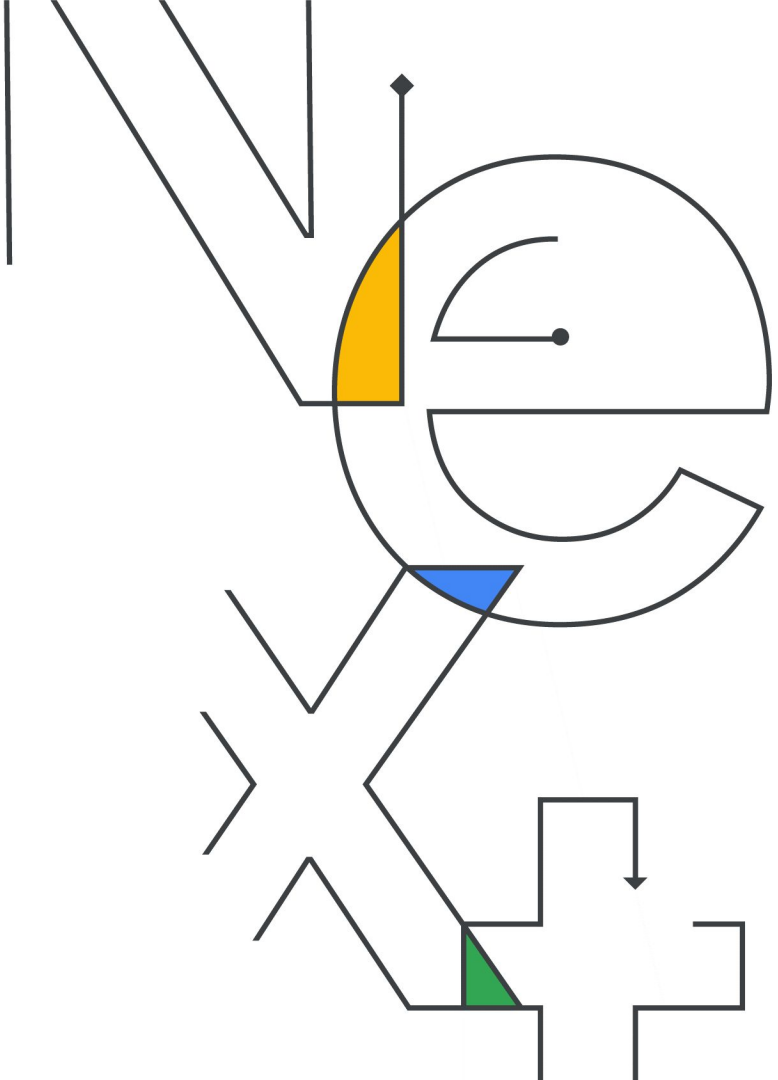
Google Cloud

Next '22

How Equifax simplified their microservices implementation while supporting 2.5 billion API transactions



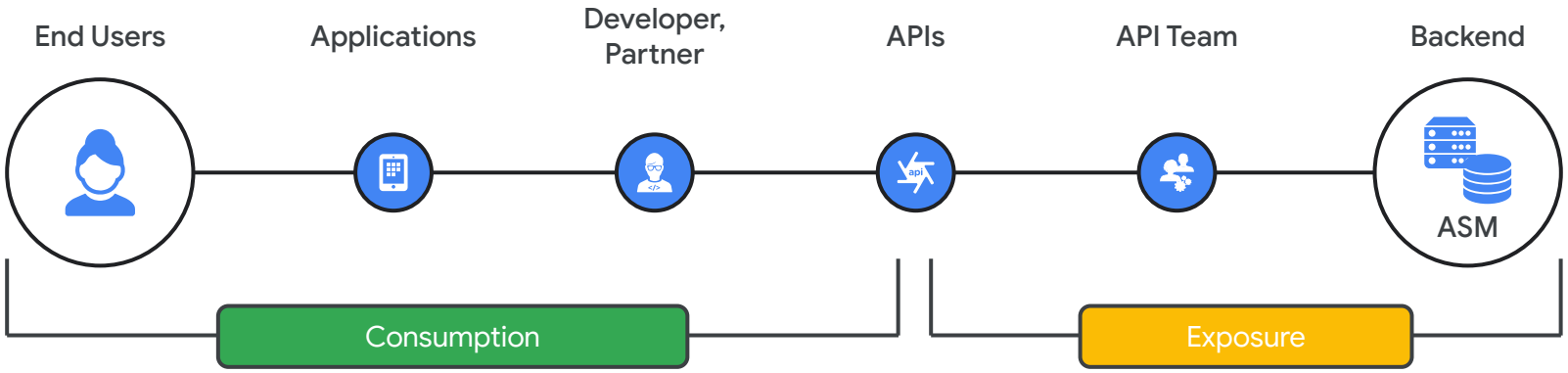
Geir Sjurseth

Product Manager, BAP
Google Cloud

Neil Erickson

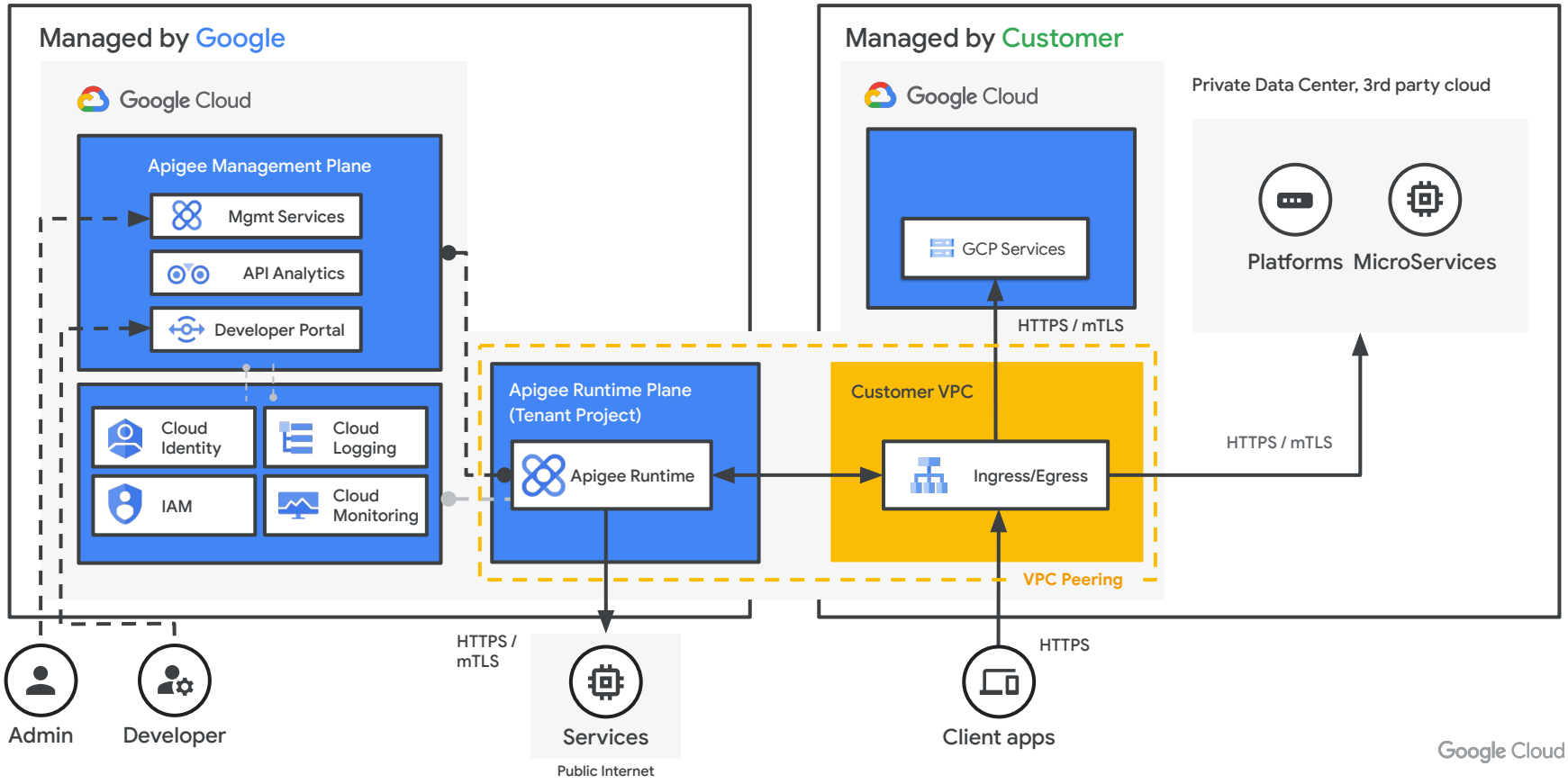
Vice President,
Digital Platforms
Equifax

Digital value chain



Visibility
Security
On-boarding
Scale
Integration

APIs & Cloud Native Services



Believe it or not, Kubernetes doesn't solve all your problems.

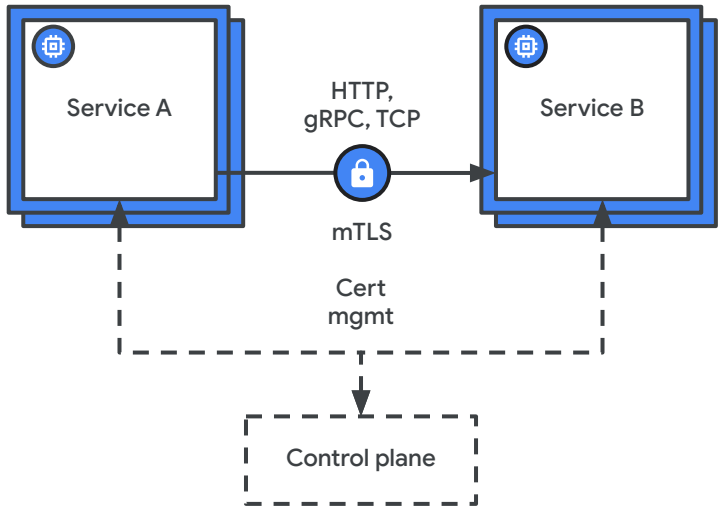
- most people, after a while

Microservices, the service mesh and managed APIs

Consider service communication

Data flow

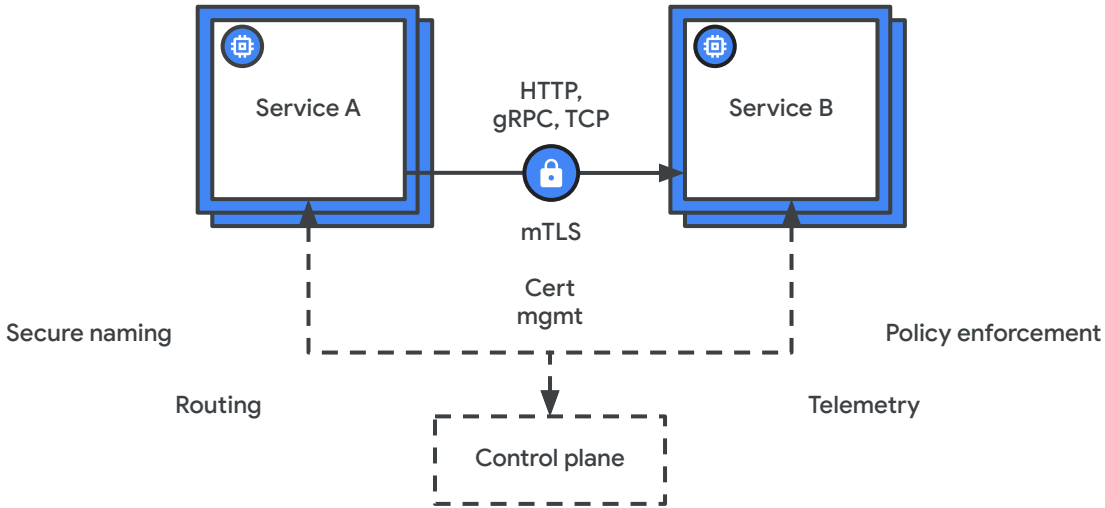
Manage the certificates, somehow



Data flow

Control flow

We also want other application layer smarts



All sorts of policies

Quality of service

- Timeouts
- Retries
- Circuit breakers

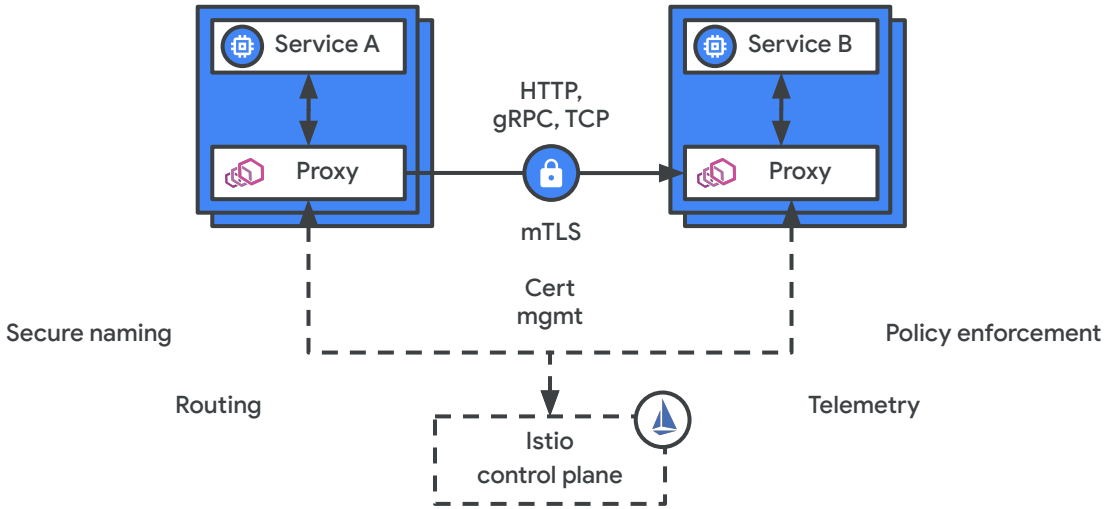
Authorization

- Local authorization
- 3rd party lookups
- Quotas and rate limiting

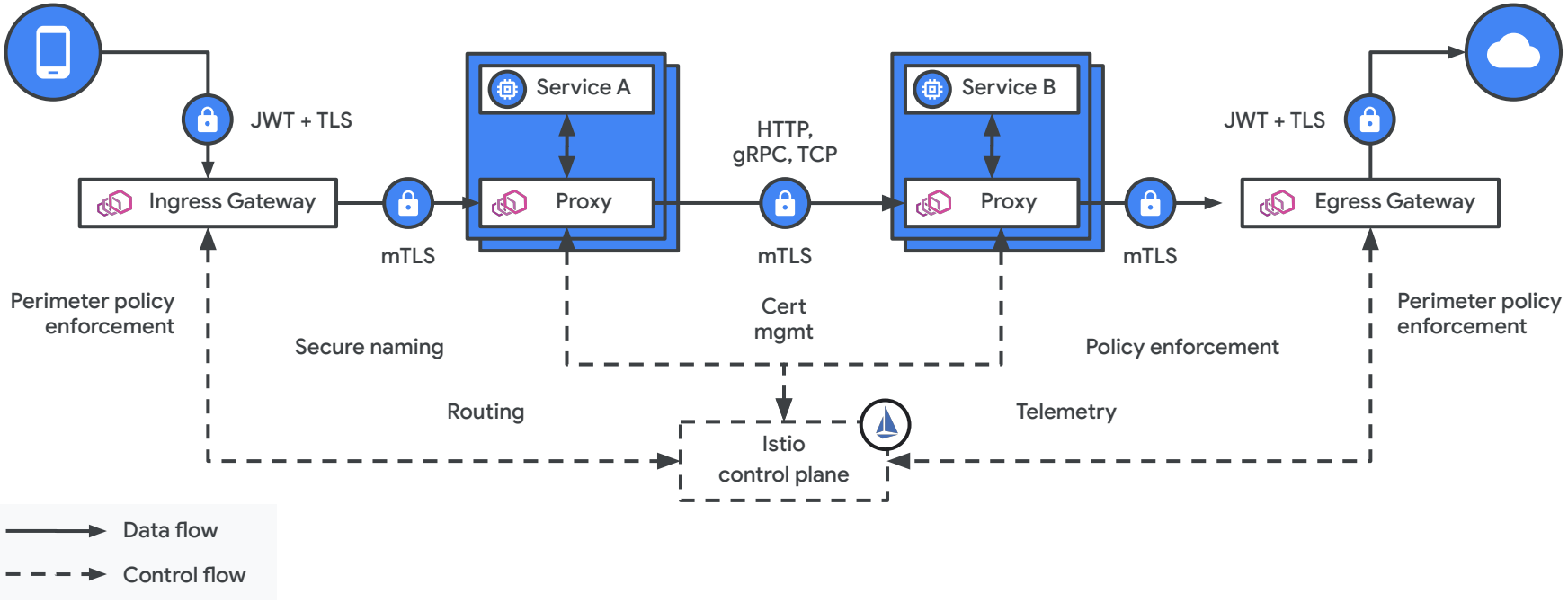
Traffic shaping

- Content-based routing
- Canaries
- A/B testing

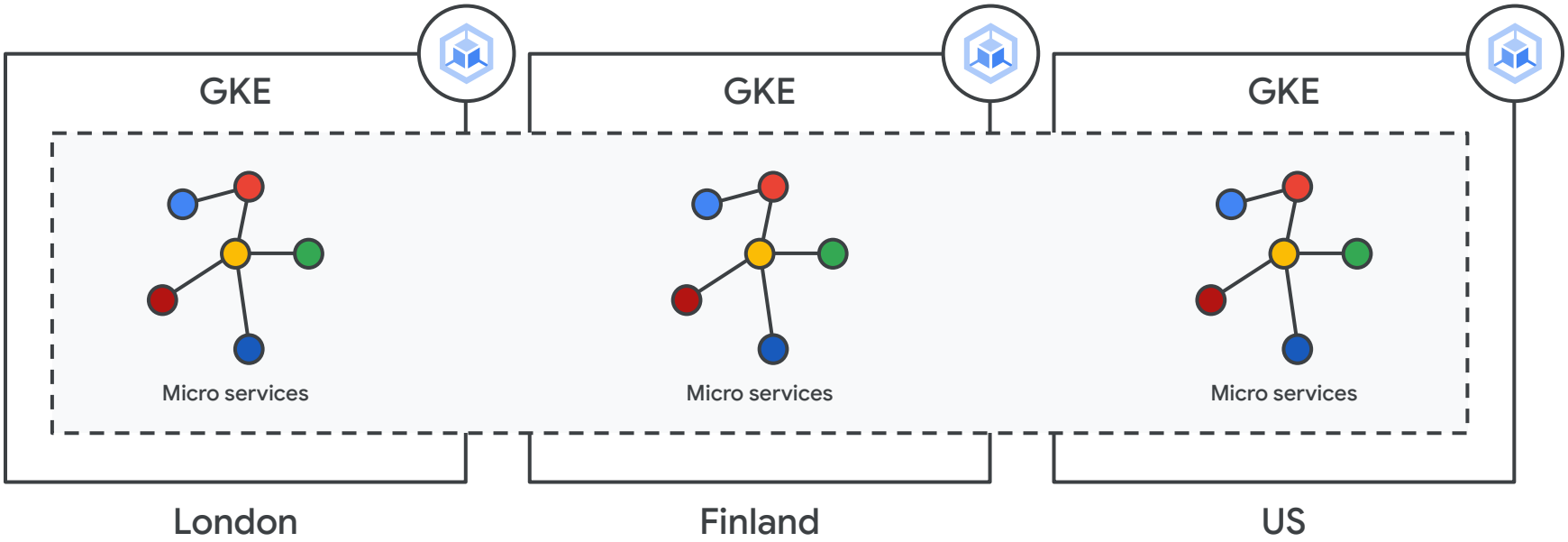
This is the Istio service mesh architecture



...and for egress out from the mesh



A mesh could span clusters and platforms



Service mesh benefits

01

Connect

Control the flow of traffic, use canary releases, and conduct flexible testing

02

Secure

Automatically secure the communication between your services with encryption, authentication and authorization

03

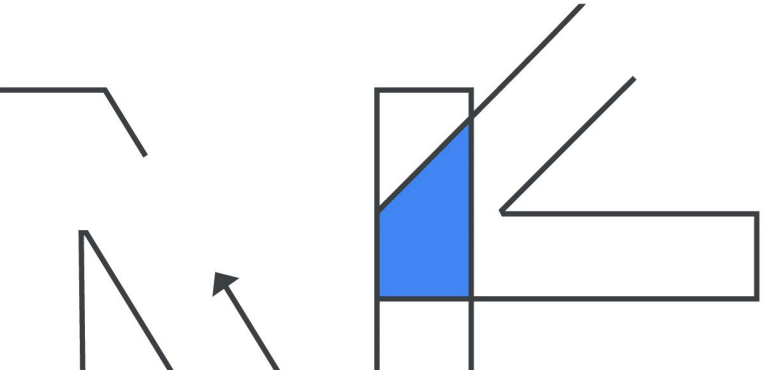
Control

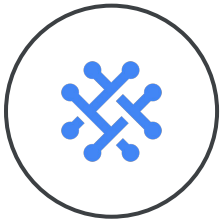
Apply policies and ensure they are enforced across services. Manage traffic between services to ensure fair use of resources

04

Observe

Rich operational logging, monitoring and tracing

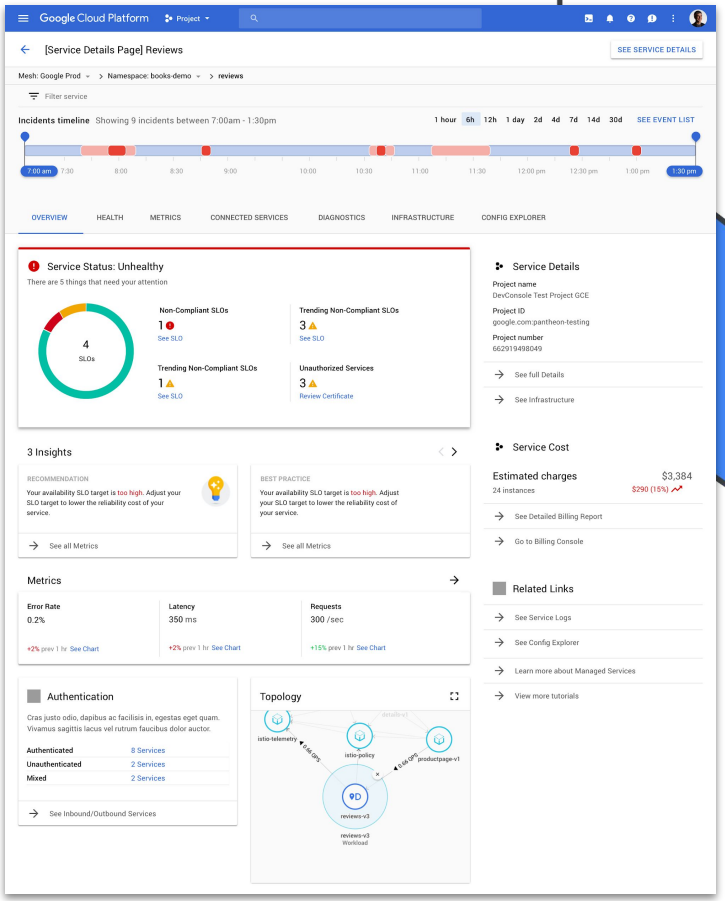




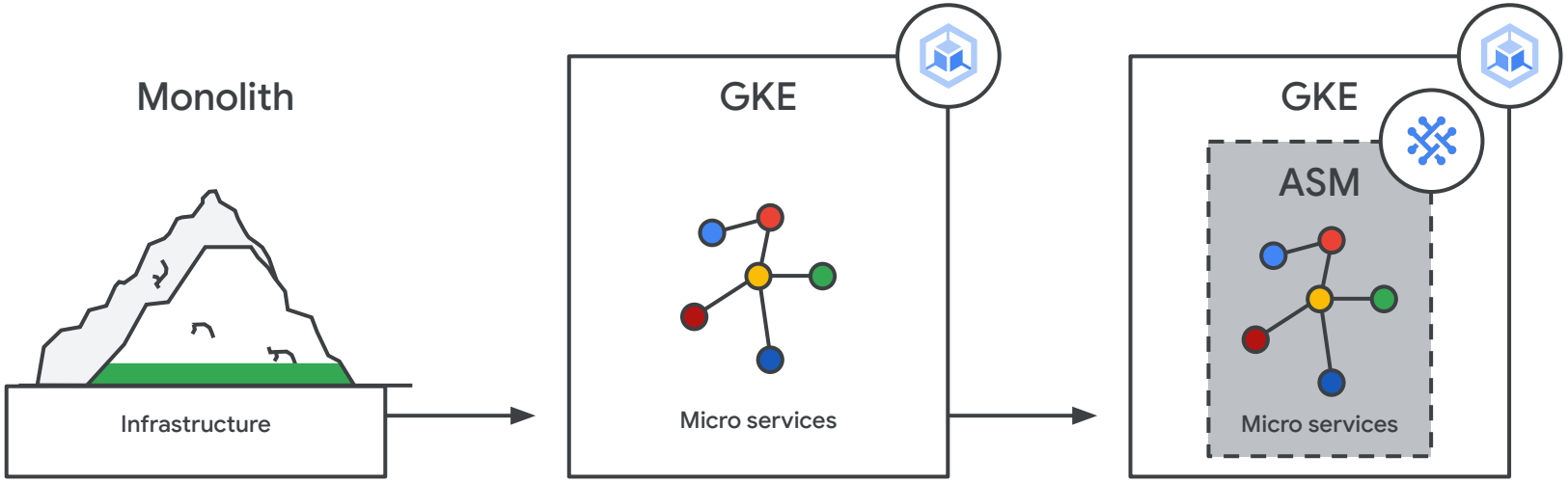
Anthos Service Mesh (ASM) provides
service management and a single pane of glass for

- Metrics, logging, tracing, and SLO monitoring
- Service identity, AuthN/Z, and encryption
- Traffic management: routing, and load balancing

Additionally, ASM provides insights
and recommendations, and analytics



From monolith to managed microservices

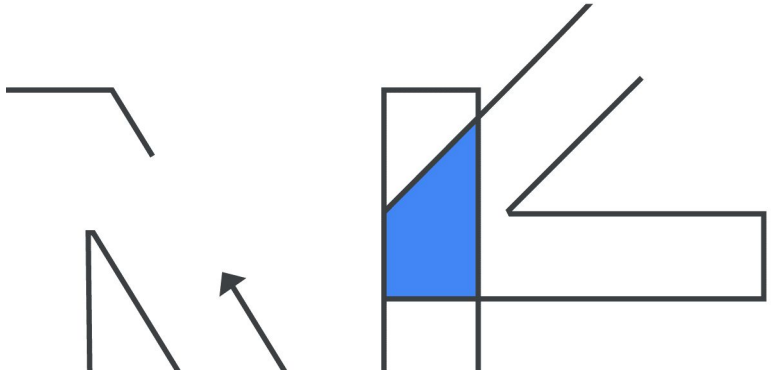


- Large release units
- Strong coupling
- Creaky automation
- Coarse tests

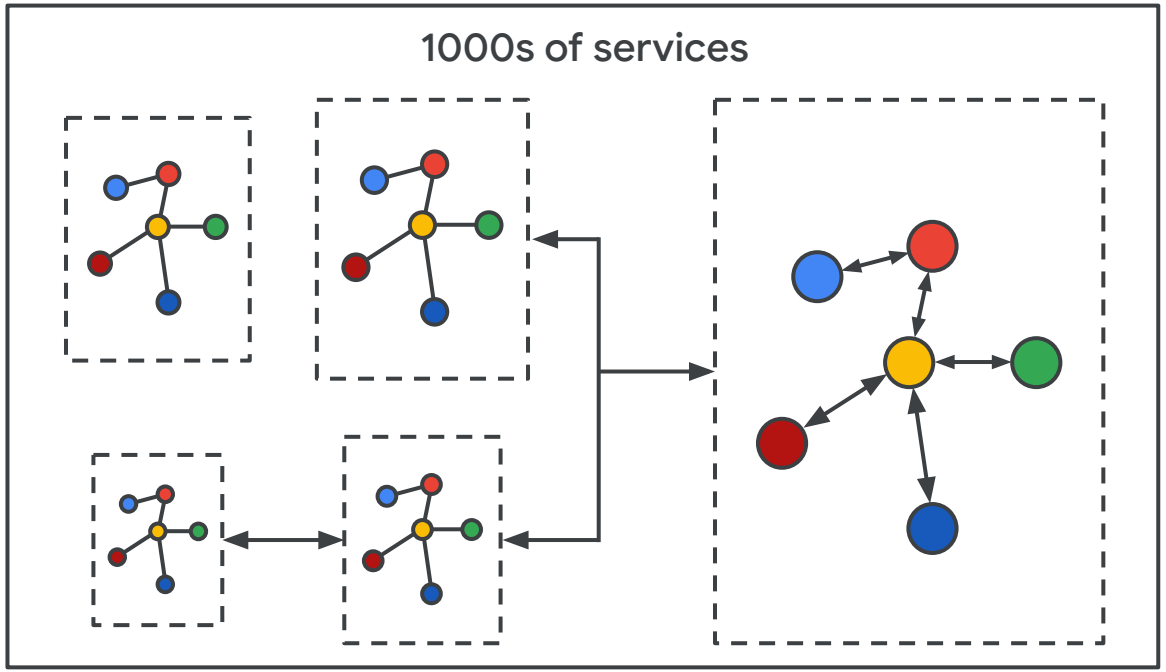
- Smaller release units
- Looser coupling
- Better automation
- Smaller-grained tests

- Faster, more reliable releases
- A/B testing
- Policy enforcement
- Central observability

What if there is demand to selectively expose mesh services to external, partner or internal audiences?



How would you govern the exposure of the mesh?



Internal applications

Partners

3rd party apps & services, ecosystems

Apigee functional overview

Developer services


API catalog


Client /SDK


API products


API monetization


API marketplace

Analytics services


Developer engagement metrics


Business metrics


Operational metrics


API program metrics


API monitoring

Management services


Security


Transformation


Integration


Orchestration


API abuse prevention

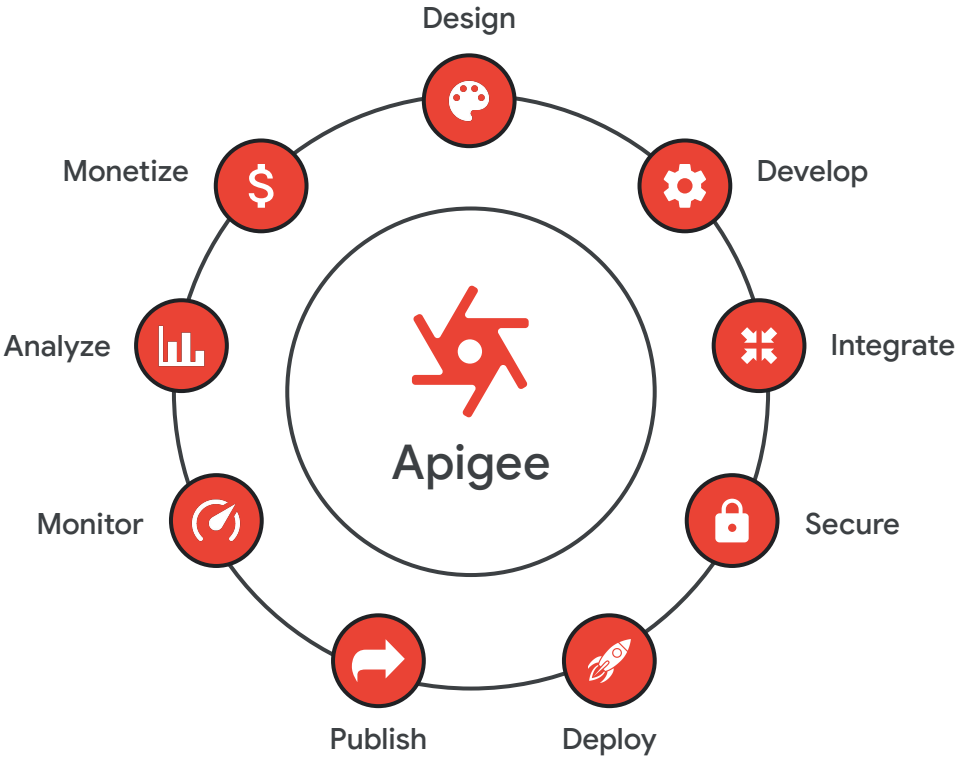
API runtime


Enterprise gateway


Hybrid


Envoy

API lifecycle



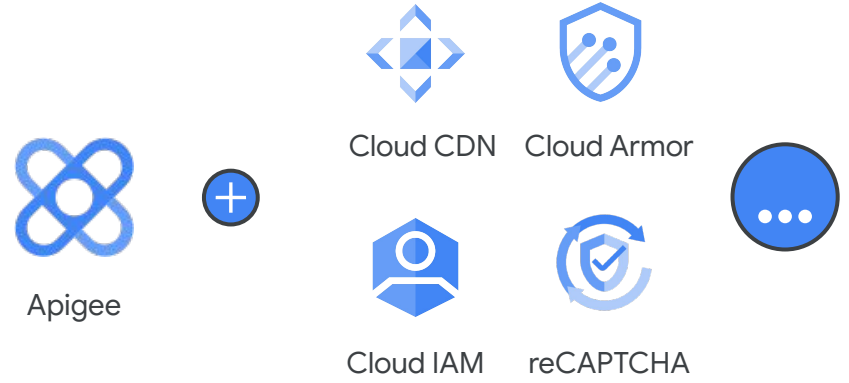
Apigee

GCP native API management utilising the same infrastructure and services used by Google

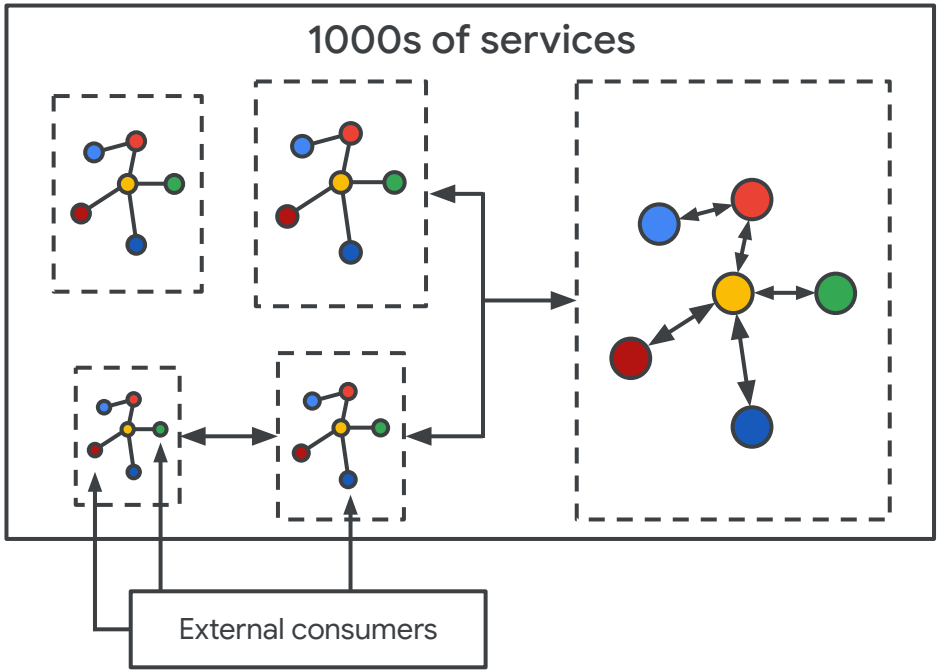
Choice of Google or customer-managed API runtime allowing you to focus on building scalable and optimized APIs

Advanced networking, security and privacy
Fine-grained and customizable platform controls to meet stringent requirements

Powering API programs for enhanced scale, security & performance



Additional concerns for managed APIs



Product owners

- Multi-channel consumption
- Manage APIs as products
- API analytics and consumption metrics
- Monetization
- Consumer onboarding
- API documentation and discovery
- Consumer entitlement and quota

Operations

- API monitoring
- API metrics
- Governing and managing access
- Distributed request tracing

API developers

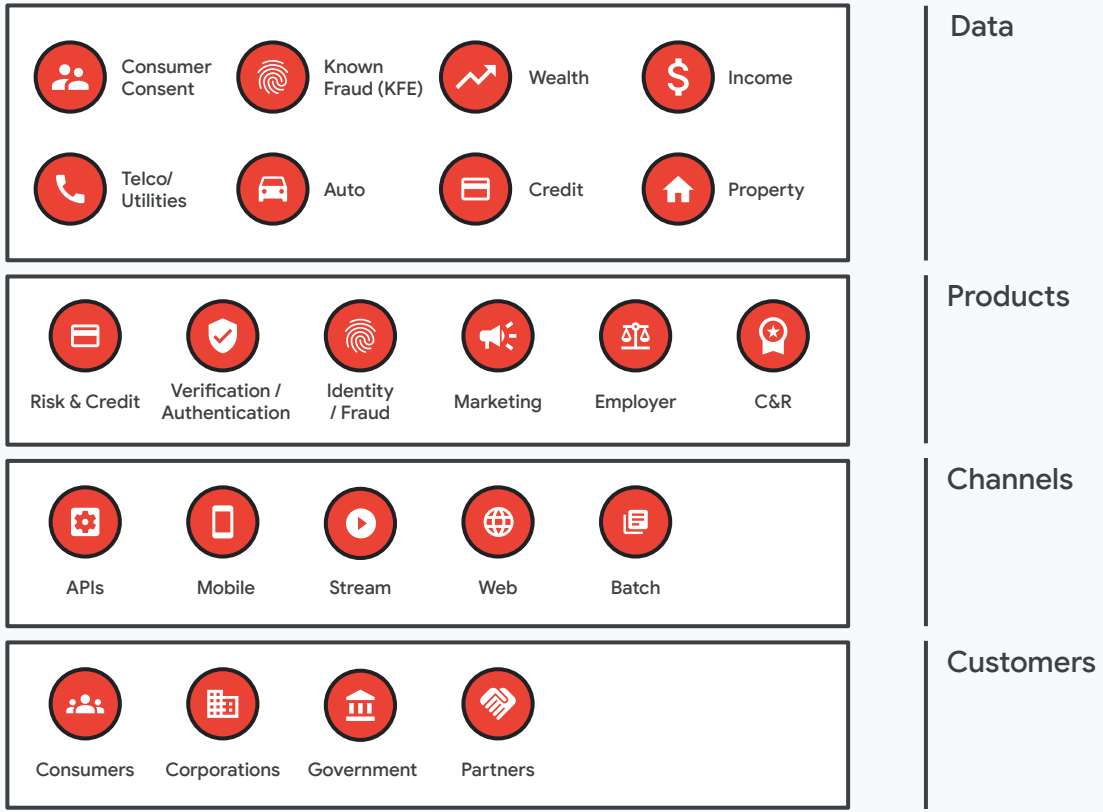
- Consistent security controls
- API Logic Debugging
- Data representation and semantics
- Standardised API contracts

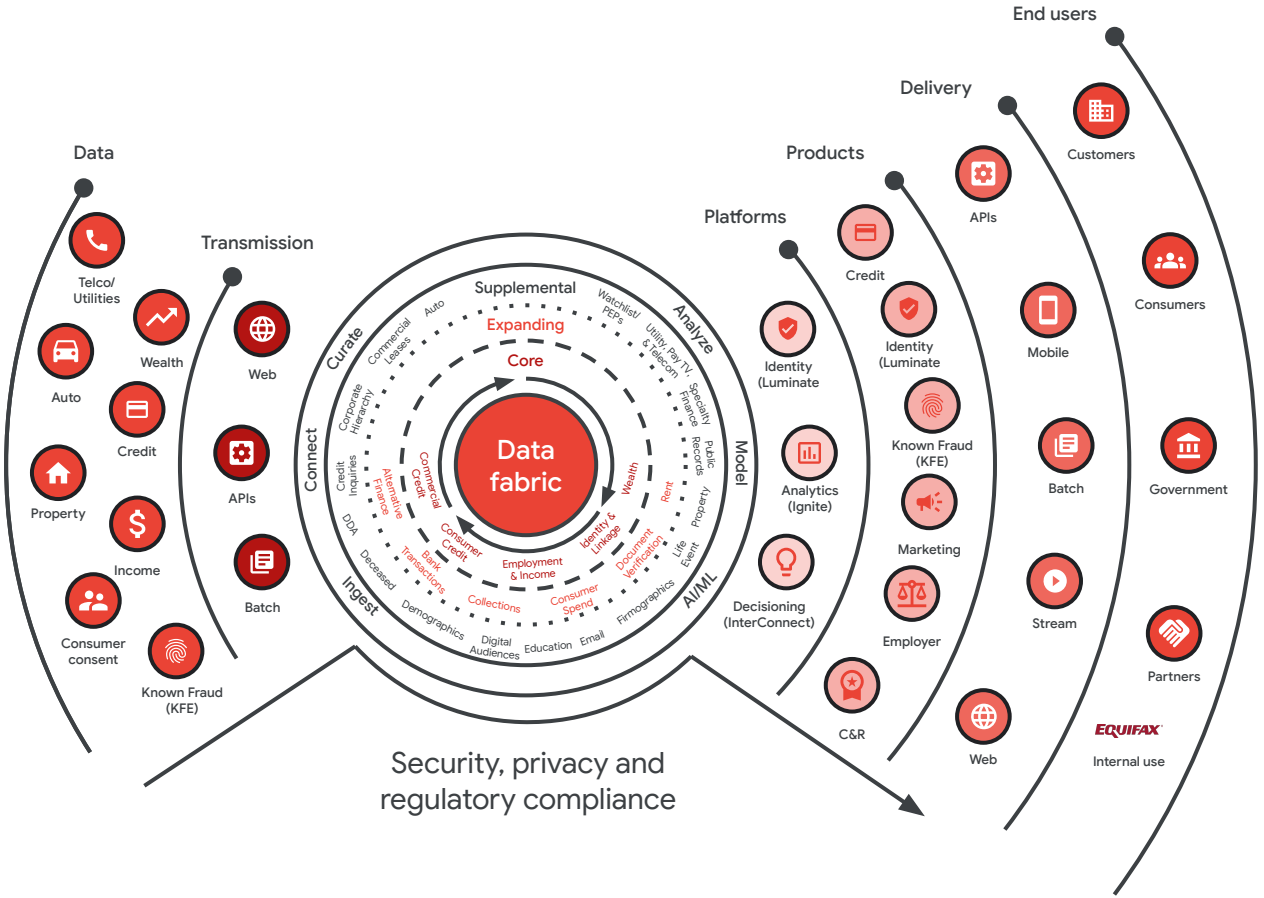
EQUIFAX®

Established 1899

13,000 employees worldwide

Operates in 25 countries in North America, Central and South America, Europe, and the Asia Pacific region





Data fabric

Certain data is ingested into the Equifax environment, and curated, enriched, and purposed. Data are organized into a seamless, globally-distributed Data Fabric with logical separation and governing rules

Platforms

Equifax Platforms govern strategic data sets to either be delivered to users, data applications, or other products

Products

Unique data, analytics or decisioning based solutions crafted to meet the needs of any sized organization across the globe

Delivery

Convenient and innovative channels through which products are delivered to end users

Our cloud transformation goals

01 Reduce complexity

Eliminate our on-prem footprint across the globe

02 Security built in

Benefit from the cloud native security posture and build-in capabilities

03 Agility and scale

Break the monoliths and remove the legacy constraints

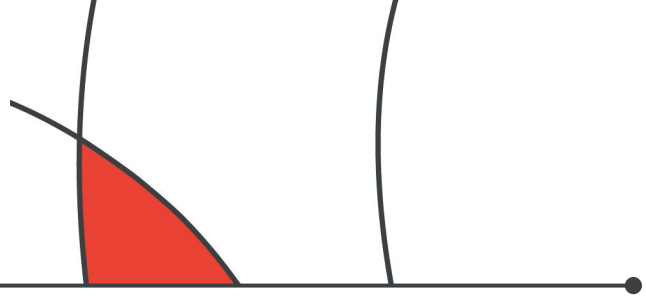
04 Innovation

Creating simpler interfaces and integrations for our customers

05 Resiliency

Remove the brittleness and fragile systems while moving to an active-active cloud model

Cloud results thus far



1.5
PetaBytes of data on our fabric

500B
Observations in journals

1M
Data contributor migrations

900
Applications have been rebuilt

2.5B
Monthly API transactions

3K
External developers innovating

15K
B2B customer migrations

Microservices at the center

Data fabric

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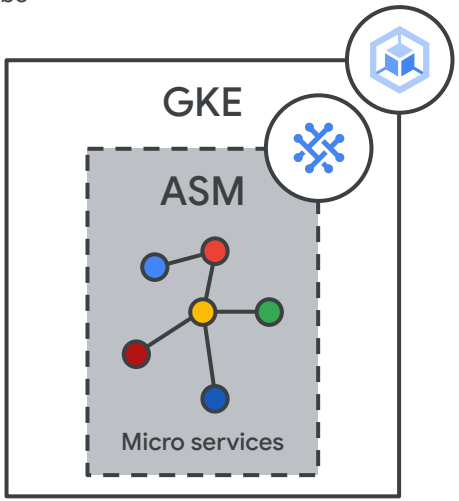
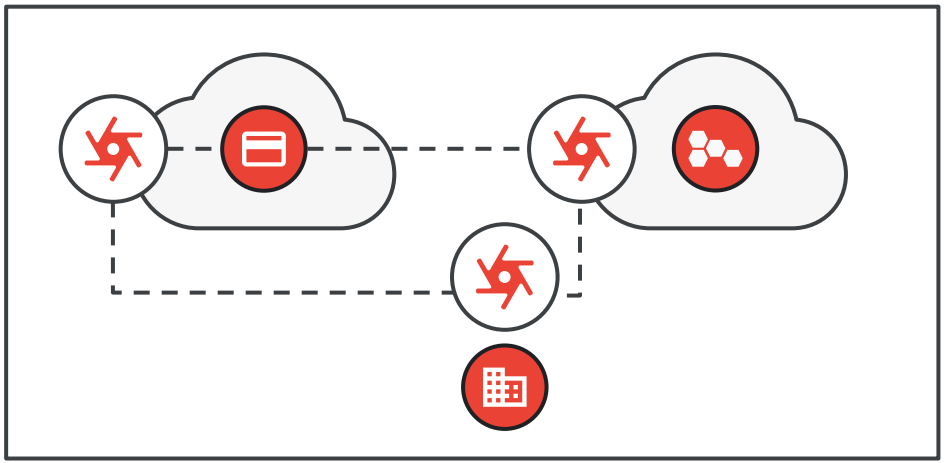
GKE + ASM

Foundation of Equifax Cloud

1. Breaking the monolith
2. Platform capabilities
3. Product capabilities
4. Channel services



Our API approach



01 Public products

02 Customers integrations

03 Internal applications

04 Partner integrations

05 Marketplace integrations

Our API approach

01 Launch a global program

Eliminate our on-prem footprint across the globe

02 Establish a CoE

Benefit from the cloud native security posture and build-in capabilities

03 Patterns

Internal and External use cases well defined for API designs and usage.

04 Governance

Establish central functions but roll to a federated model as maturity evolves

05 Adoption

Increase usage by focusing on self-service and automation

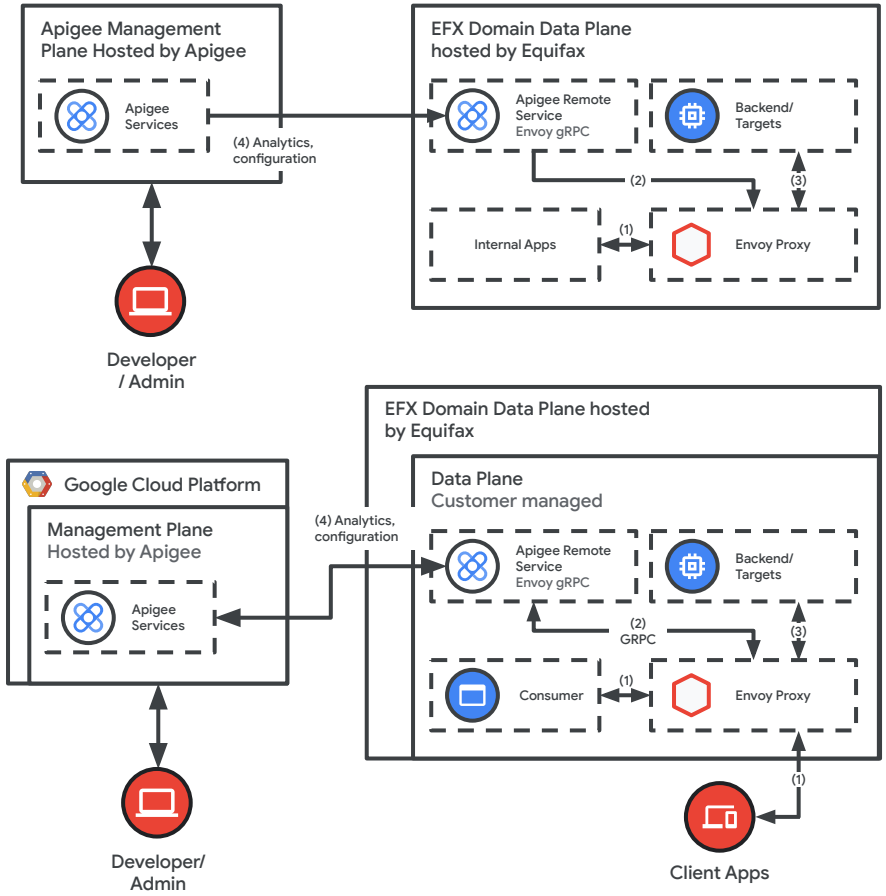
EQUIFAX

Google Cloud

Using Anthos Service Mesh and Envoy with Apigee

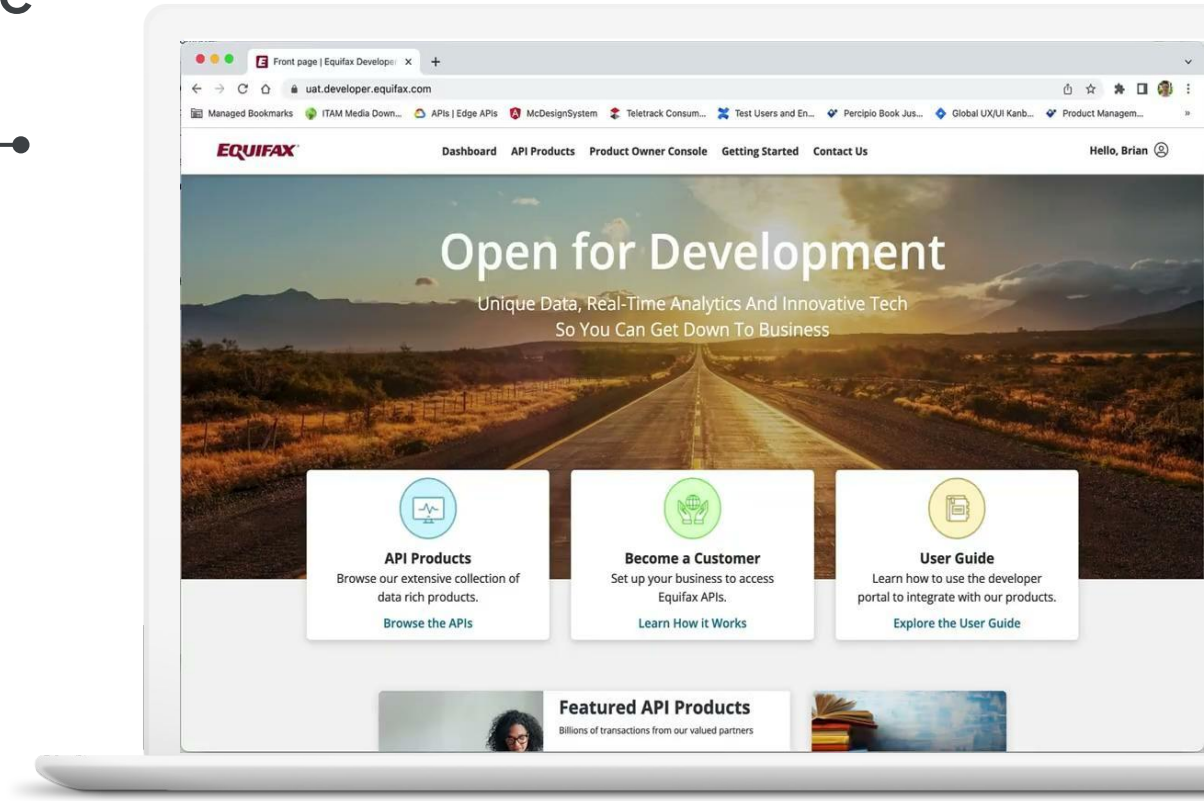
01 Internal apps / within VPCs

02 Client apps that need tighter SLAs



Developer experience

- API shopping
- Reference
- Customer onboarding
- Developer / Team mgmt
- Create applications
- Managing keys
- Endpoints



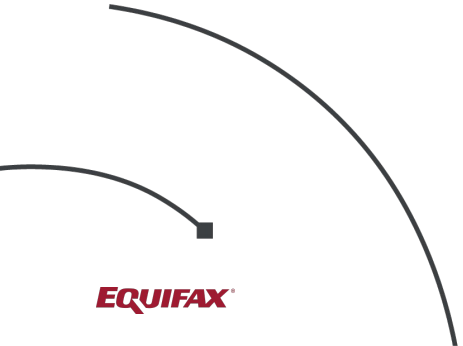
What did we learn?

01 Leverage the cloud for scale and performance

02 Prioritize customer experiences

03 Operational simplicity is essential

04 Acknowledge that it's a journey



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Take Action

Join the Community

Get answers and support from a global network of Apigee experts.
goo.gle/apigee-community

Explore Equifax APIs

Browse Equifax API products by use case and industry.
goo.gle/equifax-apis

Uplevel your API skills

Earn a skill badge by completing the Deploy and Manage Apigee X quest.
goo.gle/apigee-x-quest

Thank you

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