ KB} * 1,000 = 100,000 \text{ KB} = 100 \text{ MB}$$

$100 \text{ KB} * 10,000 = 1,000,000 \text{ KB} = 1,000 \text{ MB} = 1 \text{ GB}$

$100 \text{ KB} * 100,000 = 10,000,000 \text{ KB} = 10,000 \text{ MB} = 10 \text{ GB}$

$100 \text{ KB} * 1,000,000 = 100,000,000 \text{ KB}$

$= 100,000 \text{ MB} = 100 \text{ GB}$

$100 \text{ KB} * 10,000,000 = 1,000,000,000 \text{ KB}$

$= 1,000,000 \text{ MB} = 1,000 \text{ GB}$

$= 1 \text{ TB}$

Messages in Flight

Processing ~2000 Messages / second

$100 \text{ KB} * 2,000 = 200,000 \text{ KB} = 200 \text{ MB / second}$

AWS SQS DEMO

THANK YOU