Google Cloud Platform

GCP

Diego Pacheco

About Me

- ❏ Cat's Father
- ❏ Principal Software Architect
- ❏ Agile Coach
- ❏ SOA/Microservices Expert
- ❏ DevOps Practitioner
- ❏ Speaker
- ❏ Author

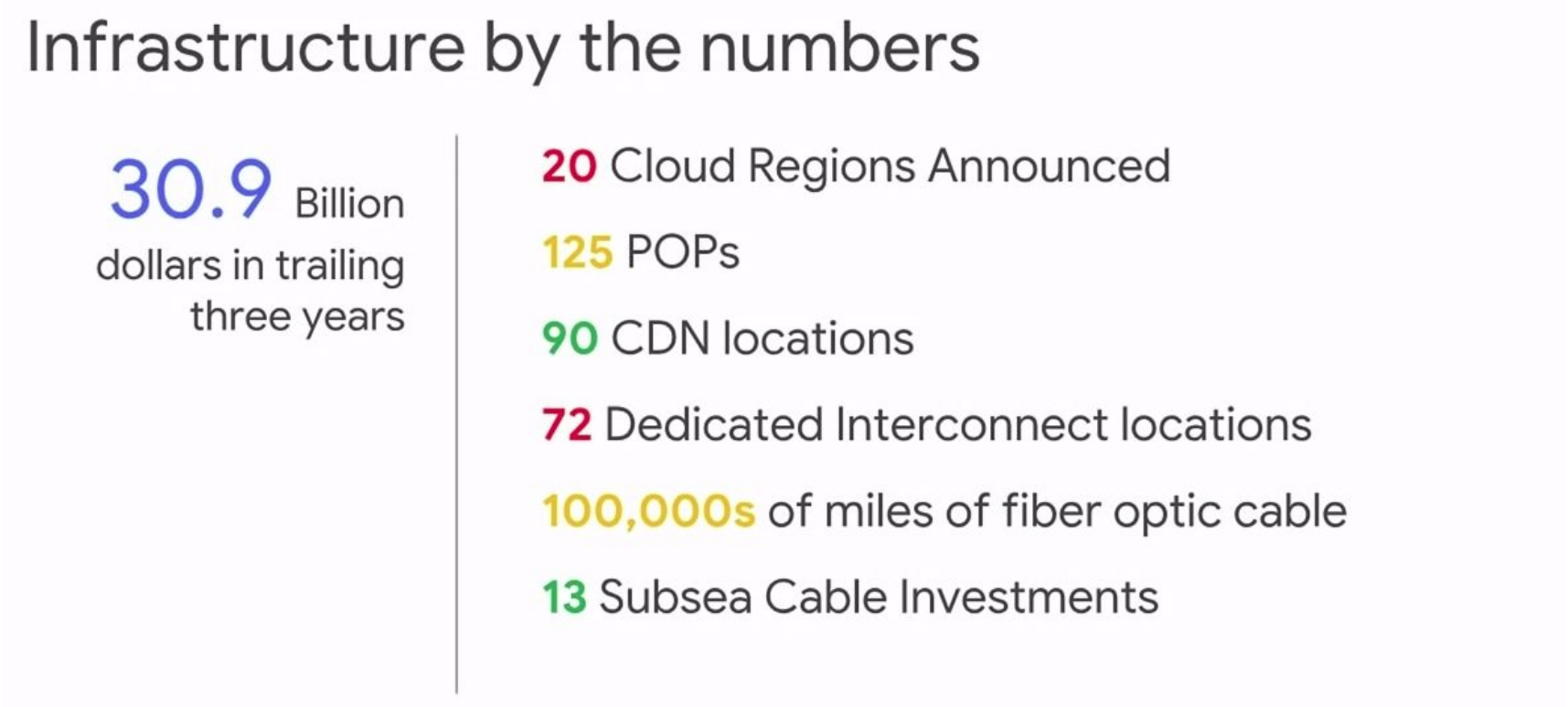
diegopacheco

@diego_pacheco

http://diego-pacheco.blogspot.com.br/

Best Infrastructure and Security

Google GCP by Numbers



Regions

Google Cloud Platform Regions
Finland
London
Belgium
Netherlands
Frankfurt
Oregon
Iowa
Montreal
Los Angeles
N Virginia
S Carolina
Osaka
Tokyo
Hong Kong
Taiwan
Mumbai
Singapore
São Paulo
Sydney
Current region and number of zones
Future region and number of zones
Google Cloud Platform

Same infra for Google

Some Services

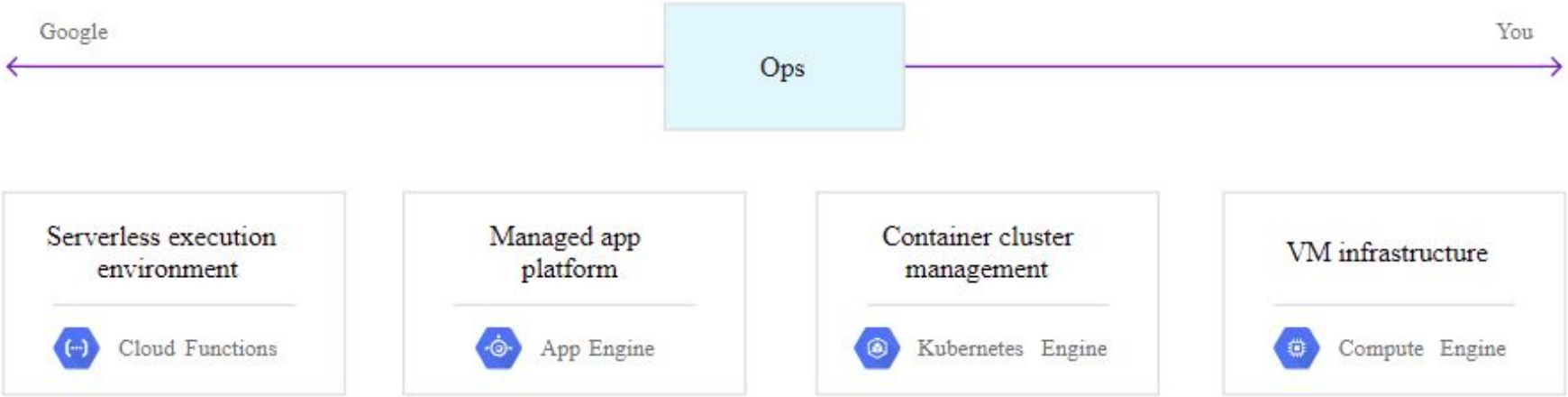
PaaS

APP ENGINE

Comparing environments

Feature	Standard	Flexible
Instance startup time	Milliseconds	Minutes
Maximum request timeout	60 seconds	60 minutes
Background threads	Yes, with restrictions	Yes
Background processes	No	Yes
SSH debugging	No	Yes
Scaling	Manual, Basic, Automatic	Manual, Automatic
Writing to local disk	No	Yes, ephemeral (disk initialized on each VM startup)
Customizable serving stack	No	Yes (built by customizing a Dockerfile)
Automatic in-place security patches	Yes	Yes
Network access	Only via App Engine services (includes outbound sockets)	Yes
Supports installing third-party binaries	No	Yes

Who Owns Ops?


Google
Ops
You
Serverless execution environment
Cloud Functions
Managed app platform
App Engine
Container cluster management
Kubernetes Engine
VM infrastructure
Compute Engine

VMs

Virtual Machines

Compute Engine

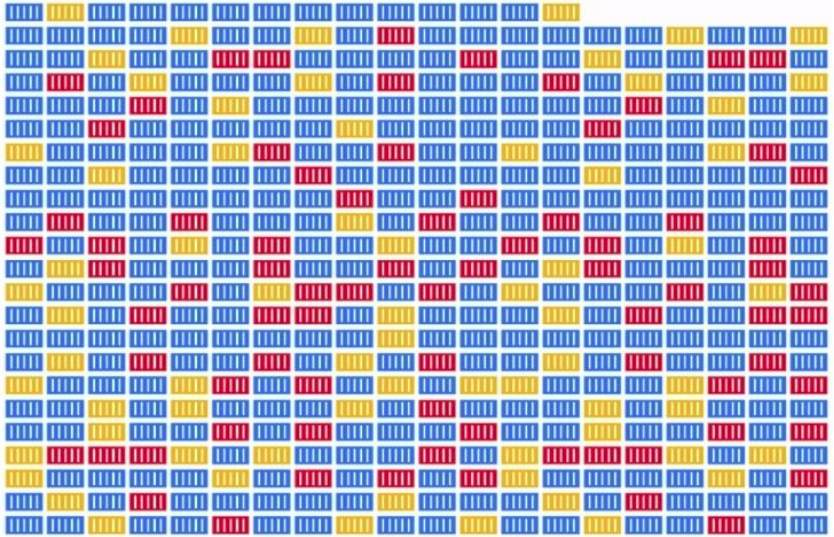
- 1 - 96 processors
- .6 - 624 GB
- Disk limits
  - 65 TB Persistent
  - 3 TB SSD
  - 208 RAM
- Preconfigured images
  - Can build your own

All About Containers

Everything at Google runs in containers:

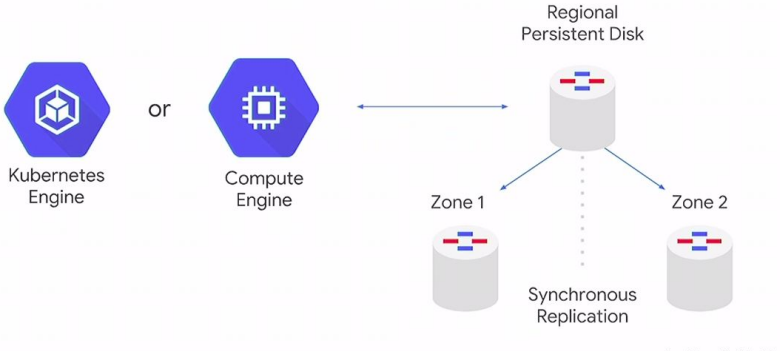
Gmail, Web Search, Maps, ...
MapReduce, batch, ...
GFS, Colossus, ...
Even GCE itself: VMs in containers

We launch over **4 billion containers per week.**



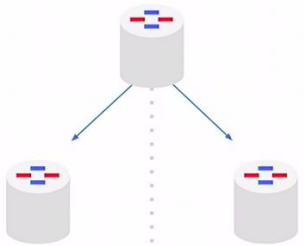
PD == EBS

Regional Persistent Disk[BETA]



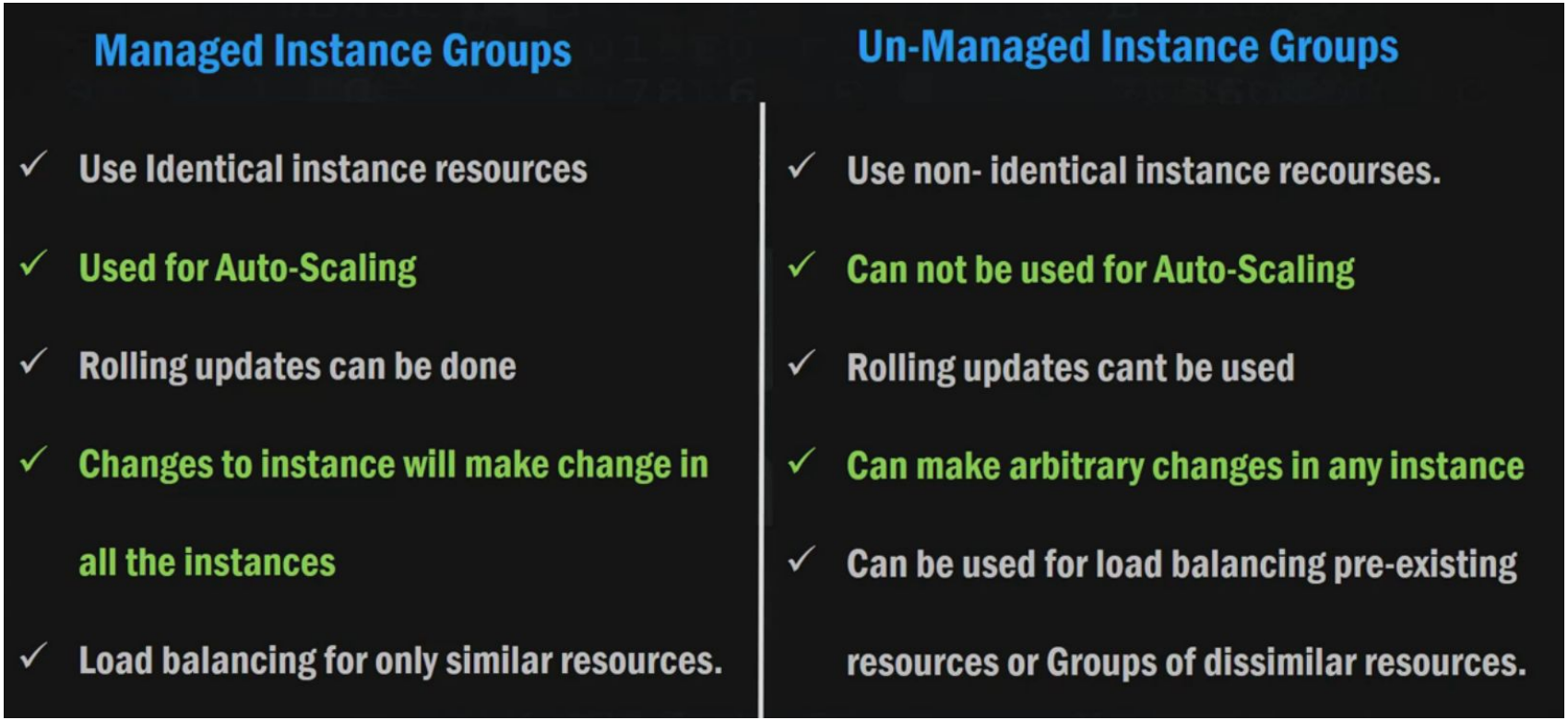
Proprietary + Confidential

Regional Persistent Disk[Beta]

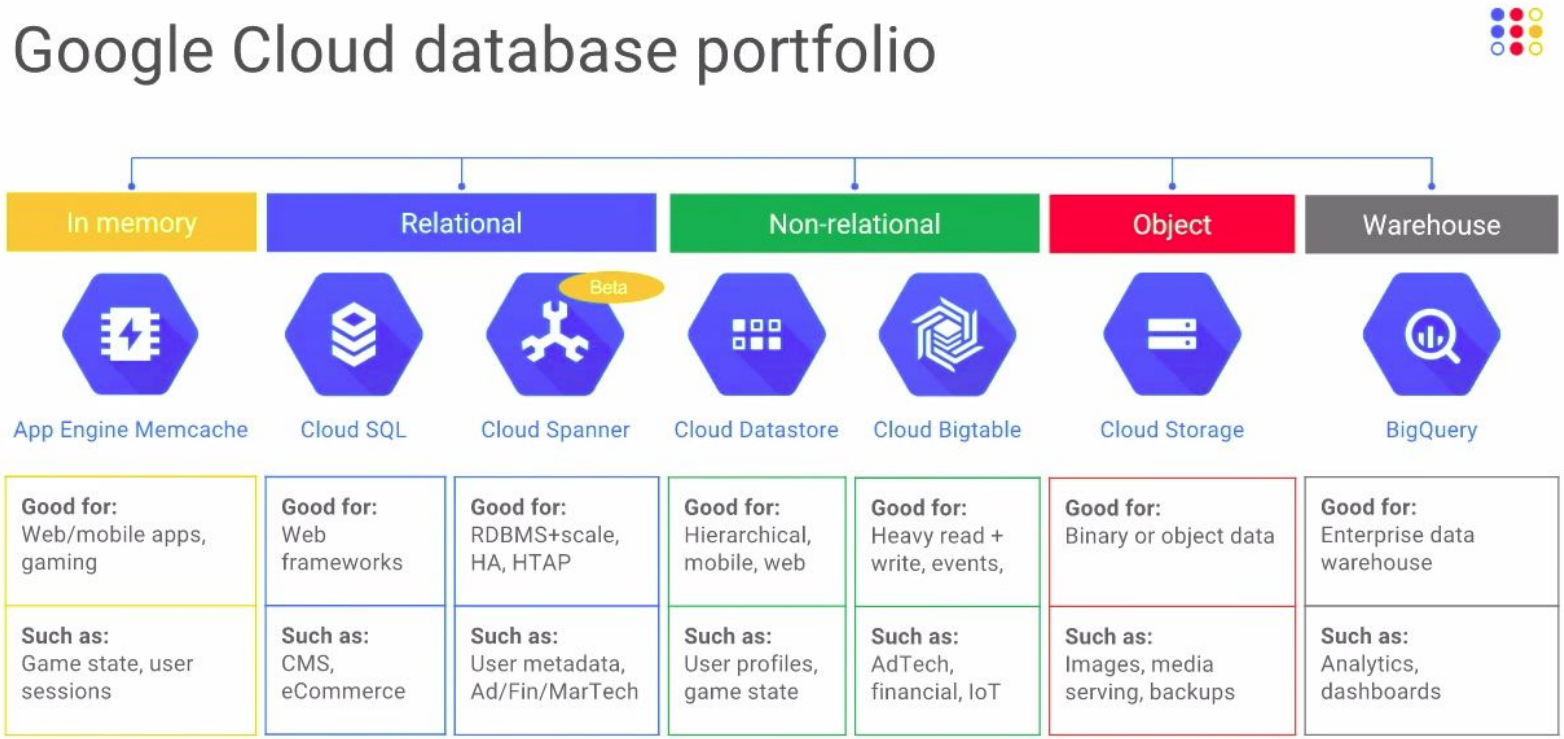


- DR and HA building block
- Improved availability and durability
- Built for mission-critical applications
- Backs Cloud SQL High Availability
- Available Now!

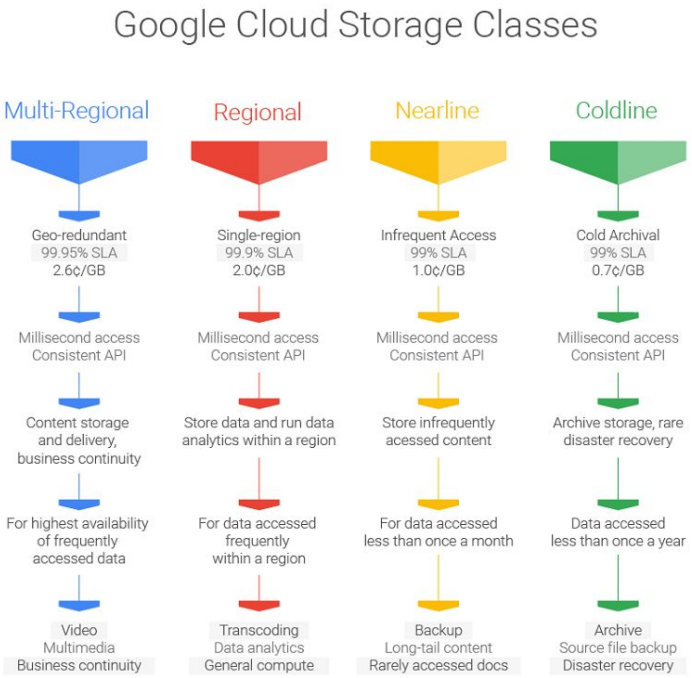
Instance Groups == ASGs

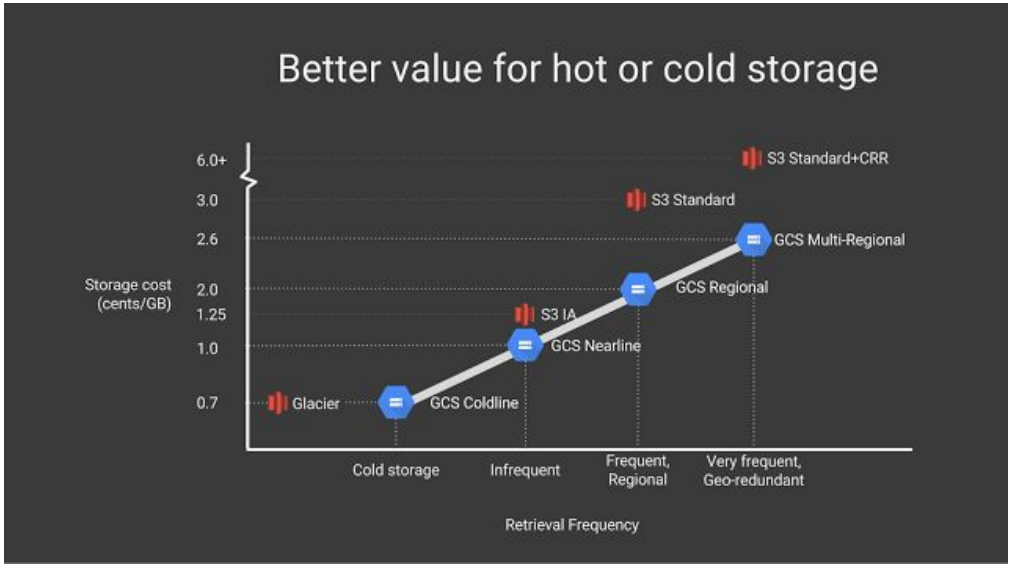


Database Spectrum

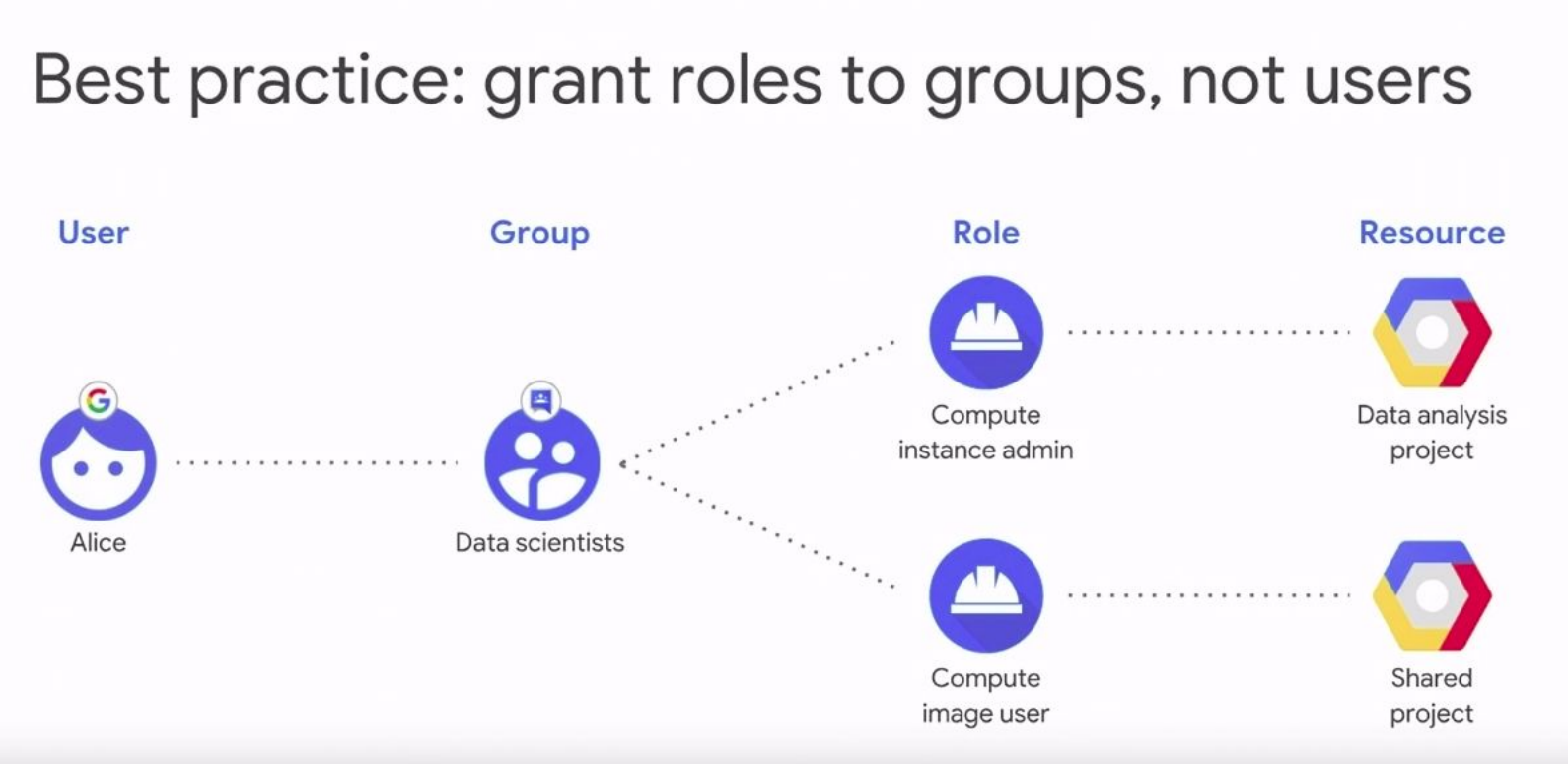


Cloud Storage == S3

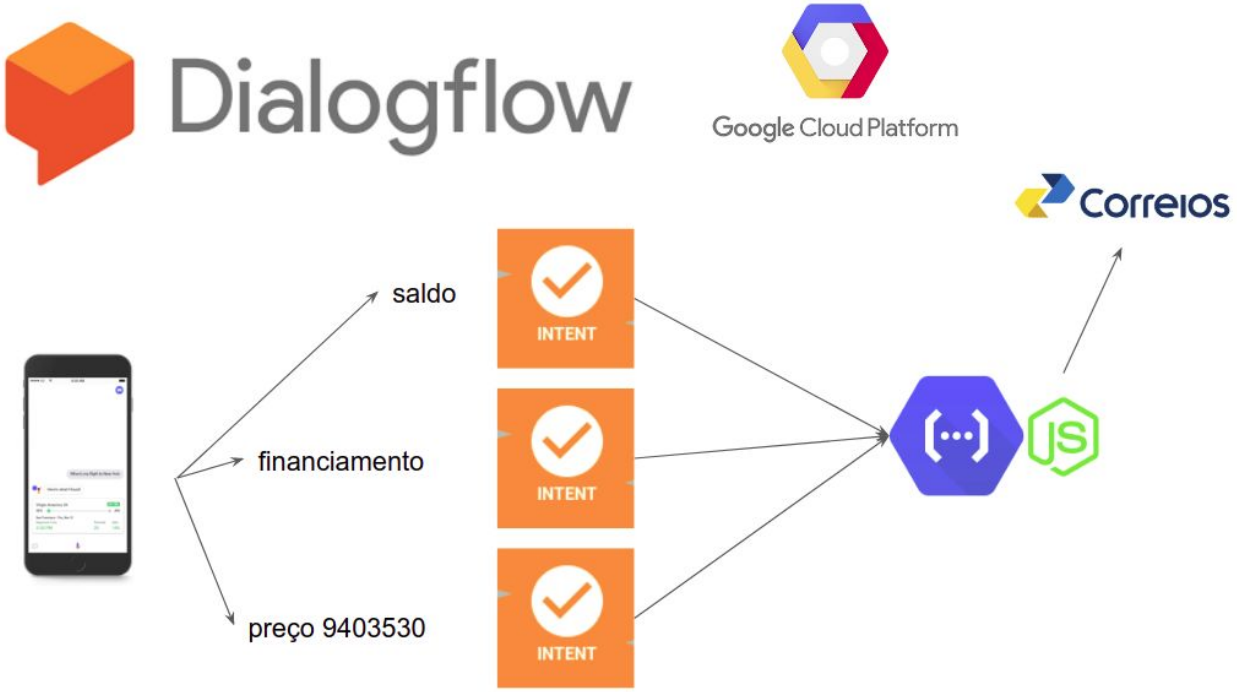




AIM - Better than AWS



Bots and Audio Interfaces



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