

IndiaTechnologyWeek @Home 2020

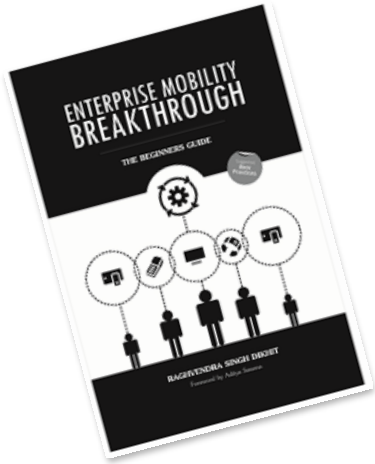
J U N E 2 0 2 0



Raghvendra Singh Dikhit

SENIOR SOLUTIONS ARCHITECT

PUBLICATIONS



- ✓ Edge computing for IoT with Open Source technologies
- ✓ Internet of Things with Wearable Devices at Enterprise Radar
- ✓ Multi-architecture, multiplatform mobile app development frameworks
- ✓ Enterprise Mobility Best Practices
- ✓ Android for the Enterprise
- ✓ Next Generation of Mobile Apps
- ✓ Interviewed for Authors Diary, IoT Show etc.
- ✓ And many other blogs...

INITIATIVES



Raghvendra Singh Dikhit

SENIOR SOLUTIONS ARCHITECT

Author, Speaker, Technical Thought Leader

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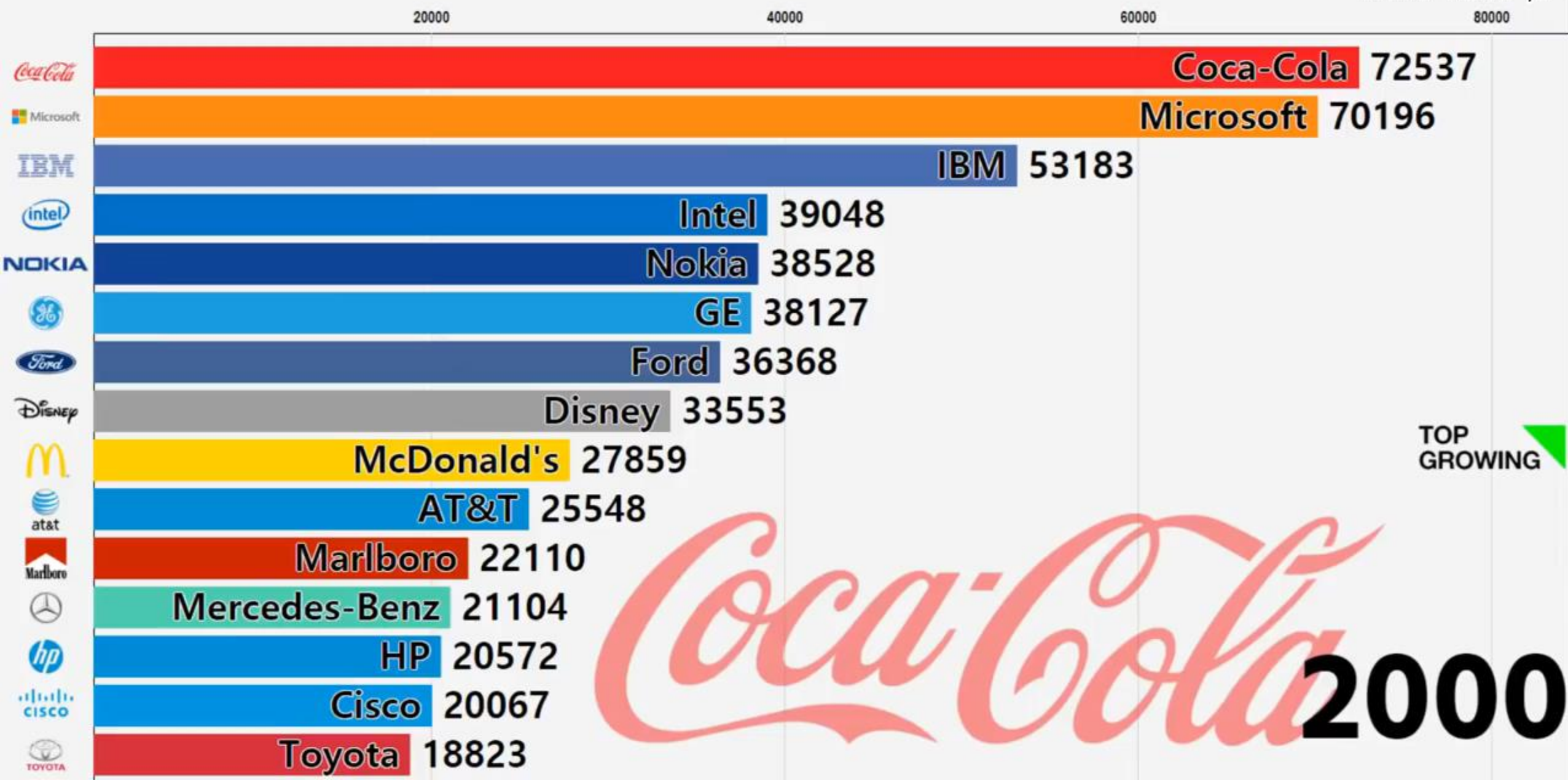
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<https://www.linkedin.com/in/raghvendra-singh-dikhit-674b156/>

Cloud a Catalyst for Enterprise Digital Transformation

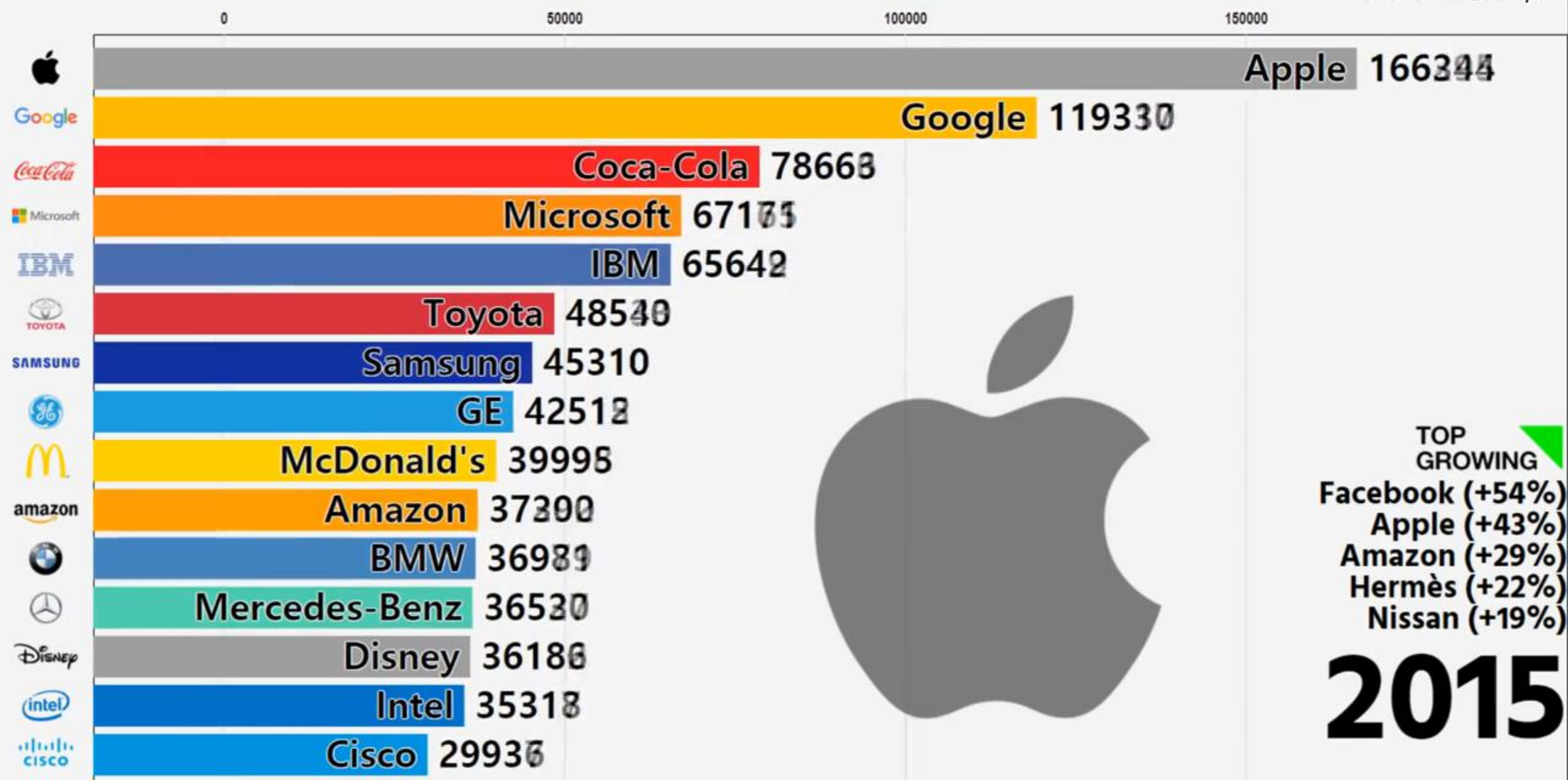
Top 15 Best Global Brands Ranking

Brand Value \$m



Top 15 Best Global Brands Ranking

Brand Value \$m



A photograph of the Singapore skyline at dusk, featuring numerous skyscrapers and a bridge in the foreground. The text "More than 50% of fortune 500 firms listed in 2000 are gone" is overlaid in white. The background shows a dense cluster of modern buildings, including the Maybank Tower and the UOB Tower. In the foreground, a bridge with a curved railing and a walkway is visible, with several people walking and jogging. The water of the harbor is in the lower left corner.

More than 50% of fortune 500 firms listed
in 2000 are gone

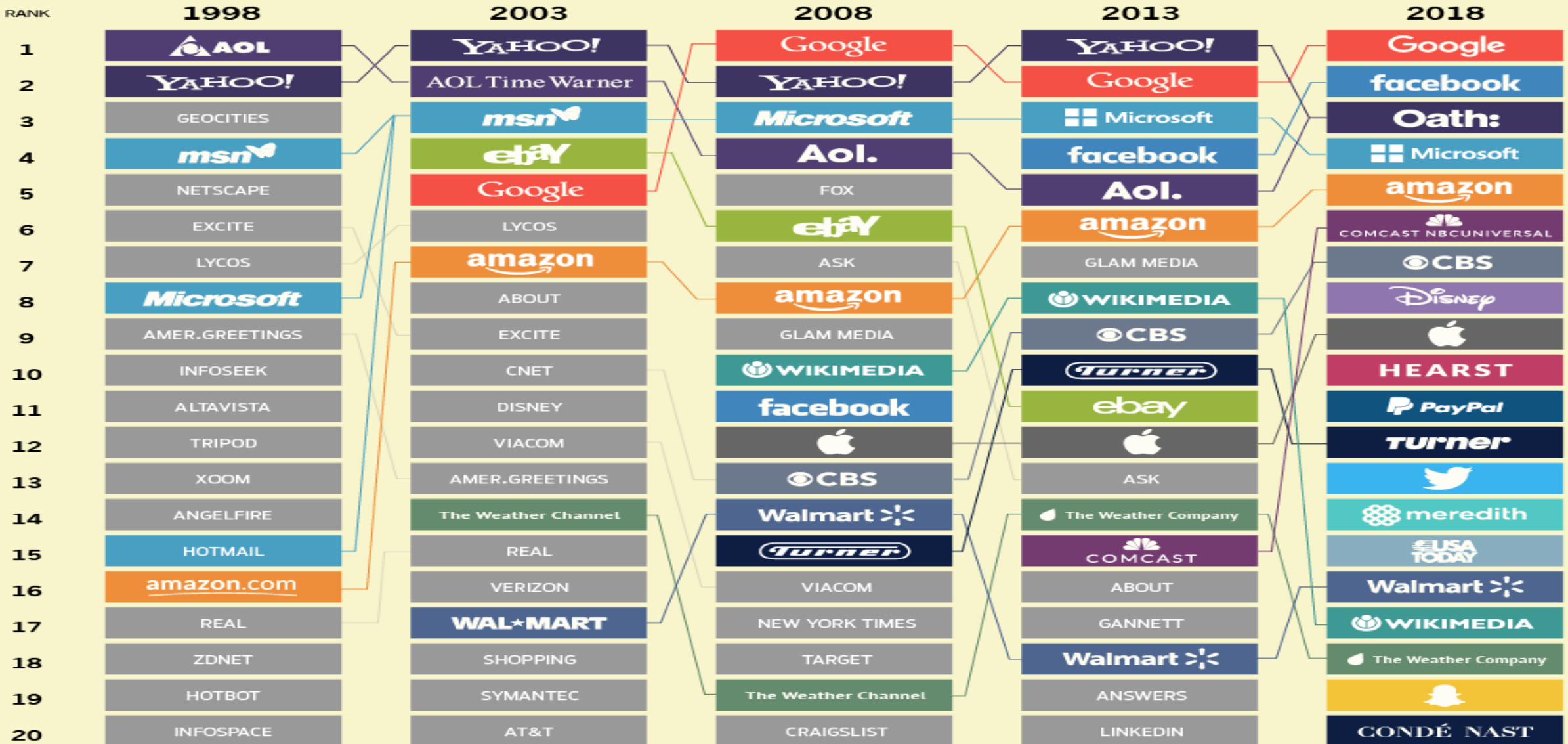


20 YEARS OF INTERNET GIANTS

The Top 20 Biggest Web Properties Over Time



RANK



SOURCES: Media Metrix (Dec 1998), ComScore (Dec 2003, Dec 2008, Dec 2013, and Nov 2018)

visualcapitalist.com



A DAY IN DATA

The exponential growth of data is undisputed, but the numbers behind this explosion – fuelled by internet of things and the use of connected devices – are hard to comprehend, particularly when looked at in the context of one day

500m

tweets are sent every day

Twitter



4PB

of data created by Facebook, including

350m photos

100m hours of video watch time

Facebook Research

320bn

emails to be sent each day by 2021

306bn

emails to be sent each day by 2020

294bn

billion emails are sent

Radicati Group

3.9bn

people use emails

4TB

of data produced by a connected car

Intel

DEMYSTIFYING DATA UNITS

From the more familiar 'bit' or 'megabyte', larger units of measurement are more frequently being used to explain the masses of data

Unit	Value	Size
b bit	0 or 1	1/8 of a byte
B byte	8 bits	1 byte
KB kilobyte	1,000 bytes	1,000 bytes
MB megabyte	1,000 ² bytes	1,000,000 bytes
GB gigabyte	1,000 ³ bytes	1,000,000,000 bytes
TB terabyte	1,000 ⁴ bytes	1,000,000,000,000 bytes
PB petabyte	1,000 ⁵ bytes	1,000,000,000,000,000 bytes
EB exabyte	1,000 ⁶ bytes	1,000,000,000,000,000,000 bytes
ZB zettabyte	1,000 ⁷ bytes	1,000,000,000,000,000,000,000 bytes
YB yottabyte	1,000 ⁸ bytes	1,000,000,000,000,000,000,000,000 bytes

*A lowercase "b" is used as an abbreviation for bits, while an uppercase "B" represents bytes.

65bn

messages sent over WhatsApp and two billion minutes of voice and video calls made

Facebook

463EB

of data will be created every day by 2025

IDC

95m

photos and videos are shared on Instagram

Instagram Business

28PB

to be generated from wearable devices by 2020

Statista

ACCUMULATED DIGITAL UNIVERSE OF DATA

4.4ZB

2013

44ZB

2020

PwC

Searches made a day

5bn

Searches made a day from Google

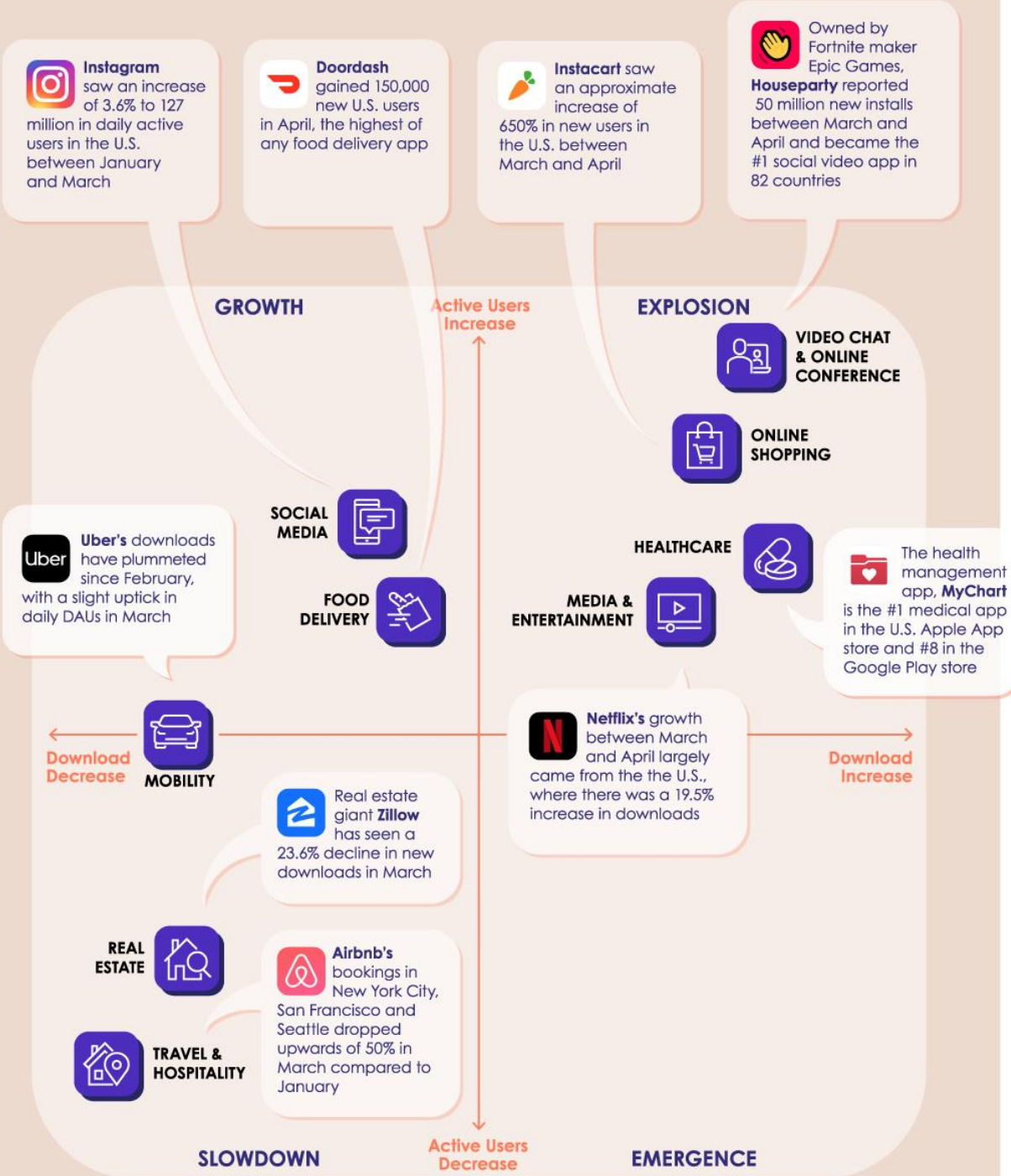
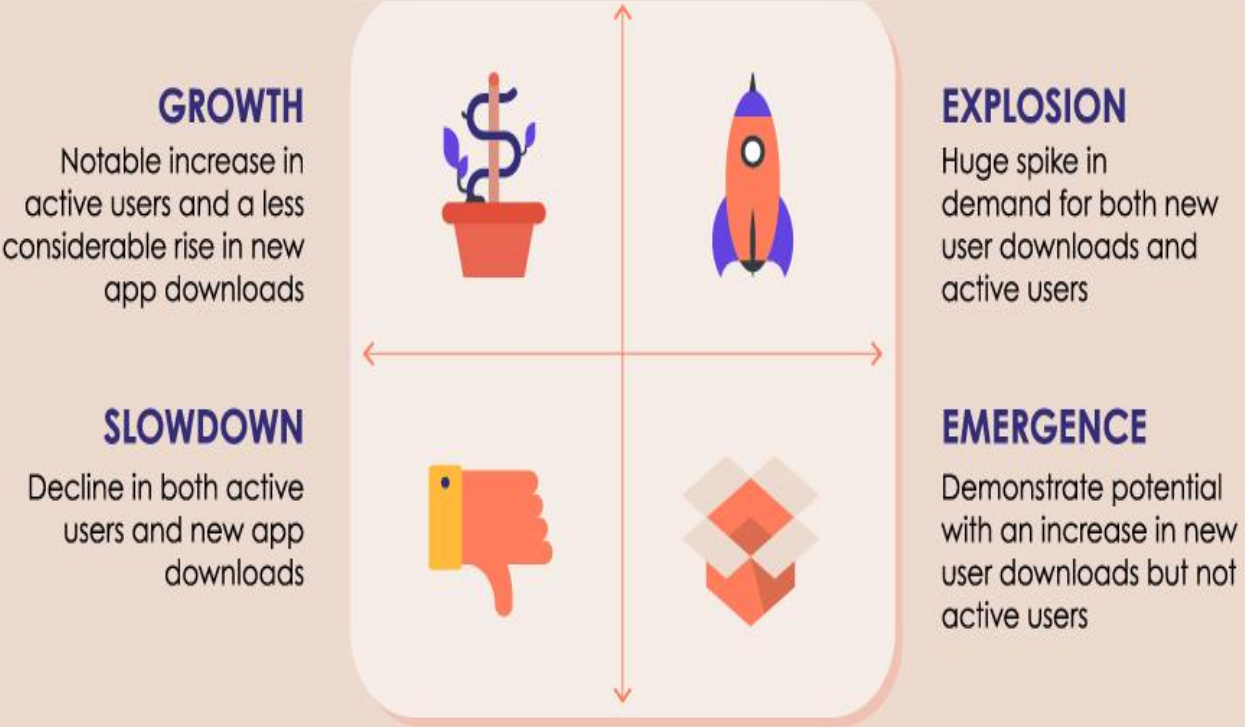
3.5bn

Smart Insights



The Pandemic Popularity Quadrant

The quadrant below illustrates the types of apps that are either growing or slowing in popularity in North America, based on numbers of active users and downloads.



zoom

Communications

Market Capitalization

\$48.78B

ZOOM DAILY MEETING PARTICIPANTS (Millions)



Source: Statista

Southwest 
\$14.04B

 **DELTA**
\$12.30B

UNITED 
\$5.87B

IAG INTERNATIONAL
AIRLINES
GROUP
\$4.11B

 **Lufthansa**
\$3.87B

American Airlines 
\$3.89B

AIRFRANCE **KLM**
GROUP
\$2.14B

Total Airlines
\$46.21B

Source: YCharts, as of May 15, 2020. Top airlines are selected based on their 2019 revenue.
Concept inspired by Lennart Dobravsky at Lufthansa Innovation Hub

A man in a grey blazer stands at the head of a conference table, pointing with a blue marker towards a whiteboard. He is addressing a group of four people seated around the table. The room is modern with large windows in the background. On the table, there are several laptops displaying data charts, a coffee cup, and some papers. The overall atmosphere is professional and collaborative.

Global IT Spending to Decline 8% in 2020 Due to Impact of COVID-19

Gartner: <https://www.gartner.com/en/newsroom/press-releases/2020-05-13-gartner-says-global-it-spending-to-decline-8-percent-in-2020-due-to-impact-of-covid19>

A mountain biker wearing a yellow and blue jersey and a white helmet is captured mid-air, jumping over a rocky ridge. The biker is positioned in the upper left quadrant of the frame. The background features a vast, open landscape with rolling hills and a dramatic, overcast sky with dark, heavy clouds. The text "Disruption demands a response" is overlaid in white, sans-serif font across the center of the image.

Disruption demands a response

Digital Transformation

Enterprise Challenges





Cloud Applications Market by Application (ERP, CRM, HCM, SCM, Content Management, BI and Analytics), Organization Size, Vertical (BFSI, Manufacturing, Government & Public Sector, and Telecommunications), and Region Global Forecast to 2025

The Cloud Applications Market Size is Expected to Grow from USD 171 Billion in 2020 to USD 356 Billion by 2025, at a Compound Annual Growth Rate (CAGR) of 15.8% during the Forecast Period.

Apr 2020 : [https://www.researchandmarkets.com/reports/5017645/cloud-applications-market-by-application-erp?utm_source=dynamic&utm_medium=BW&utm_code=tmsz6h&utm_campaign=1380779+-+Global+Cloud+Applications+Industry+\(2020+to+2025\)+-+Rising+Number+of+Startups+and+SMEs+in+Economically+Developing+Countries+Presents+Opportunities&utm_exec=jamu273bwd](https://www.researchandmarkets.com/reports/5017645/cloud-applications-market-by-application-erp?utm_source=dynamic&utm_medium=BW&utm_code=tmsz6h&utm_campaign=1380779+-+Global+Cloud+Applications+Industry+(2020+to+2025)+-+Rising+Number+of+Startups+and+SMEs+in+Economically+Developing+Countries+Presents+Opportunities&utm_exec=jamu273bwd)

Why Cloud a Catalyst?

Why Cloud?

Agility

- Time to market for new use cases
- Quick turnaround with thousands of VMs within minutes
- PaaS, SaaS offerings for Sandboxing needs
- Cloud can lead to separate specialized clusters

Elasticity

- Compute and Storage can be sized independently
- Create ad-hoc, transient Cluster
- Grow and Shrink Clusters Dynamically
- Compute can grow independently of Storage

Affordability

- Pay as you go model
- Zero bootstrap cost
- Numerous cost optimization practices available
- Automated Matured Practice increases benefits
- 60% lower TCO than deploy on premise*

Cloud Deployment Models



P r i v a t e



P u b l i c



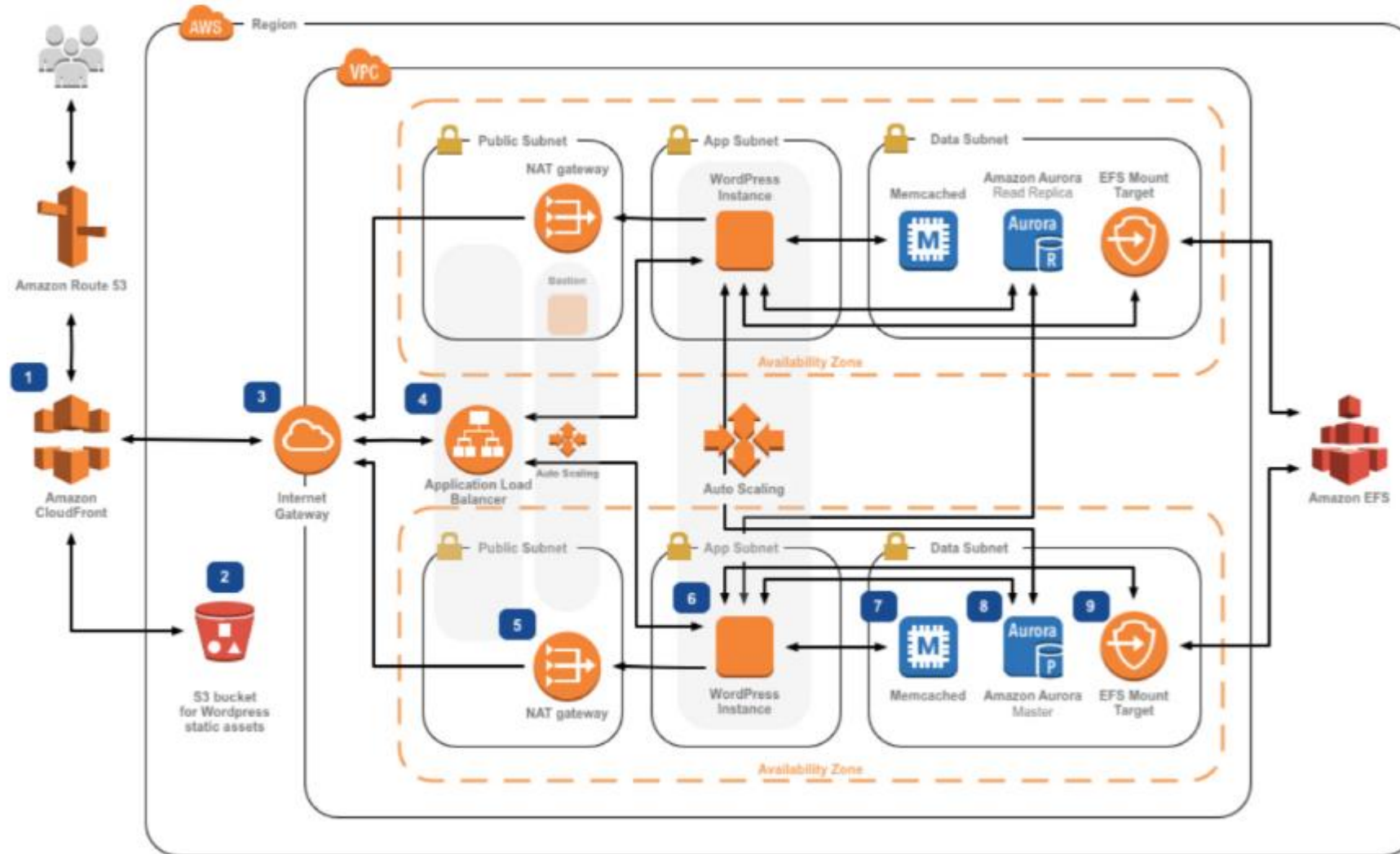
H y b r i d



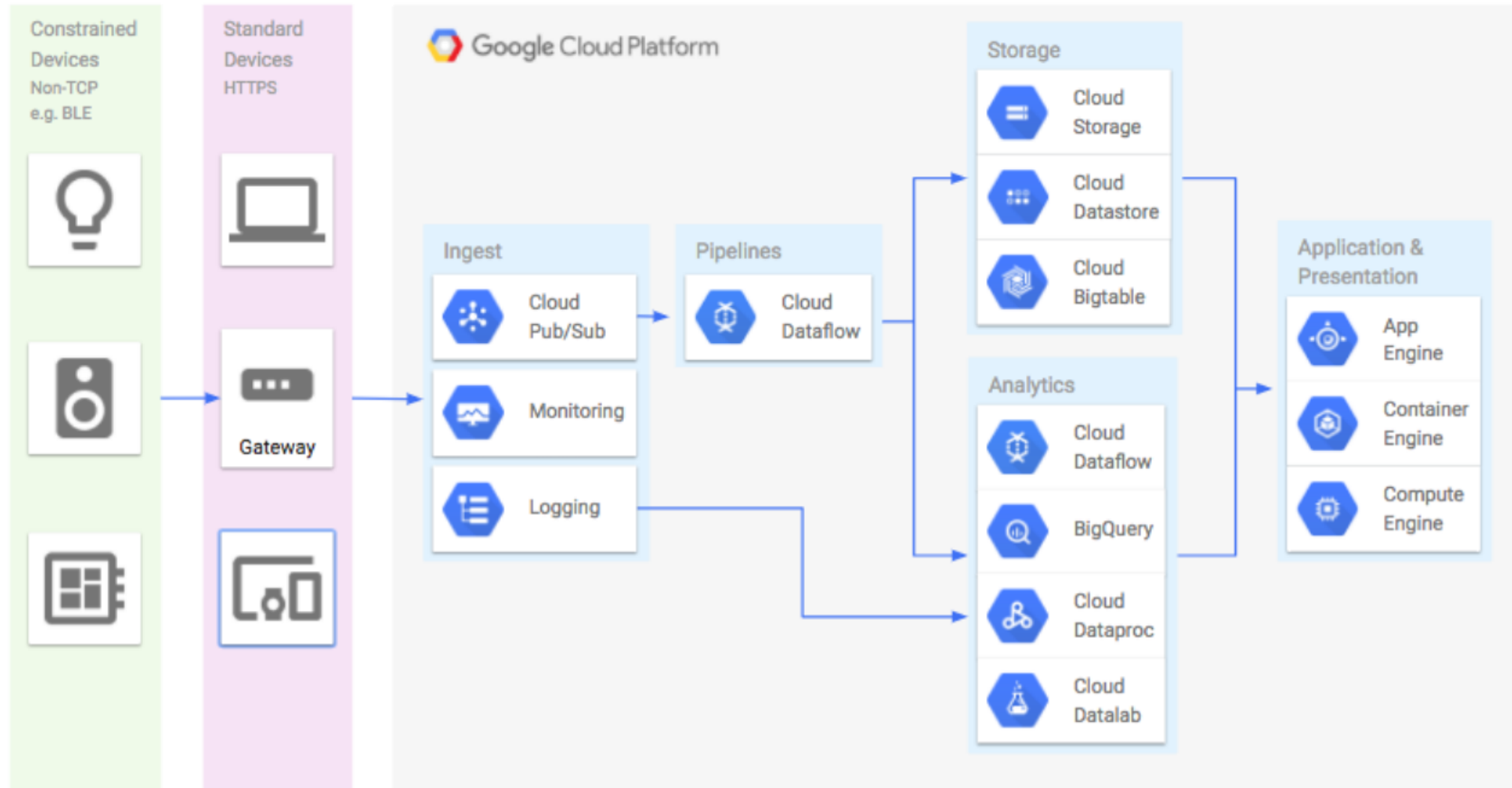
M u l t i - C l o u d

Cloud Architectures

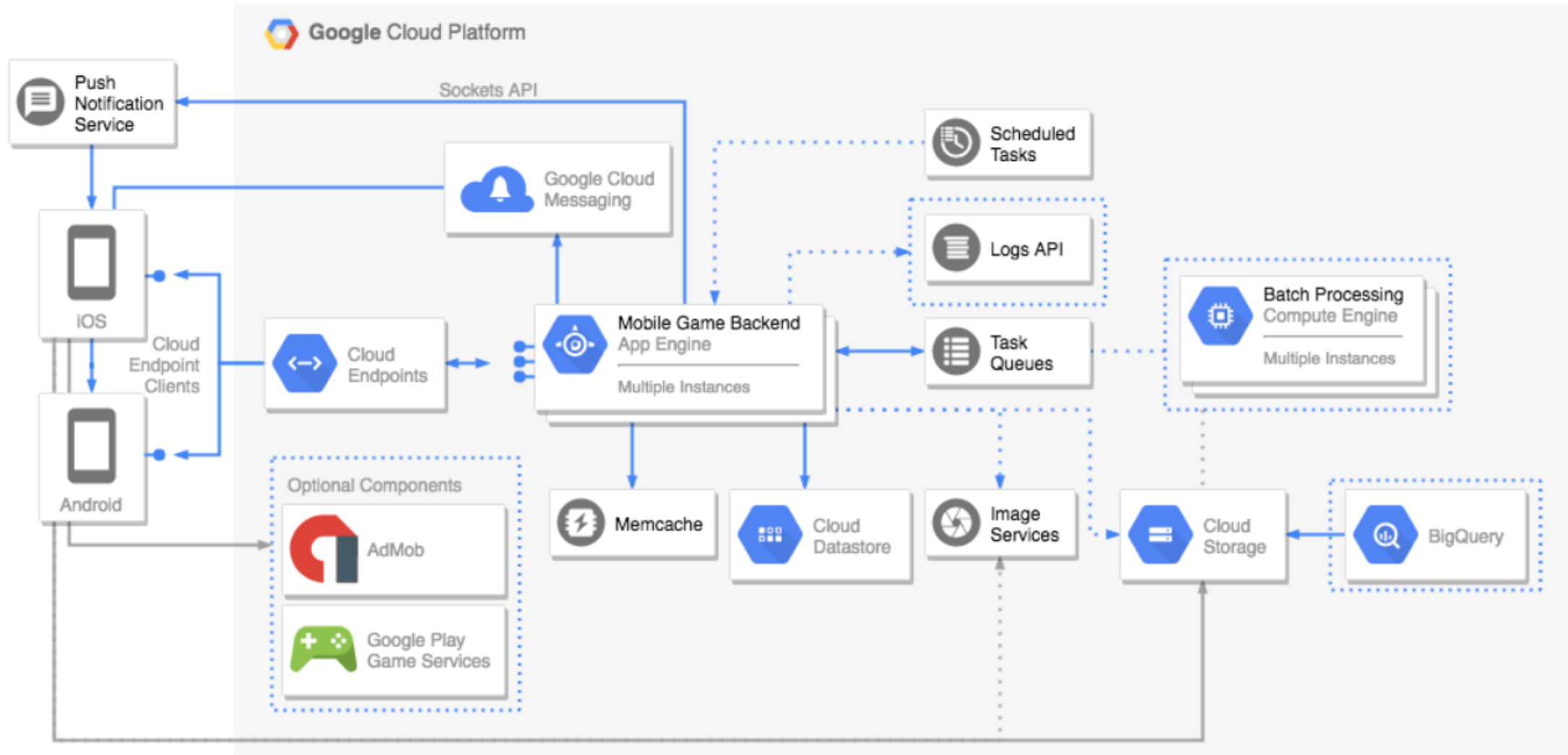
Cloud Architectures... (AWS)



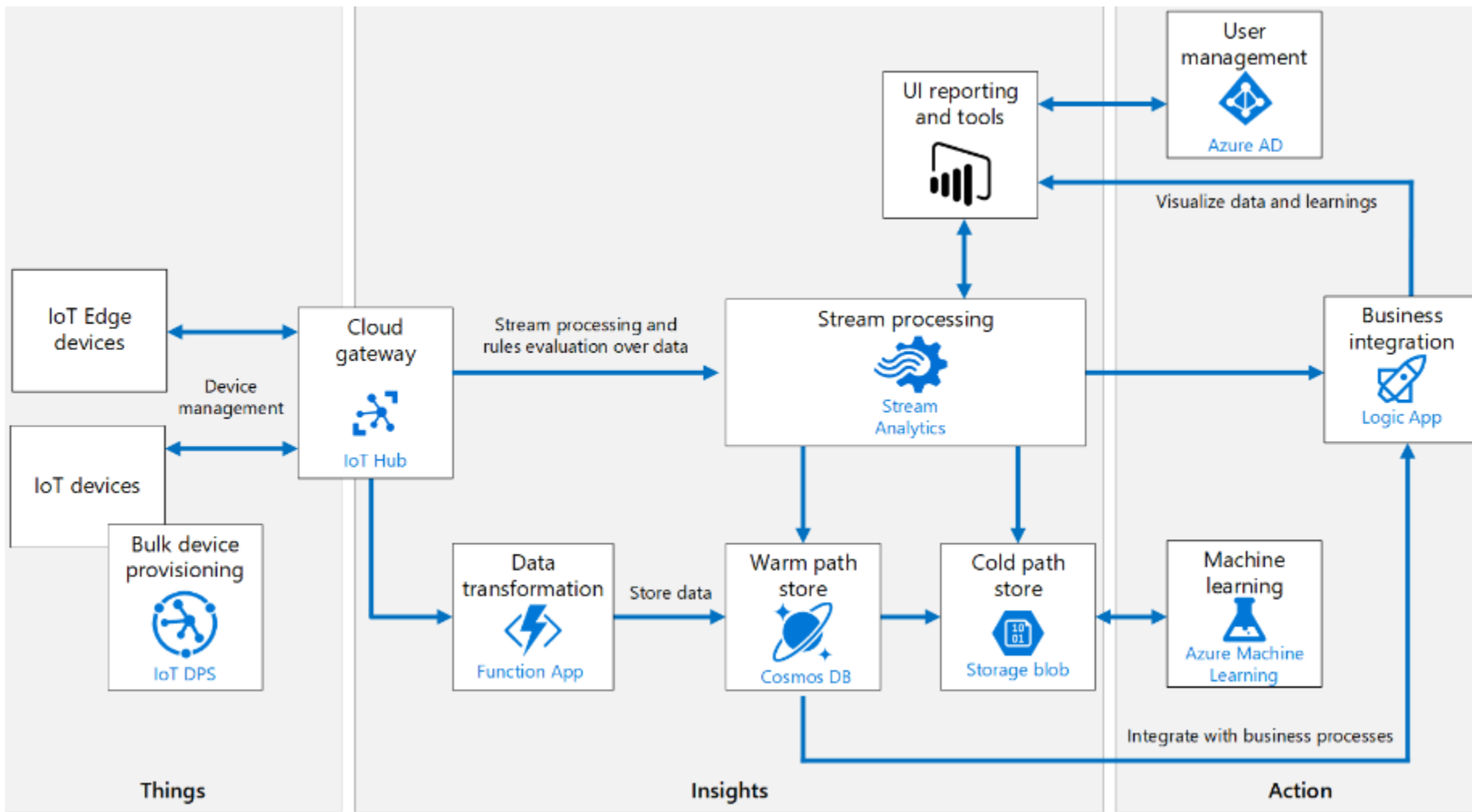
Cloud Architectures... (GCP)



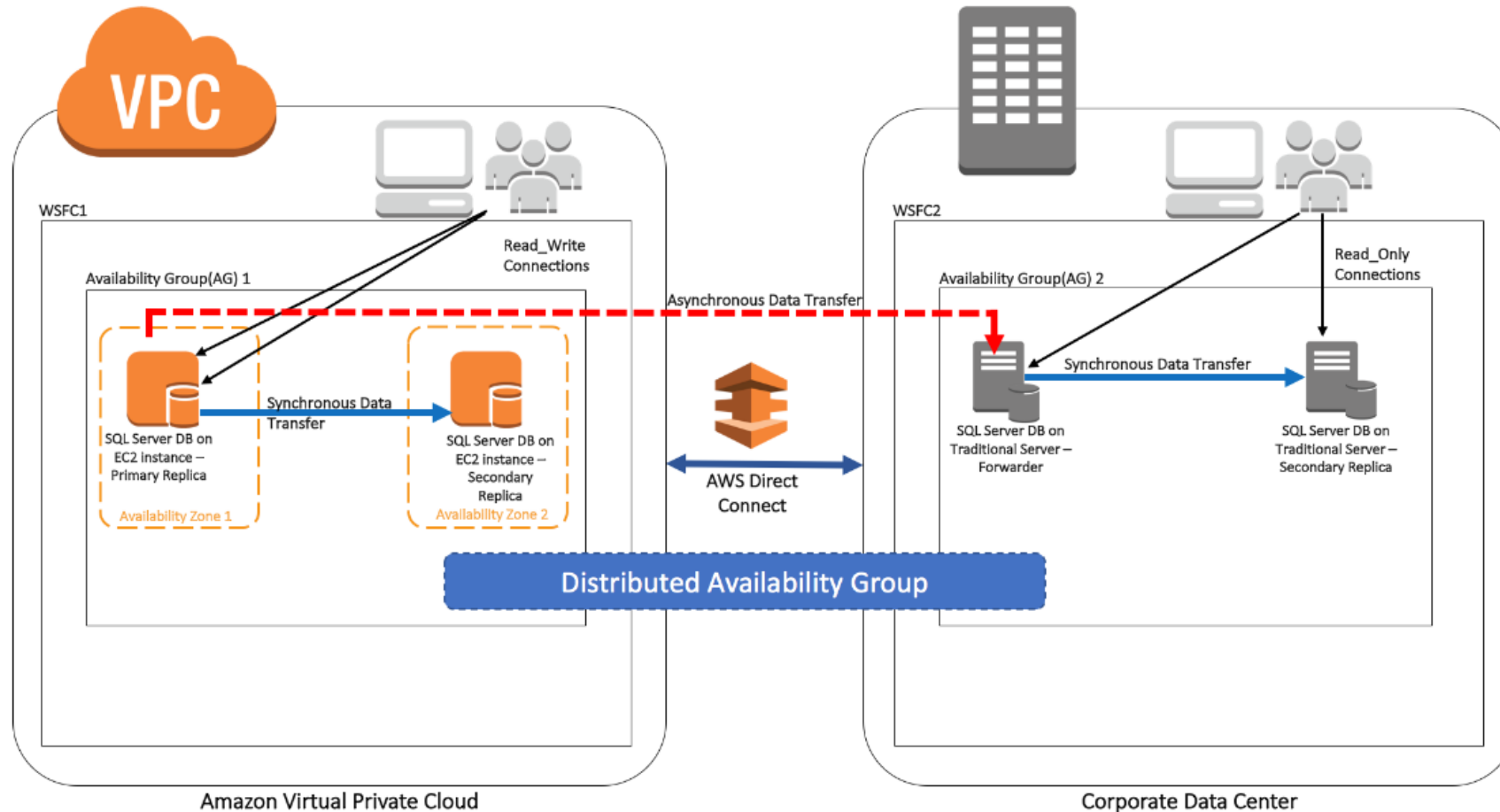
Cloud Architectures... (GCP)



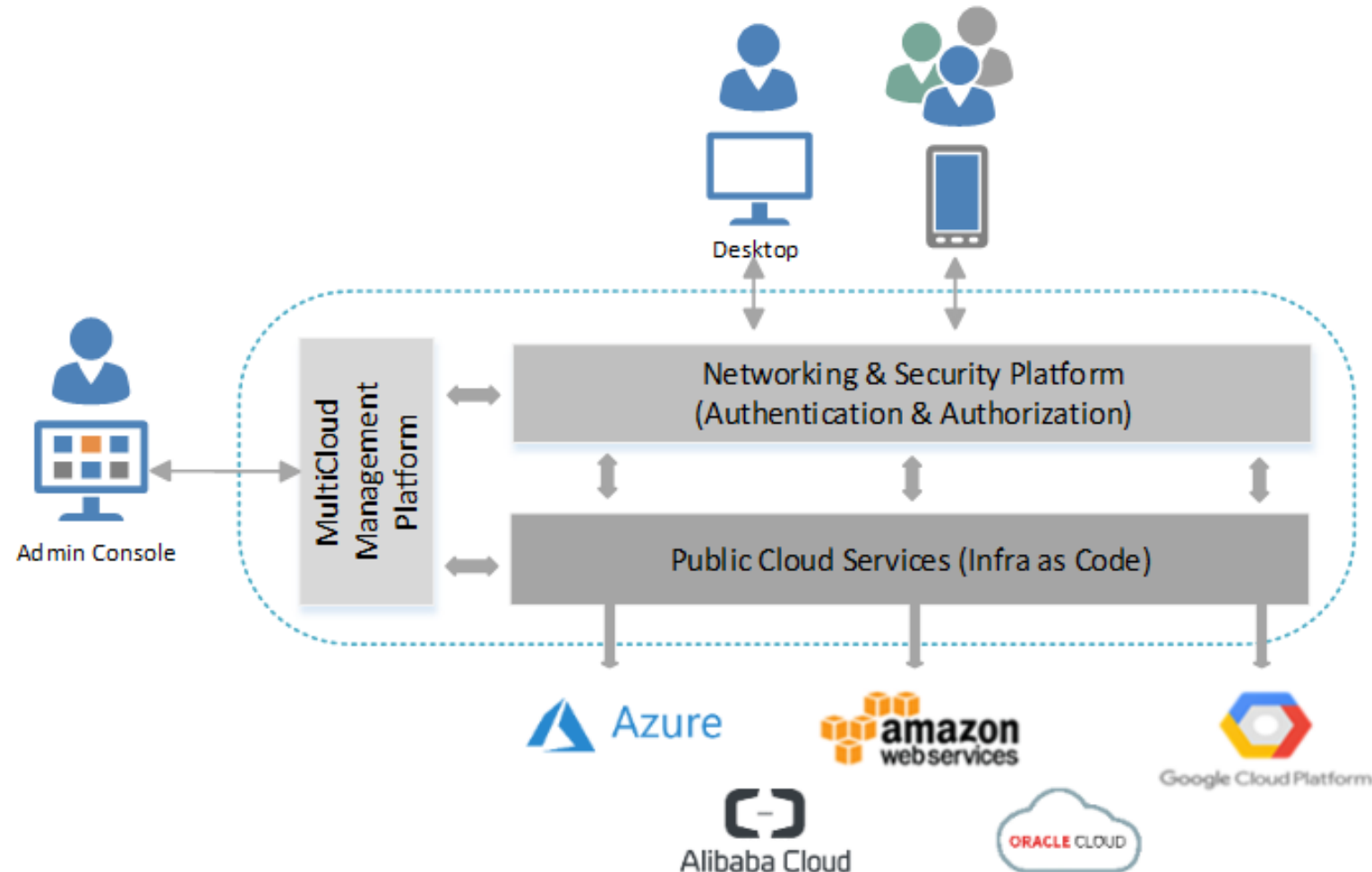
Cloud Architectures... (Azure)



Cloud Architectures... (Hybrid cloud)

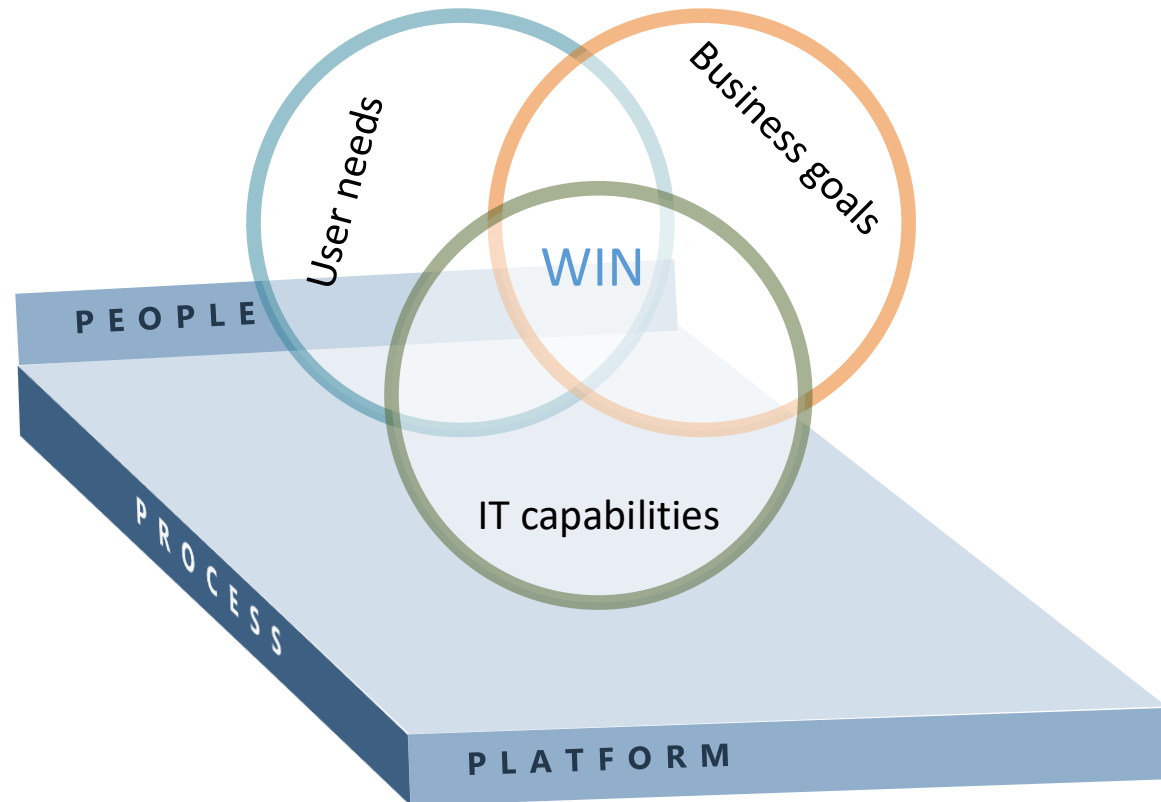


Cloud Architectures... (Multi-cloud)



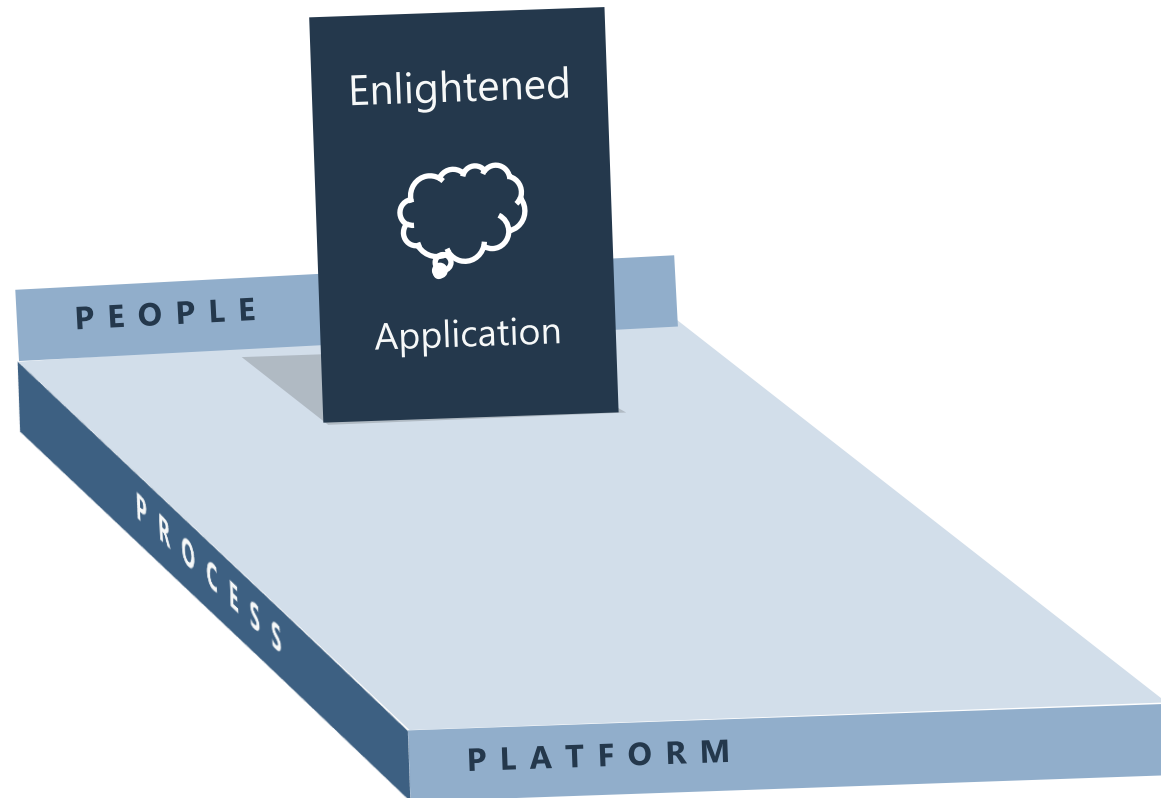
Cloud Maturity Levels

Cloud Maturity Levels



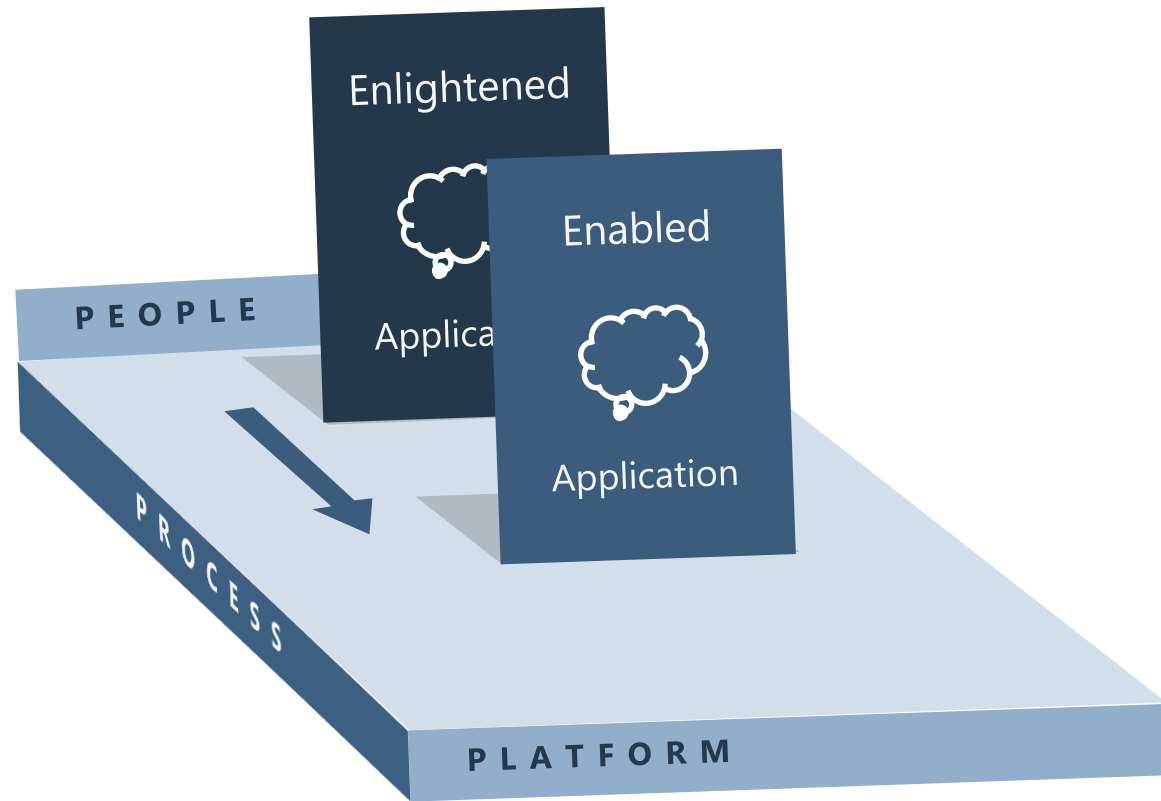
- ✓ People (Culture internal/external)
- ✓ Process (Mission, vision)
- ✓ Platform (Infra, Software)

Cloud Maturity Levels...



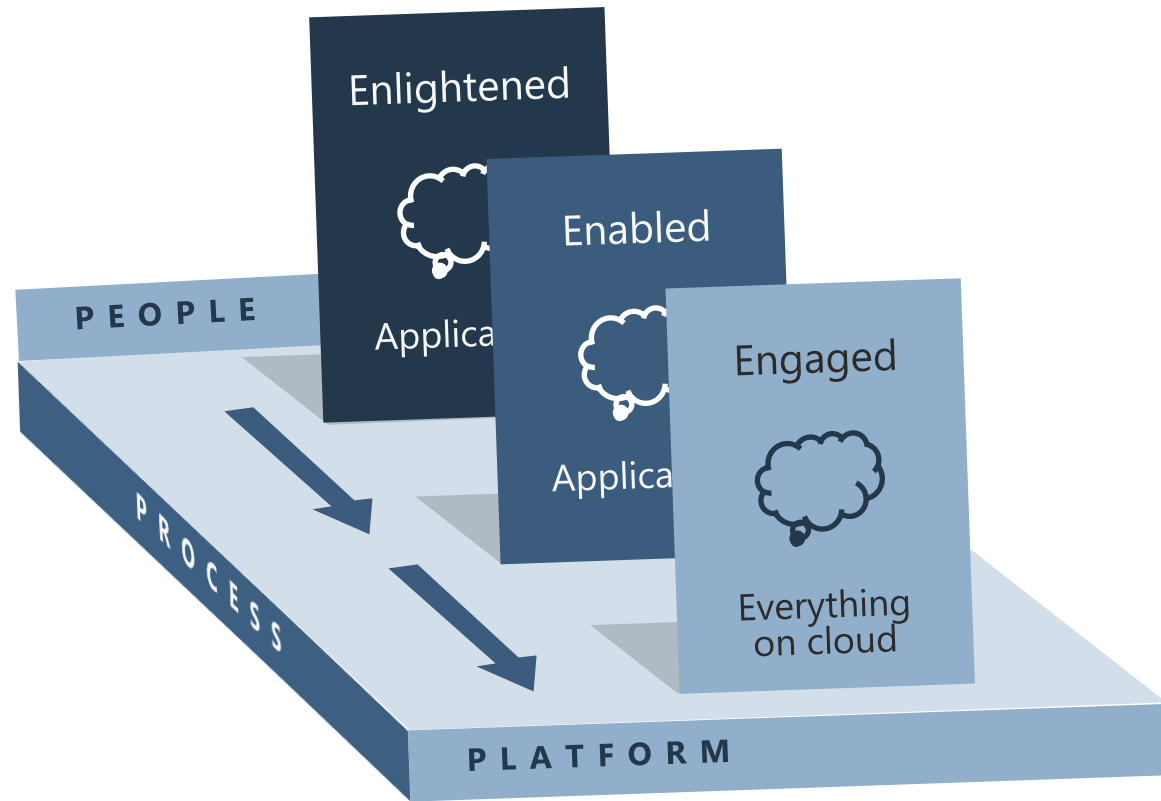
- ✓ Assessment
- ✓ POC
- ✓ Sessions
- ✓ Workshops
- ✓ Trainings
- ✓ Applications on public cloud

Cloud Maturity Levels...



- ✓ Roadmap
- ✓ CoE
- ✓ Applications on multi-cloud

Cloud Maturity Levels...



- ✓ Customers
- ✓ Optimizations (Performance / Cost)
- ✓ Round the clock: Governance, Monitoring, Management, Security, Compliance
- ✓ Research and development

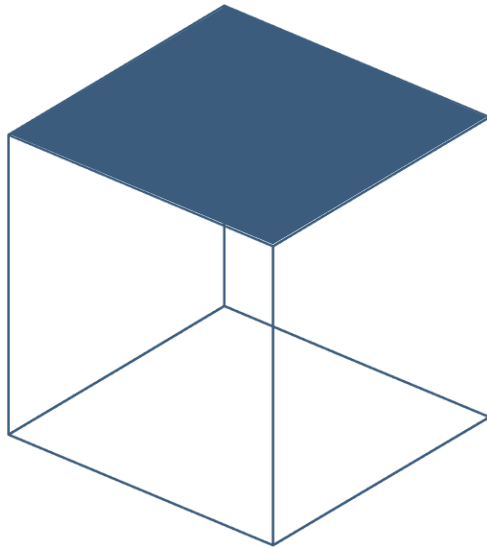
Cloud Solution Evaluation Parameters

Evaluation Parameters

Availability Recoverability Resilience Security Data Integrity
Capacity Manageability Scalability Threat Management Usability
Performance Reliability Environmental Maintainability Interoperability
Risk Management Survivability Disaster Recovery Regulatory ...

Application Features Transactions Administration
Authentication Authorization Tracking External Interfaces
Compliance Reporting Certifications Historical Data
Governance Business Rules Audit Legal or Regulatory ...

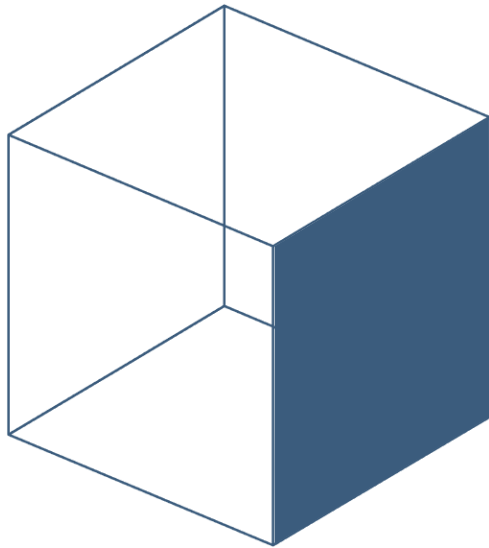
Evaluation Parameters...



Computing

- Managed instances
- Edge computing
- Serverless computing
- ...

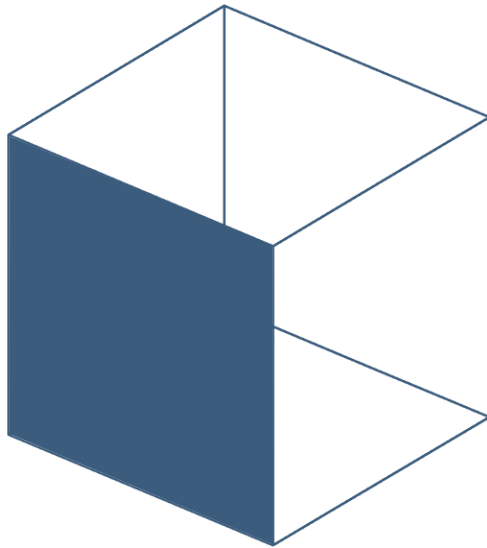
Evaluation Parameters...



Storage and Database

- Structured and unstructured data
- Archival storage
- Data lake
- ...

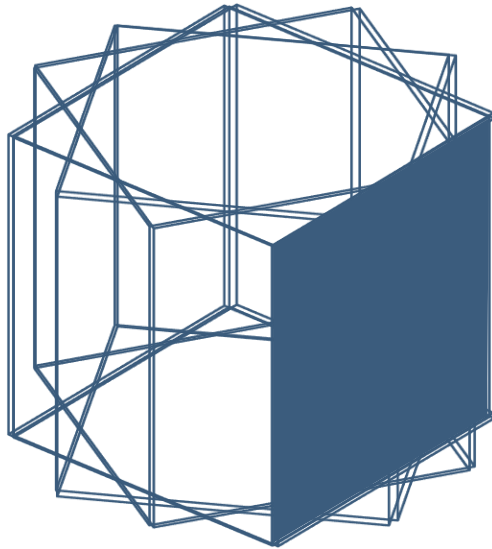
Evaluation Parameters...



Infrastructure and Networking

- Virtual network
- Gateways
- VPN
- ...

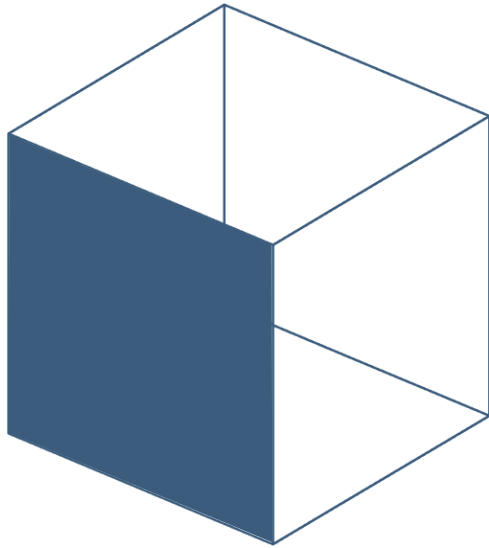
Evaluation Parameters...



Application Services

- Analytics
- Development tools
- Integration tools
- ...

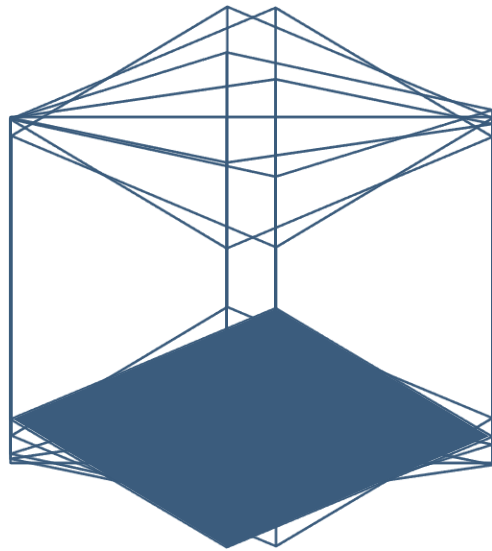
Evaluation Parameters...



Management and Governance

- Application monitoring and logs
- Infrastructure monitoring
- Usage reports
- Alerts / notification
- Configurations
- ...

Evaluation Parameters...



Security, Identity and Compliance

- Authentication, authorization
- Identify, role and privilege management
- Compliance enablement
- Security enforcement
- ...

Cloud Transformation Guidelines

Guidelines

Cost efficient cloud

**Optimized cloud
resource**

**Managed compute
& storage cost**

**Seamless and
optimal onboarding
of use cases**

**Cloud enterprise
standards**

**Minimize vendor
lock in**



A group of business professionals are gathered around a wooden conference table in a modern office setting. A man in a blue and white checkered shirt and glasses is shaking hands with a woman in a grey sweater. Other people are seated at the table, some looking at laptops and others at each other. The table is cluttered with various items including a coffee cup, a water bottle, a small potted plant, and several smartphones. The background shows a large window and a modern interior design.

Each business is unique as their cloud transformation

Q&A

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