APIGEE — An API Management Service on Google Cloud

Streamline Your API Management with APIGEE: A Powerful Solution on Google Cloud

Jitendra Gupta · Follow

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What is an API (Application Programming Interface)?

APIs, or Application Programming Interfaces, are **protocols** that **allow software applications** to **communicate** and **exchange information.** They **define methods, data formats,** and **conventions for integration** between systems in modern software development.

In the context of Google Cloud, APIs are a **standardized way** for **developers** to **interact** with Google Cloud **services** and **integrate** them into **their applications.** Google Cloud offers **RESTful APIs** that provide **programmatic access** to various **services** like computing resources, storage, databases, and machine learning.

These APIs **allow developers** to **create virtual machines, manage storage,** process images with machine learning, and **analyze data** with BigQuery, making them **crucial for building cloud-based applications** on Google Cloud Platform.

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Why API needs to be managed?

APIs are like a **set of rules** that **allow** different **software applications** to **talk** to each other and **share information.** But **just like** any **relationship, APIs need to be managed to work smoothly.**

API management involves designing, developing, deploying, and monitoring APIs to make sure they are secure, scalable, and reliable. This **helps organizations expose** their **digital assets** and **services** to external developers, partners, and customers in a **controlled and secure way,** while

also **getting** valuable **insights** into how APIs are used and perform. It's like having a plan in place to ensure smooth communication and optimal performance for APIs, so that everyone can work together effectively.

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What is APIGEE?

Apigee, a prominent **platform for API management**, offers a **comprehensive suite of tools** and **services** that are designed to **help organizations** effectively **manage** their **APIs.**

The company was **founded in 2004** under the name Sonoa Systems and **introduced** its flagship product, the "**Apigee Enterprise API Platform**," **in 2008.** In 2013, Apigee went public with its initial public offering (IPO) and later in **2016,** it was **acquired by Google** for a staggering $625 million.

Since then, Apigee has continued to thrive and evolve as part of Google Cloud, **delivering advanced API management capabilities** to organizations around the world.

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Apigee API Management — Key Features

Simplified API Development

Enhanced API Security

Scalability & Performance

API Analytics & Monitoring

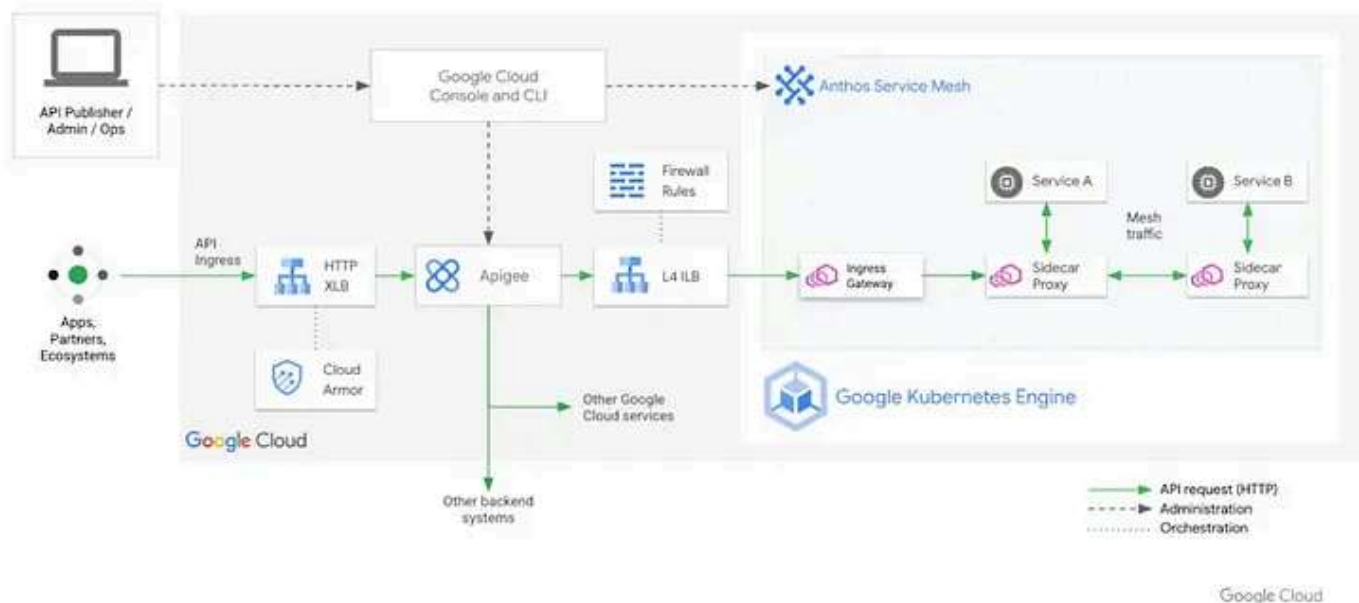*Developer Portal*

API Monetization

Multi-Cloud Deployment

Customization & Extensibility

Simplified API Development:

With **features** like **API design, testing,** and **documentation,** Apigee **makes** it **easier for developers to design** and **develop high-quality APIs.**

https://cloud.google.com/architecture/microservices-architecture-introduction

It **allows developers** to **define** the **structure** and **functionality** of their APIs, while the **testing feature enables** them to thoroughly **test** their **APIs for performance** and **functionality.** The **documentation feature provides comprehensive documentation,** making it easier for other developers to understand and use the APIs.

Enhanced API Security:

Apigee provides strong security features to safeguard APIs from potential threats. These features include authentication, authorization, and threat protection mechanisms that follow industry-leading security best practices like OAuth, API key management, and SSL encryption. This ensures the security and privacy of APIs and data, allowing organizations to implement robust security measures for their APIs.

https://cloud.google.com/blog/products/api-management/better-app-security-with-google-clouds-waap

Scalability & Performance:

Apigee is built on a scalable and high-performance platform that enables organizations to efficiently handle a large number of API requests.

With features such as caching, load balancing, and throttling, Apigee optimizes API performance, ensuring reliable and responsive APIs even under high loads. This means that APIs powered by Apigee can handle a

large number of concurrent requests without sacrificing performance, providing a seamless experience for users accessing APIs.
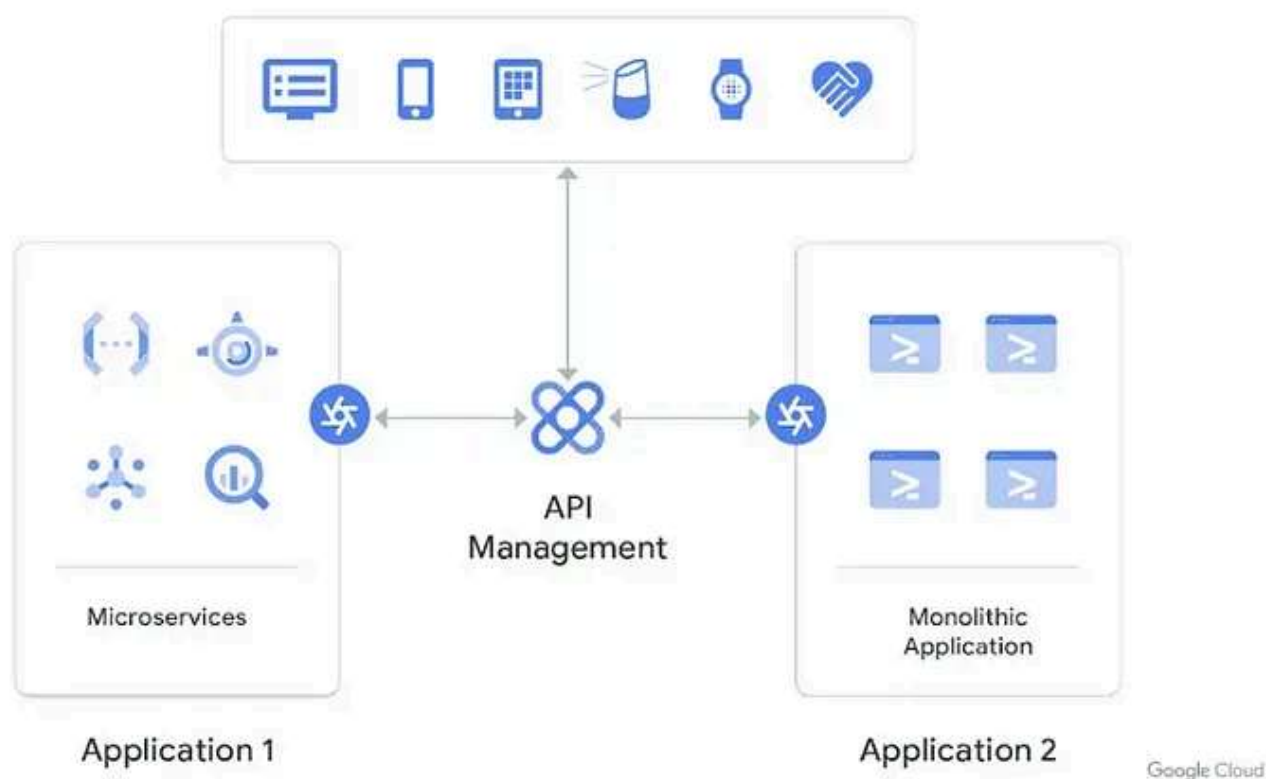
API Analytics & Monitoring:

Apigee offers **robust analytics** and **monitoring capabilities** that **provide** organizations with **valuable insights into API usage, performance,** and **user behavior.** Through **intuitive dashboards, alerts, and reports,** Apigee **allows** organizations to **monitor** and **analyze API traffic, identify** and **troubleshoot issues,** and **optimize API performance** based on real-time data.

These analytics tools **enable organizations** to **gain valuable insights** into how APIs are being used, **identify areas for improvement,** and make **data-driven decisions** to **optimize** their **APIs** for **better performance** and **user experience.**

Developer Portal:

Apigee includes a **developer portal** that **allows** organizations to **create** a **customized portal** for developers to **access, discover,** and **consume APIs.**

This self-service platform **enables developers to explore APIs, access documentation, test APIs,** and **manage API keys,** fostering engagement and collaboration.

API Monetization:

Apigee **empowers organizations** to **generate revenue** from their APIs **through monetization features** such as **rate limiting, usage tracking,** and **billing integration.**

https://cloud.google.com/apigee/docs/api-platform/publish/publishing-overview
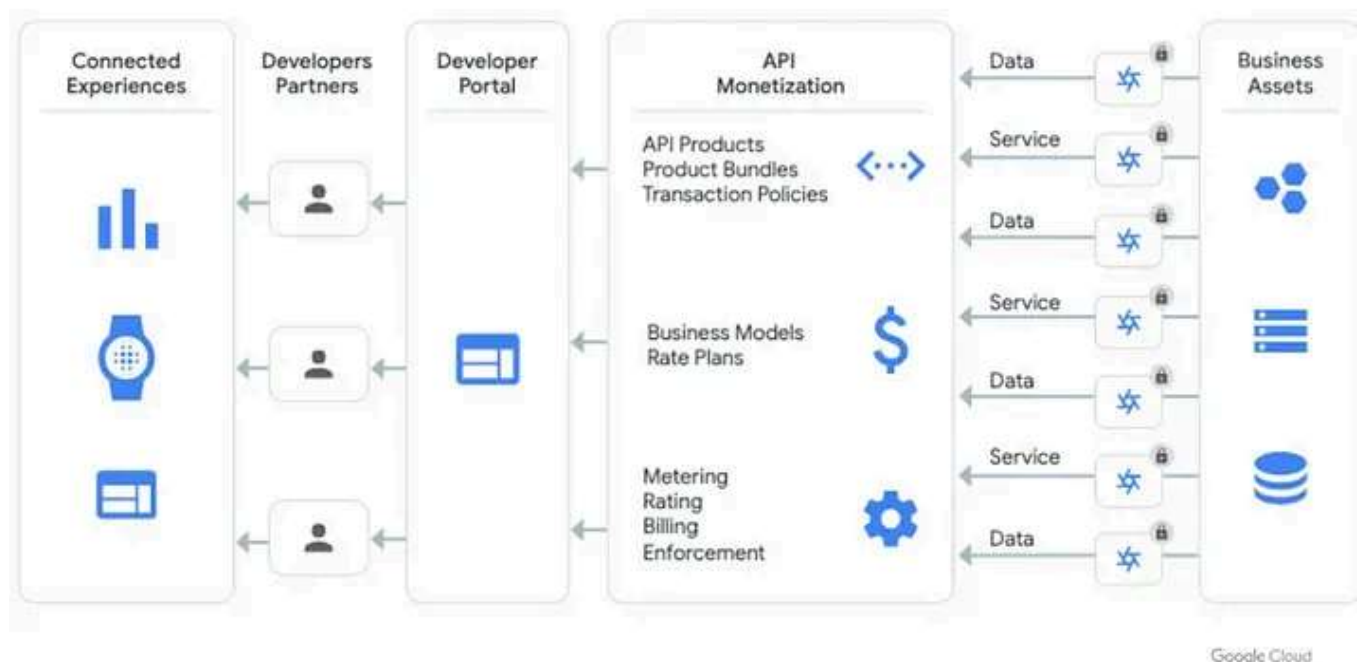
Organizations can **create different tiers of API access** with **varying pricing plans,** allowing them to **explore new business models** and generate **income from** their **APIs.** With Apigee's monetization capabilities, organizations can

leverage their **APIs** as **valuable assets** and unlock new **opportunities** for revenue generation.

Multi-Cloud Deployment:

Apigee API management **offers** the **flexibility** to be **deployed across** various **cloud environments**, such as **Google Cloud, Amazon Web Services (AWS), and Microsoft Azure.**

https://cloud.google.com/apigee/docs/hybrid/latest/what-is-hybrid#programs

This **enables organizations** to **leverage Apigee's capabilities in different cloud environments**, ensuring **scalability** and **adaptability** in their API management strategy. With Apigee's **cross-cloud compatibility**, organizations can **seamlessly implement API management in** their **preferred cloud environment**, regardless of their cloud provider choice.

Customization & Extensibility:

Apigee **provides** options for **customization** and **extensibility**, empowering **organizations** to **tailor their API management platform** to meet their unique requirements.

This **includes** the **ability to create custom policies, extensions,** and **plugins,** allowing organizations to **add** their **own business logic** and **integrations** to the **API management platform.** With Apigee's flexibility in customization, organizations can **create a highly adaptable** and **personalized API management solution** that **aligns** with their specific needs and **business objectives.**

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Summary

To Conclude, APIs are like **rules** that **allow software applications to talk** and **share information** with each other. **Managing APIs** is **crucial for efficient** and **secure communication** between apps. **Apigee,** a popular **API management platform** by Google Cloud, **provides tools for designing, securing,** and **analyzing APIs.** With features like **policy enforcement, access management,** and **developer portal,** Apigee **streamlines API management, enhances security,** and **improves developer experience.** It helps **organizations build powerful APIs** for their applications and services, making them **scalable, secure,** and **efficient.**

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References

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Build, manage, and secure APIs-for any use case, environment, or
scale. Google Cloud's API management solution to...

cloud.google.com

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This repository holds the content submitted to
https://cloud.google.com/community. Files added to the tutorials/...

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Google APIs

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GitHub - GoogleCloudPlatform/apigee-samples: A repo for Apigee X/hybrid samples

This repository contains a collection of sample API proxies that you
can deploy and run on Apigee X or hybrid. The...

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About me — I am a GCP Cloud Architect with over a decade of experience in IT industry. A multi-cloud certified professional. Past few months I wrote 17+ cloud certification (10x GCP).

My current engagements are helping customer migrate their workloads from on-prem datacenter and other cloud providers to Google Cloud.

If you got any question, you can reach me on **LinkedIn** and twitter **@jitu028** and DM, I'll be happy to help!!

You can also schedule 1:1 discussion with me on **https://www.topmate.io/jitu028** for any Google Cloud related support.

*Appreciate the technical knowledge shared? Support my work by **buying me a book**. Just scan the QR code below to make a difference.*

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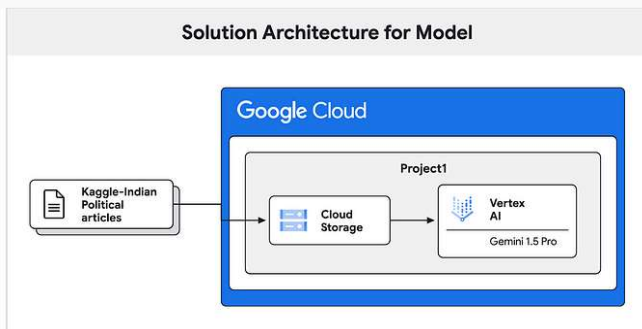
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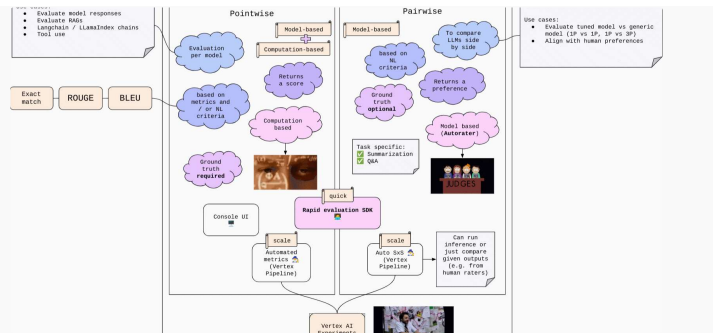
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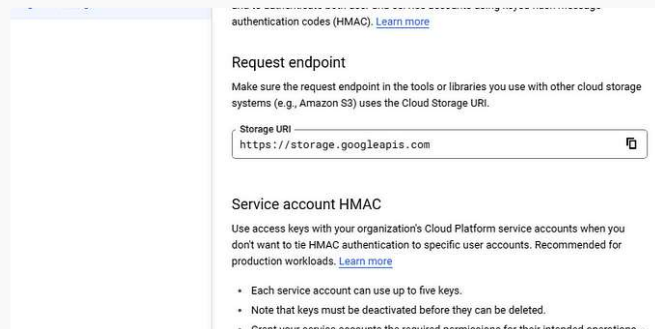
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