

Introducing Google Cloud Platform

Google Cloud Platform Fundamentals: Big Data and Machine Learning

Version #1.1

 Google Cloud

Agenda



Agenda

What is Google Cloud Platform

Google Cloud Big Data products

Cloud computing is a continuation of a long-term shift in how computing resources are managed

First Wave

Server on-premises

You own everything. It is
yours to manage.

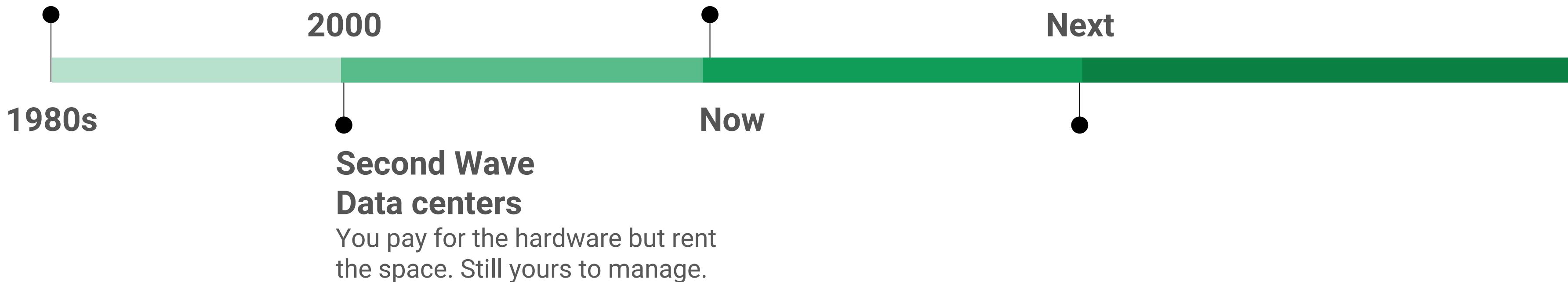


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First Wave

Server on-premises

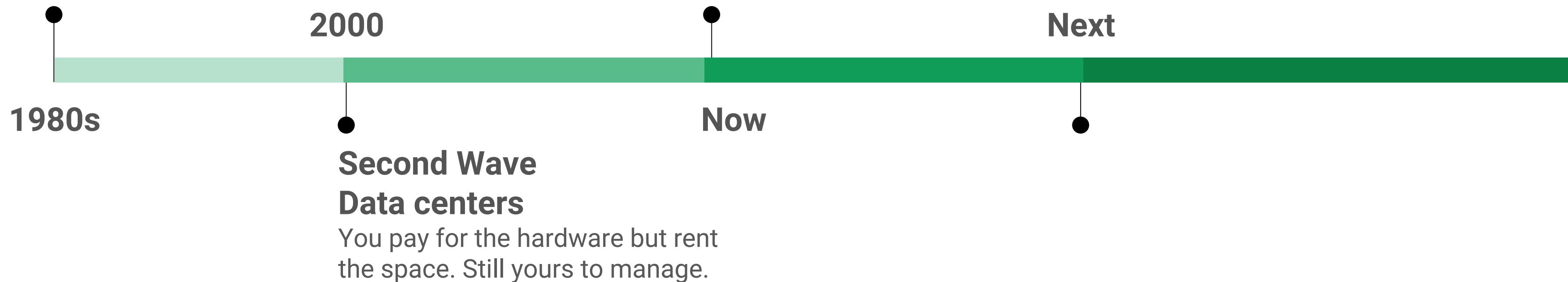
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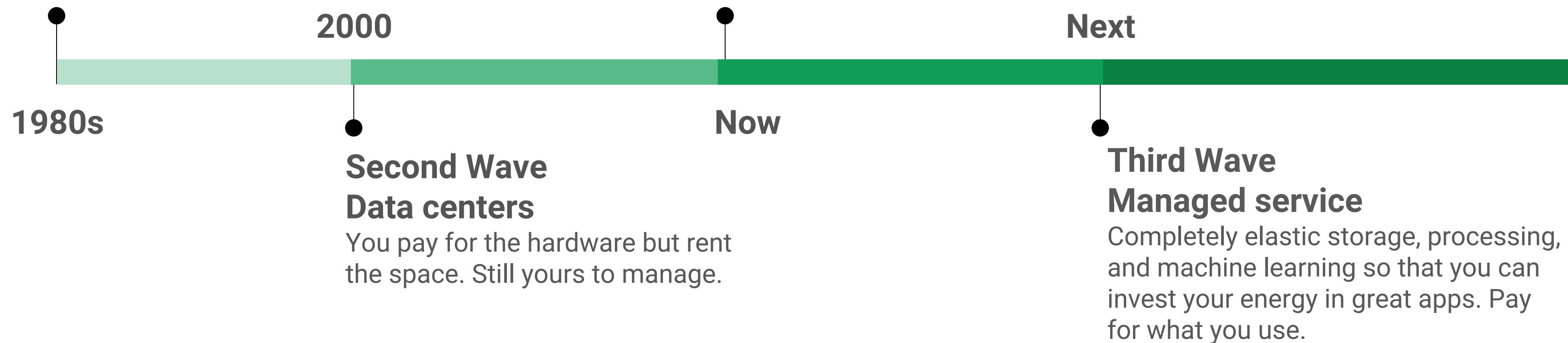
First Generation Cloud
Virtualized data centers
You rent hardware and space, but
still control and configure virtual
machines. Pay for what you
provision.



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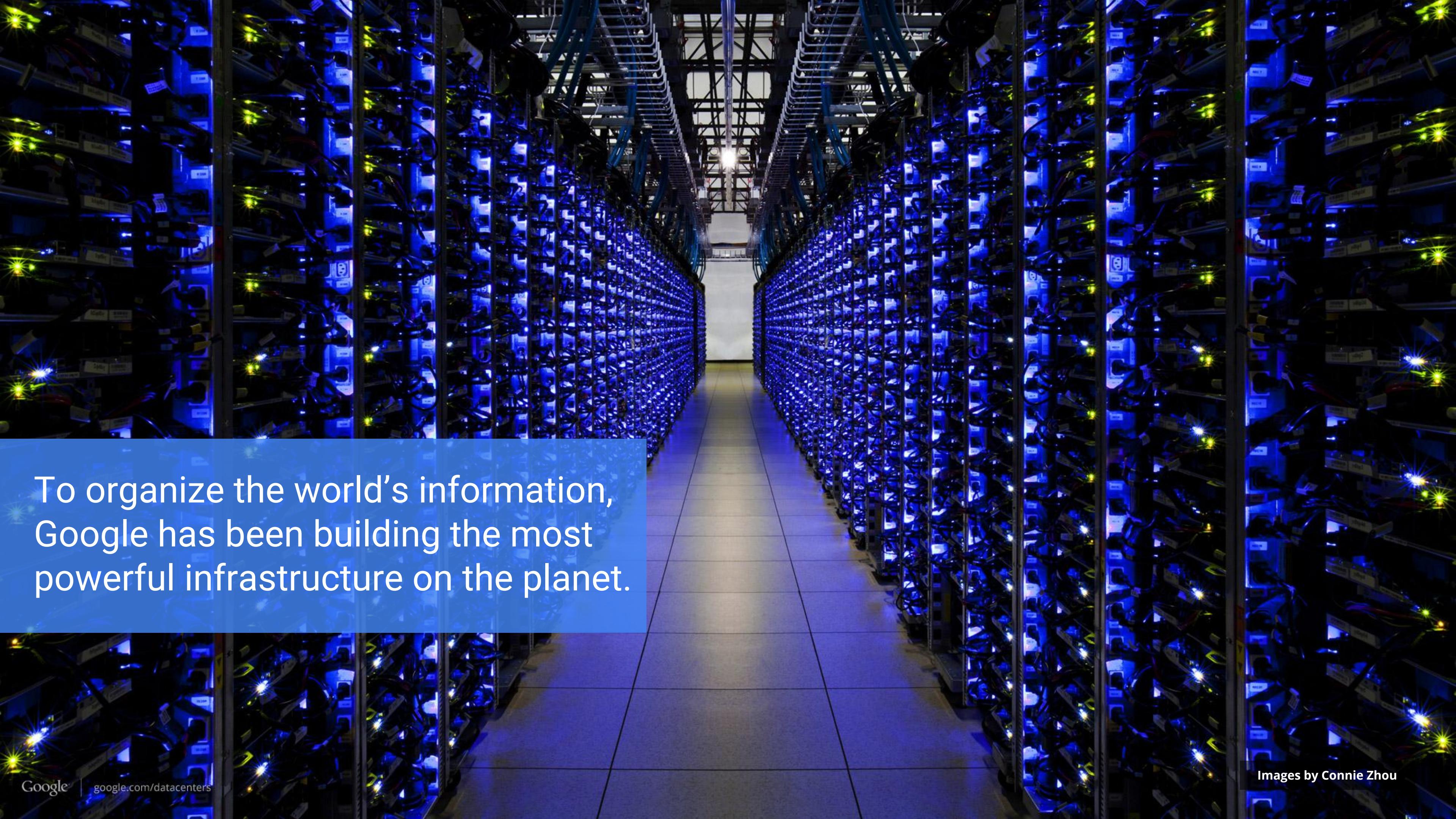
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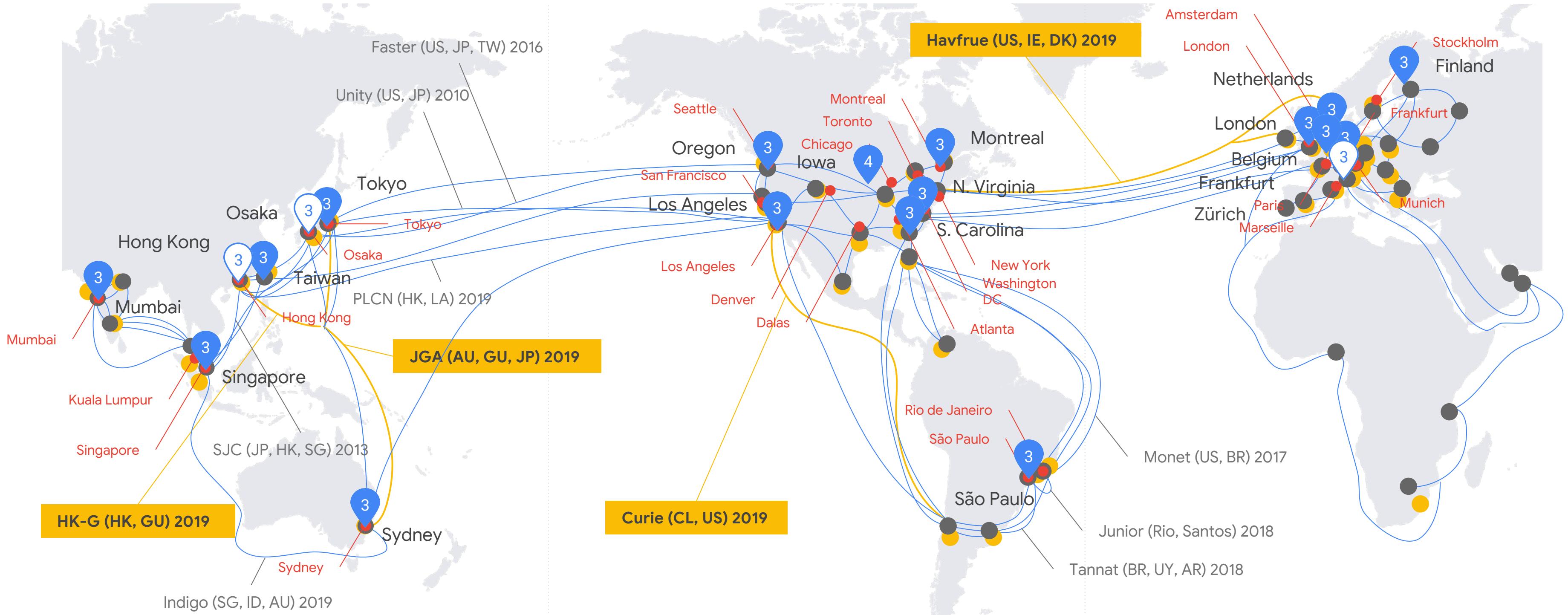
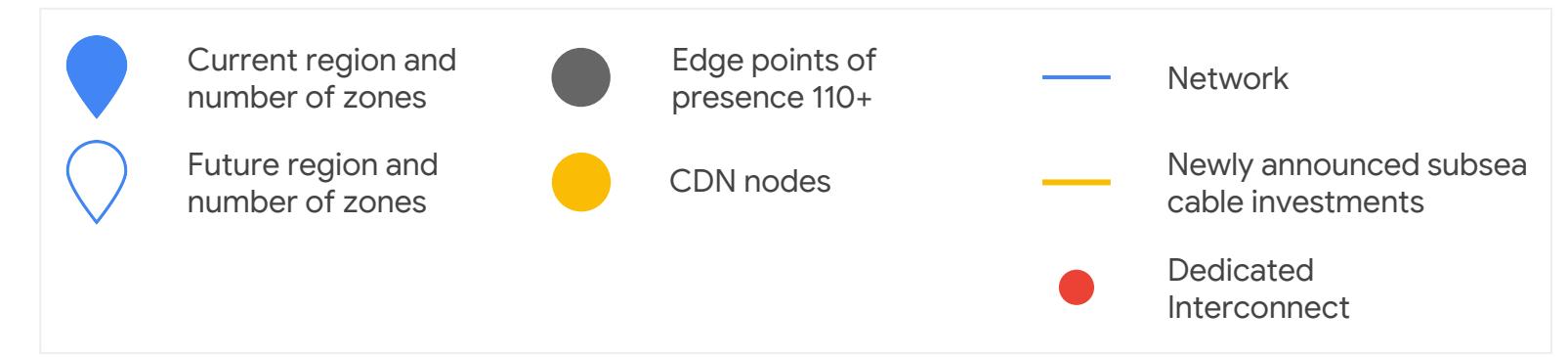


Google's mission is to organize the world's
information and make it universally accessible
and useful



To organize the world's information,
Google has been building the most
powerful infrastructure on the planet.

In terms of hardware, Google Cloud has the largest cloud network, with more than 100 points of presence

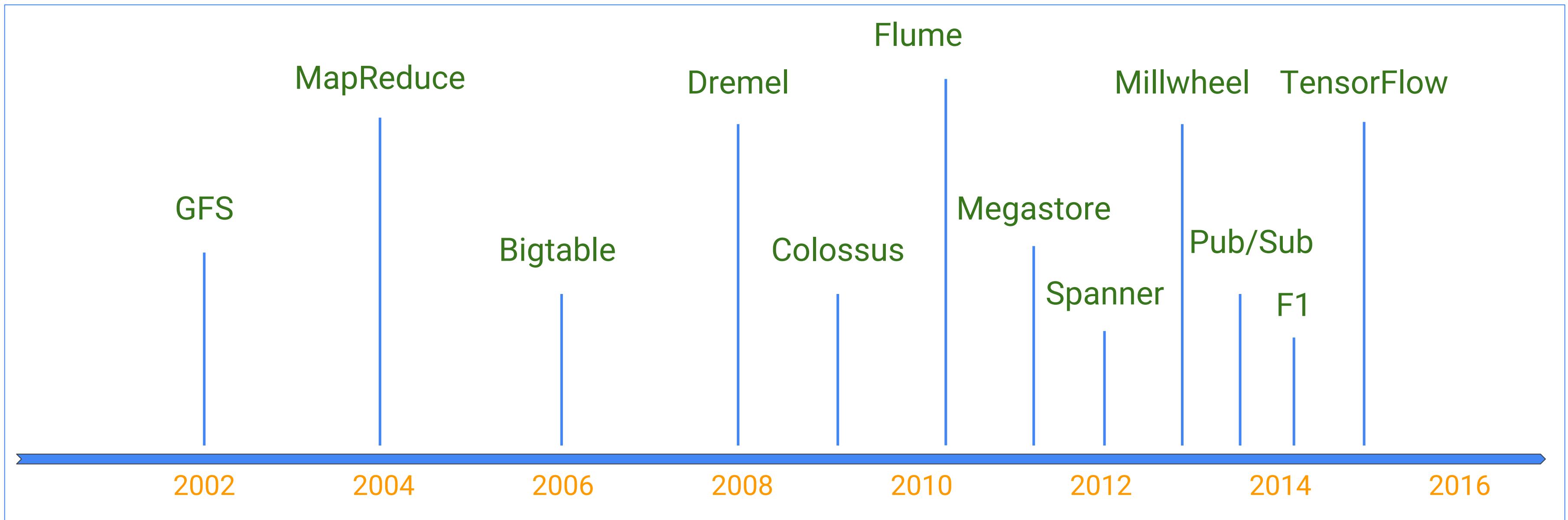


Asia Pacific

Americas

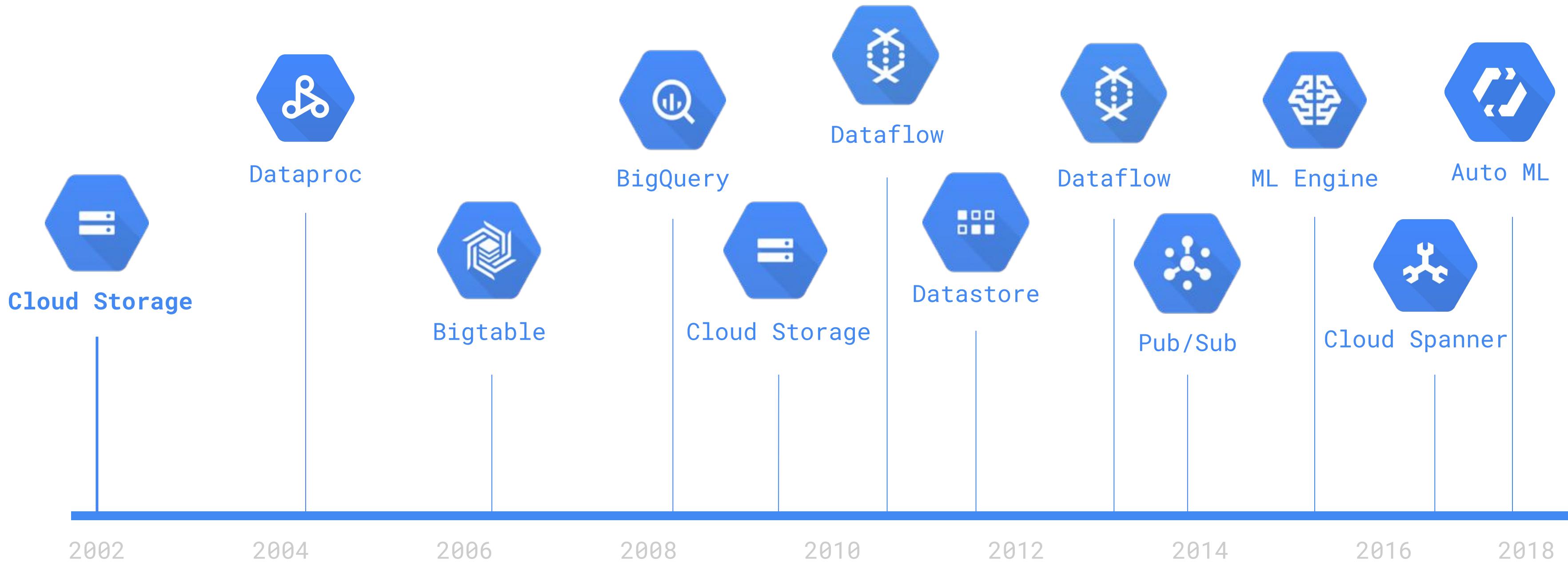
Europe, Middle East, & Africa

In terms of software, organizing the world's information has meant that Google needed to invent data processing methods



<http://research.google.com/pubs/papers.html>

Google Cloud opens up that innovation and infrastructure to you



Agenda

What is Google Cloud Platform

Google Cloud big data products

A suite of products that can be put together for data processing

Foundation



Compute Engine



Cloud Storage

Databases



Datastore



Cloud SQL



Cloud Bigtable

Analytics and ML



BigQuery

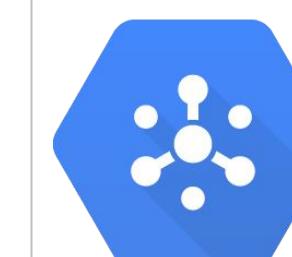


Cloud Datalab

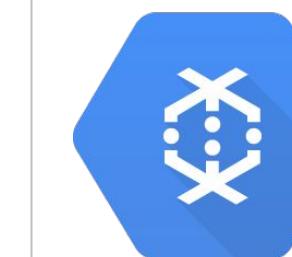


Translation API, ...

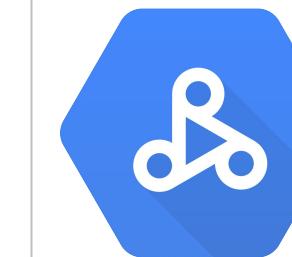
Data-handling frameworks



Cloud Pub/Sub



Cloud Dataflow



Cloud Dataproc

Spotify illustrates the typical journey of companies that come to Google Cloud: From lower costs to increased reliability to business transformation

Spend less
No-ops, Pay
for use, Secure

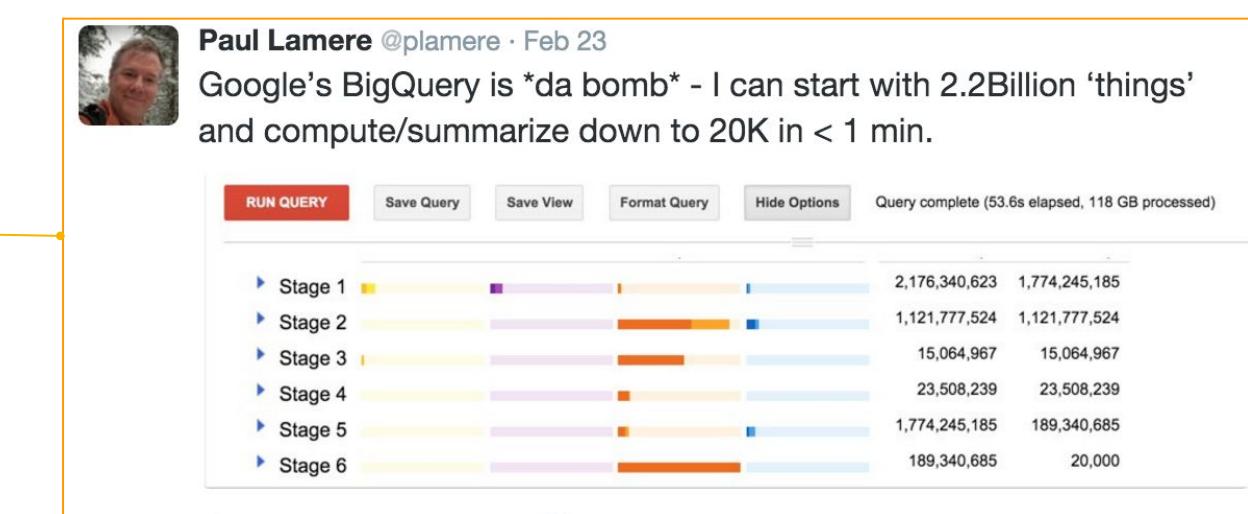
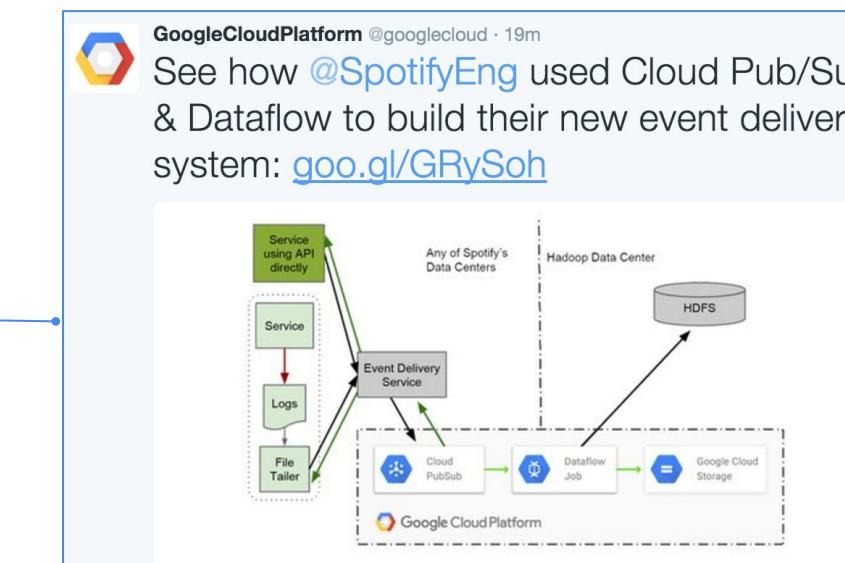
Flexible
Complete

Innovative
Powerful

1

2

3



<https://cloud.google.com/blog/big-data/2016/03/big-data-sessions-by-customers-at-gcp-next-2016>

Different products will be of help at different stages of your journey to the cloud

Change **where** you compute



Improve scalability and reliability



Change **how** you compute



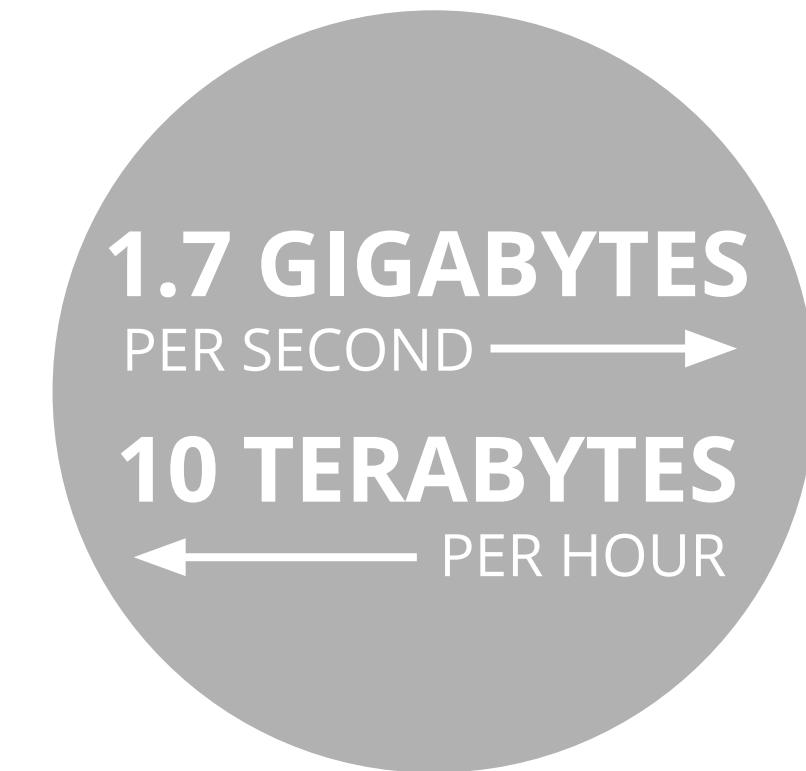
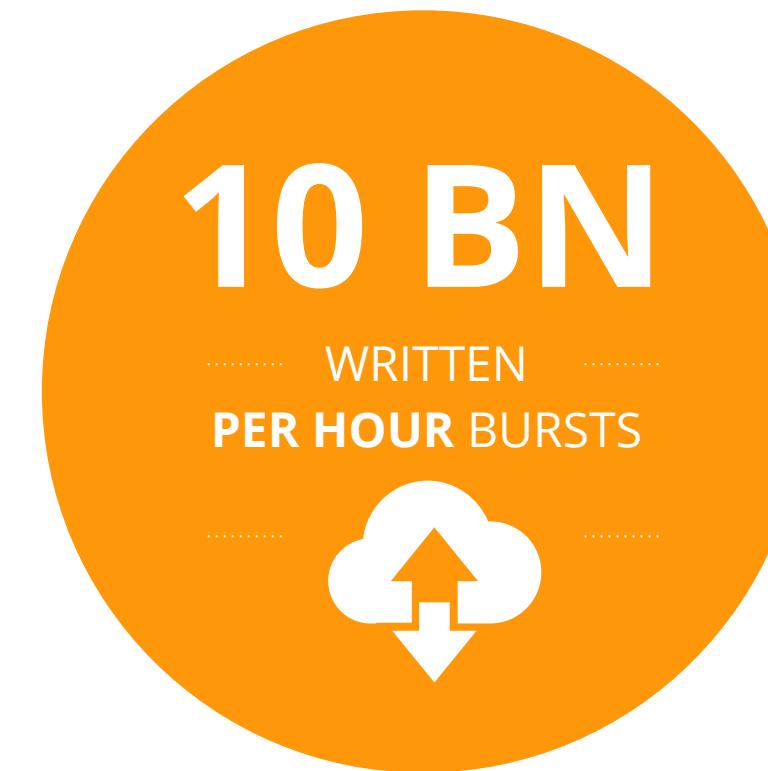
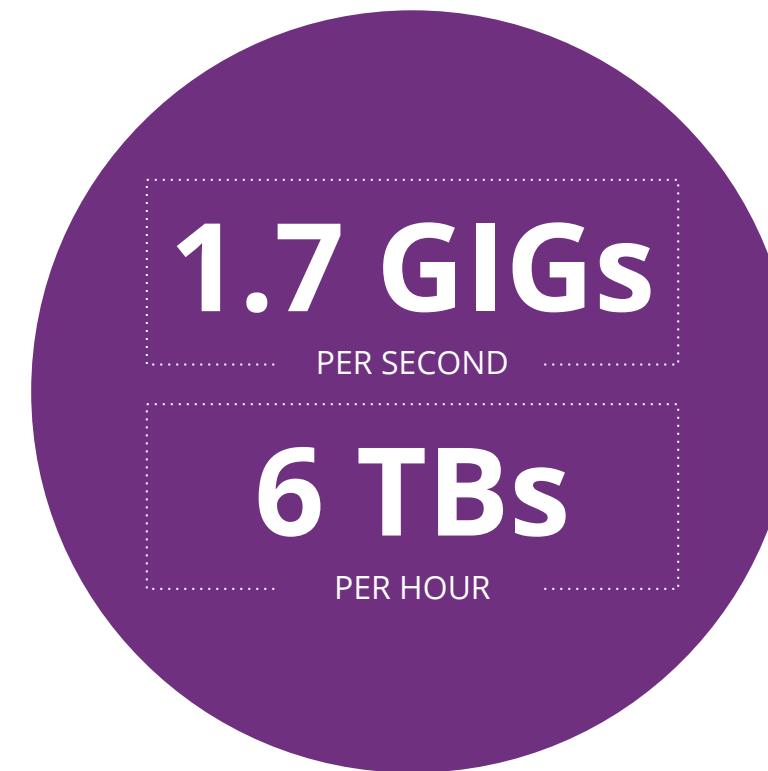
Atomic Fiction lowered their costs with per-minute (now per-second) billing

Change **where** you compute



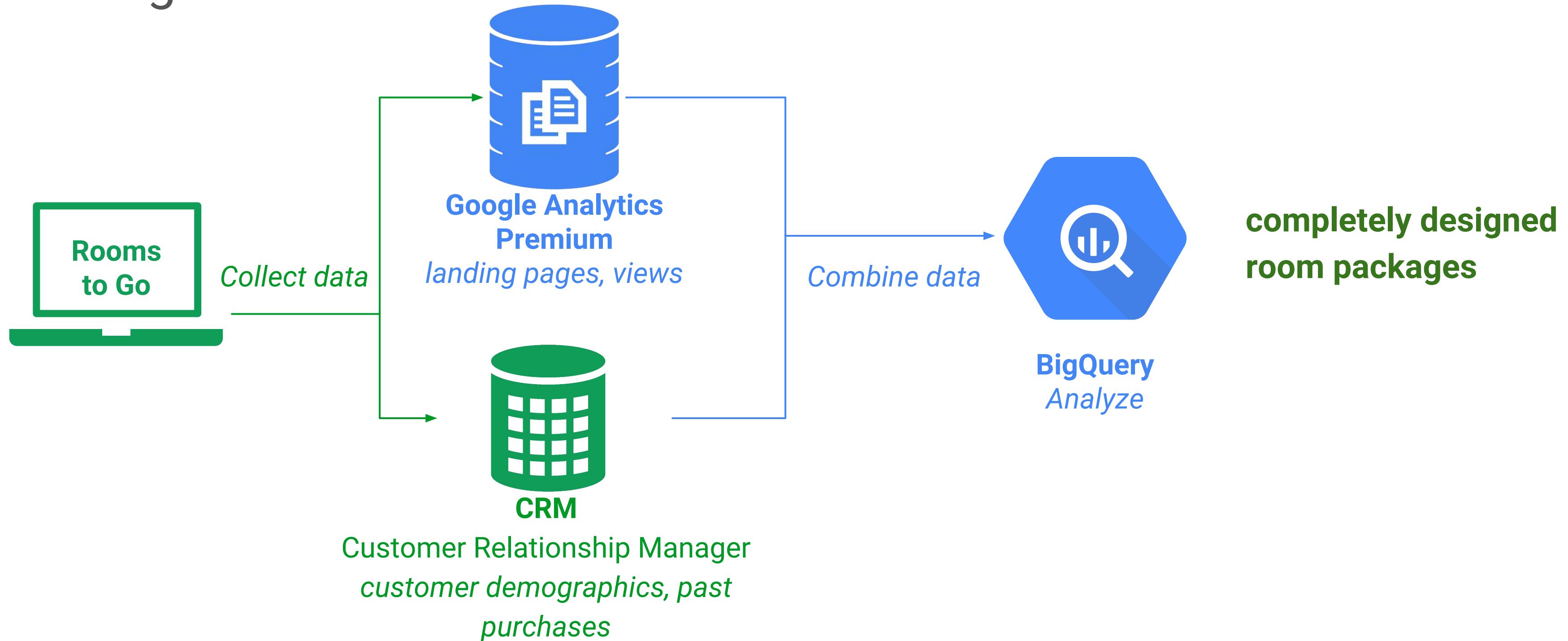
<https://www.youtube.com/watch?v=mBY-RjE15WA>

FIS was able to improve reliability and scalability on a massive data-processing challenge



The Consolidated Audit Trail (CAT) is a data repository of all equities and options orders, quotes, and events; FIS processed the CAT to organize 100 billion market events into an “order lifecycle” in a 4-hour window using Cloud Bigtable.

Rooms to Go transformed its business with data and machine learning

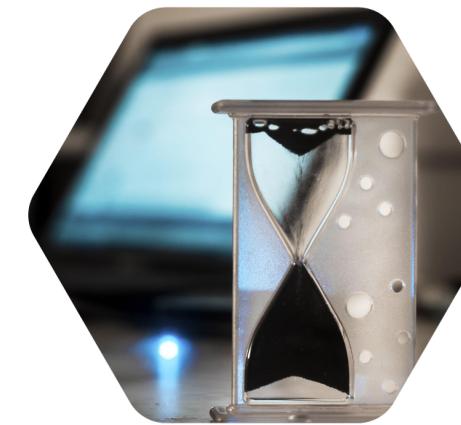


<https://www.thinkwithgoogle.com/case-studies/rooms-to-go-improves-the-shopper-experience.html>

In summary, Google Cloud offers you ways to...



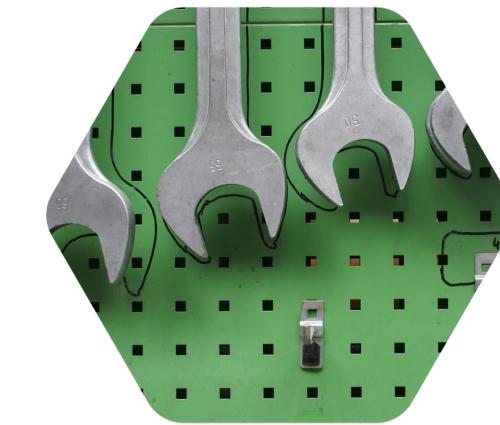
Spend less on ops and administration



Incorporate real-time data into apps and architectures



Apply machine learning broadly and easily



Become a truly data-driven company

Module Review

Module review

Google Cloud Platform is:

*(select **all** of the correct options)*

- Operated by Google on the same infrastructure it uses
- A set of modular services from which you can compose cloud-based applications
- Most cost-effective if you pre-purchase instances on a yearly basis
- A platform on which to host scalable and fast distributed applications

Module review answer

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Resources

Google Cloud Platform

<https://cloud.google.com/>

Datacenters

<https://www.google.com/about/datacenters/>

Google IT security

<https://cloud.google.com/files/Google-Comm onSecurity-WhitePaper-v1.4.pdf>

Why Google Cloud Platform?

<https://cloud.google.com/why-google/>

Pricing Philosophy

<https://cloud.google.com/pricing/philosophy/>

cloud.google.com



Images by Connie Zhou