eBook

apigee

The Definitive Guide to API Management

The Definitive Guide to API Management

Apigee

Table of Contents

Introduction

Customers of every business are engaging with companies on a variety of devices and channels including in-store, web, smartphones, tablets, laptops, and even connected devices in the burgeoning Internet of Things (IoT). What's more, IT organizations are moving toward more efficient, agile development frameworks for internal use.

Customer and developer expectations are increasingly driving enterprise IT to employ new approaches to serving the needs of a diverse mix of users and experiences. That's where application programming interfaces (APIs) come into play. They are the foundation upon which digital business is built, allowing app developers to create apps that can serve the needs of a specific segment of users.

APIs are not new in many industries, but with the explosion of apps and experiences required in the digital world, and new customer-centric IT organizations, companies across industries need better solutions than ever to manage their APIs and API-driven businesses.

API management enables you to create, manage, secure, analyze, and scale APIs.

Anatomy of an API management solution

An API management solution needs to include at least the following capabilities:

- Developer portal to attract and engage application developers, enabling them to discover, explore, purchase (or profit from), and test APIs and register to access and use the APIs
- API gateway to secure and mediate the traffic between clients and backends, and between a company's APIs and the developers, customers, partners, and employees who use the APIs
- API lifecycle management to manage the process of designing, developing, publishing, deploying, and versioning APIs

More sophisticated API management provides additional capabilities including:

- Backend as a Service (BaaS) capabilities that enable developers to develop and extend apps with modern features including social graphs, user management, data storage, push notifications, and performance monitoring
- An analytics engine that provides insights for business owners, operational administrators, and application developers enabling them to manage all aspects of a company's APIs and API programs
- API monetization to enable API providers to package, price, and publish their APIs so that partners and developers can purchase access or take part in revenue sharing

It is typical for API management capabilities to be delivered in the cloud as a SaaS (Software as a Service) solution or on premises in a private cloud, or sometimes using a hybrid approach.

Apigee Edge is the flagship API management product in Apigee's intelligent API platform. It provides a solution that addresses the entire digital value chain—from the backend systems of record through to the customer who interacts with an app or digital experience delivered by an API-powered mobile app or a connected device. Apigee Edge includes three components: API Services, Developer Services, and Analytics Services.

API lifecycle management

The core API management capability is API lifecycle management. Managing the API lifecycle involves consideration for both the API provider and the API consumer (most often the app developer).

API providers manage the processes for designing, developing, publishing, deploying, versioning, governance, monitoring availability, and measuring performance.

API consumers discover new APIs, understand versioning and API updates, easily register for access to APIs, test and register apps built against the APIs, and communicate and collaborate with other developers and the API provider.

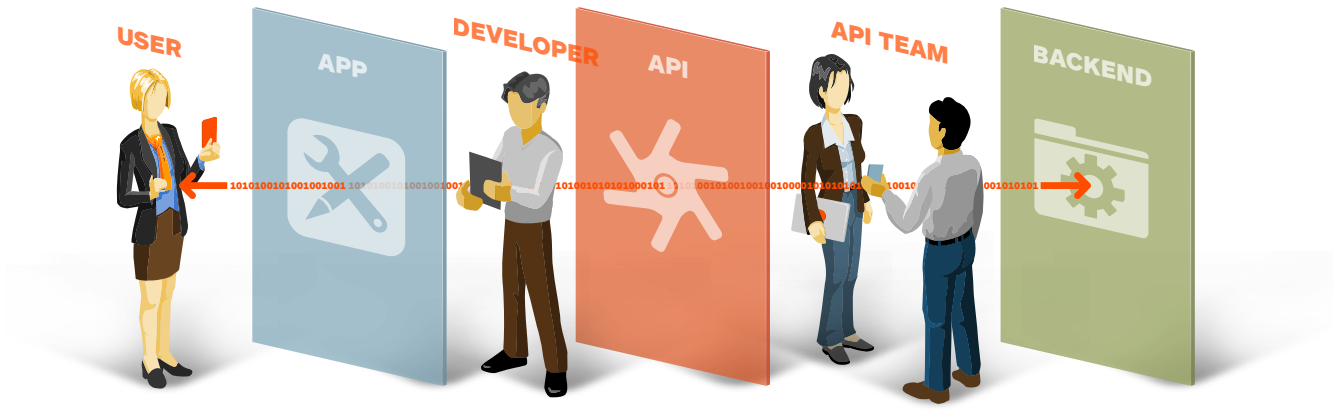
Managing the API lifecycle involves consideration for both the API provider and the API consumer (most often the app developer).

Design and develop APIs that developers love

API management enables API developers, who expose assets via APIs, to unlock the value of business assets by rapidly creating APIs from existing data and services. API management provides the ability to design and build APIs that are intuitive and easy for developers to adopt and use.

An API's job is to make the developer who consumes the APIs as successful as possible. The success of an API program is determined by how well these API consumers adopt the APIs.

Why? Look at the digital value chain. The developer is the lynchpin of the entire API strategy. Any API management solution needs to help API providers see from the developer's perspective when designing and building APIs that are easy to use and follow best practices. That will ultimately maximize the productivity of the developers who build on the API.



A common requirement for today's enterprise is the easy transformation of existing backend services to APIs. For example, because REST (Representational State Transfer) APIs are a lot easier to consume than SOAP (Simple Object Access Protocol) services, API management solutions typically support the transformation of SOAP-based web services to REST-based APIs.

To support a broad range of use cases including mobile, other common protocol transformation requirements include XML to JSON, JSON to XML, XSL Transformations, and JavaScript callouts.

An important aspect of managing APIs is versioning them. To minimize impact to developers and users, versioning needs to be flexible. API management solutions enable dynamic changes to an existing API implementation and reactivation of new versions of the API easily, without disruption. Versioning minimizes the impact on operations by eliminating the need to maintain multiple versions of a service.

For more on the best practices that will help build intuitive and usable APIs, see Web API Design: Crafting Interfaces that Developers Love.

Key capabilities of the Apigee Edge API management product in this area include:

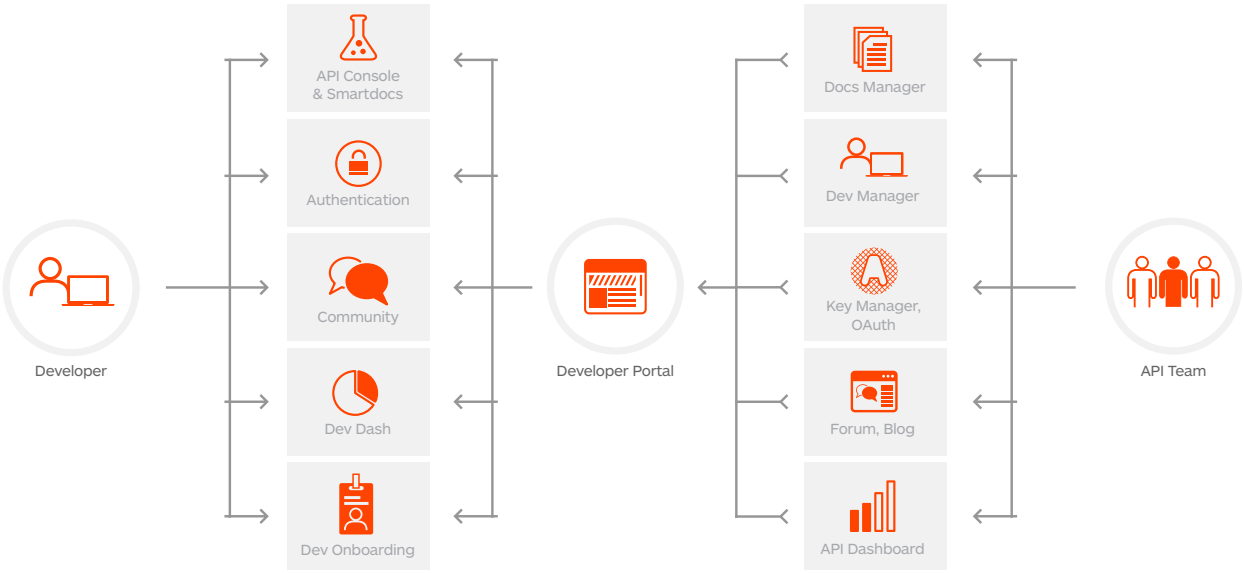
- Security, which lets you protect APIs, messages, and backends with configurable policies such as OAuth, API key verification, XML/JSON threat protection, access control (IP whitelisting and blacklisting), and SAML assertions.
- Protocol transformation, which enables the transformation of enterprise data and services into usable, scalable, and secure APIs. Edge supports the transformation of existing backend services to APIs with more than 30 out-of-the-box policies that let API developers configure rather than code their solutions. Configurable policies include SOAP to REST, XML to JSON, JSON to XML, and XSL Transformation.
- Support for Java, JavaScript, Node.js, and Python, which extend the programmability of the API management solution for developers who prefer coding over configuration. Through the use of callout policies, code written using these standard languages executes as part of the request pipeline like any out-of-the-box policy.
- Versioning is supported at multiple levels. Backend service versions can be "hidden" behind the API facade. Versioning can be applied at the URI level, following best practices and internal corporate standards. Additionally, all artifacts (policies and configurations) are stored in XML and can be placed into versioning systems.

Publish APIs and enable developer productivity

Developer and partner productivity depends on an efficient onboarding experience. A key capability of any API management solution is a developer portal enabling companies to provide everything that internal, partner, and third-party developers need be effective and productive building on the APIs. A developer portal enables an API provider to deliver an enhanced developer and community experience that accelerates API adoption, simplifies learning, and increases the business value of APIs.

The best developer portals provide a complete, self-service developer experience. They enable developers to register their applications, select the APIs and the service levels they need, get secure access, monitor their API usage, and even monetize and participate in revenue sharing with the API provider.

The ability to provide documentation and a developer feedback mechanism is an important consideration when publishing API products. Developer portals with social publishing features are increasingly being used for communicating static content, such as interactive API documentation and terms-of-use, as well as dynamic community-contributed content, such as blogs and forums, as well as customer support features.



Edge Developer Services provides four capabilities to enable enterprises to publish their APIs.

Developer portal

A ready built but customizable developer portal that is based on Drupal. Enterprises deploy the portal to provide a community for developers with the resources necessary to learn about the enterprise's APIs, become a registered developer, and collaborate with peers and with the enterprise. It can be easily skinned with a customer's corporate image colors, fonts, and branding. It includes a framework for publishing interactive SmartDocs API documentation and a Smart Key Management application for key generation and secure registration and onboarding of developers, whether internal, partner, or external.

It also includes productivity tools such as the Apigee API console and debugger. You can use the Apigee console to document your APIs (in parallel with or instead of using SmartDocs), and incorporate the console into your portal. The console is an interactive GUI that lets developers make requests to your API without having to write any code.

The developer portal, which can also be run completely on-premises, supports multiple environments such as sandbox, staging, and production to cater to ongoing changes. Developers log into the portal and get their own view of the metrics related to any application that they have registered.

There are 18.2M developers worldwide and over 50% of them are developing APIs.

Evans Data, 2013

Interactive API documentation and modeling

Especially when used in tandem with Swagger, interactive API documentation and modeling simpifies designing and documenting new APIs as well as learning, testing, and evaluation of existing APIs.

Pre-built API consoles

These enable developers to easily access and explore APIs from almost 100 top API providers, improving their knowledge and ability to use the appropriate API for their needs.

API monetization

This enables API revenue models based on flat rates, rolling bundled rates, fees, freemium, and revenue sharing, and can be customized to meet complex requirements.

API traffic management

So you've published and promoted your APIs. Next, your API management solution enables you to manage the API traffic generated by the apps that developers and partners have built against them. Traffic management capabilities include:

- Caching to improve API and app performance by storing data from backend resources in a cache, from where they can be retrieved quickly. Intelligent traffic routing and caching to give users the nearest point of presence over wide geographical areas can be very important, especially for latency-sensitive apps.
- Quotas and rate limits to limit the number of connections apps can make via the API to the backend.
- Spike arrest capabilities to protect backend systems against severe traffic spikes and denial-of-service attacks.

Apigee Edge provides the following traffic management capabilities:

- An API-DN (API distribution network) solution provides intelligent traffic routing, minimizing latency and optimizing response times for geographically dispersed users.
- Configurable policies that enable an API provider to augment its API with features to control and shape traffic without requiring it to write any code or to modify any backend services. Traffic management policies enable cache configuration, traffic quotas and spike arrests, and concurrent rate limits.

Transformation, mediation, and orchestration

Protocol transformations are needed in order to reuse existing systems or integrate with legacy systems. A robust API management solution supports industry standards including HTTP, HTTPS, REST, SOAP, WSDL, XML, XSD, XPATH, XQuery, REST, WADL, JSON, and JMS.

In the world of APIs and mobile apps it is necessary to make dynamic decisions and do intelligent routing based upon current conditions. For example, dynamic routing can be based on message content, headers, identity, and other factors. An API developer may want to compose new services by aggregating multiple backend APIs or services.

API management solutions enable these dynamic routing and orchestration capabilities.

Apigee Edge provides the following capabilities:

- Edge mediation policies let you perform message transformation, parsing, and validation, as well as raise faults and alerts. These transformations are largely performed with out-of-the-box policies, which also include the ability to extract a variable and then assign that variable or rewrite payloads based on HTTP headers, query parameters, or payload content. XLST, XPath, and JSONPath are supported and commonly used for these transformations.
- Edge supports all of the following industry standards - HTTP, HTTPS, REST, SOAP 1.1/1.2, WSDL 1.0/2.0, XML (POX), XSD, XPATH, XQuery, REST, WADL, JSON, and JMS.
- Edge can transform several formats including: XML to/from JSON, XML to/from XML, XML to/from PLIST, SOAP to/from REST, RSS to REST, and RSS to/from ATOM.

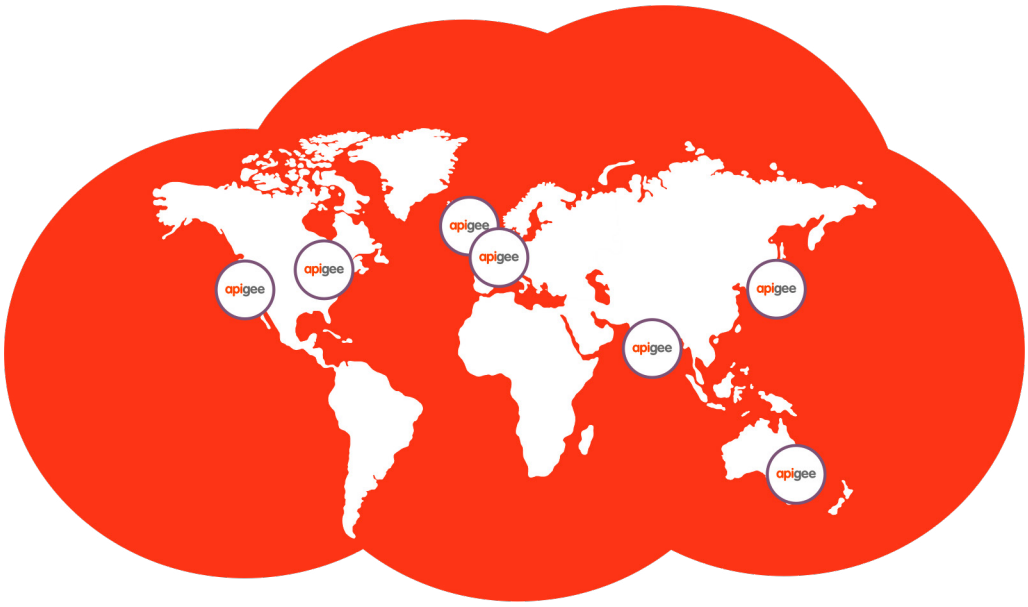
Deployment

It is typical for API management capabilities to be delivered in the cloud or on premises (in a private cloud) and sometimes using a hybrid approach. The ability to run a multi-tenant environment can be important for enterprises that deal with multiple lines of business or partners.

A cloud deployment aggregates many users and can leverage economies of scale. This advantage applies to all aspects of IT infrastructure, including software, hardware, staffing, and the data center itself. It also provides the ability to do seamless and immediate updates, improving responsiveness and the pace of innovation.

However, some companies still require that their business processes, their data, and their customers' data be controlled within their enterprise, requiring an on-premises deployment.

Geographical redundancy is important both for high availability and also for latency and performance considerations. API management solutions typically support a multi-region, multi-datacenter deployment. This ensures the highest level of availability and distribution.



An enterprise software development life cycle (SDLC) can be a complicated process with many constituents. The ideal API management tool allows a centrally managed platform to support development teams across the enterprise, giving those diverse teams their own view of the platform with logical separation of all policies and configurations.

Ease of management and increased overall productivity are some of the day-to-day considerations when selecting an API management solution. API management needs to provide central control and flexibility during both deployment and production.

Apigee Edge delivers a number of capabilities that ensure the highest levels of availability and distribution:

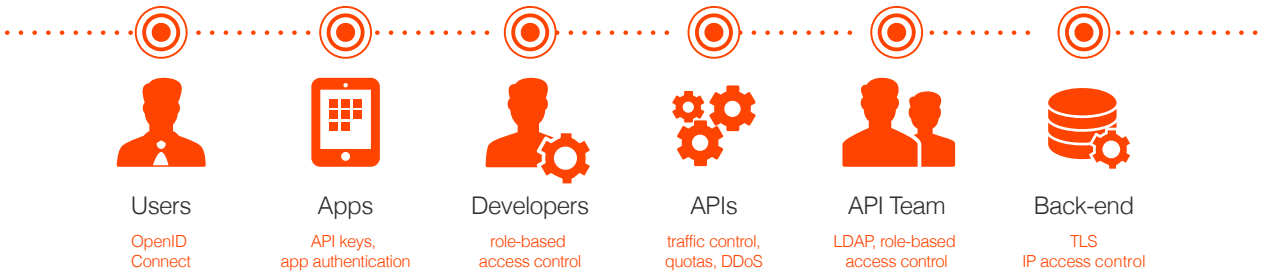
- The Apigee platform is multi-tenant in both on-premises and in the cloud. A multi-tenant management infrastructure means that updates and fixes can be rolled out quickly and seamlessly to all tenants, but Java code and custom scripts are isolated in separate nodes.
- Apigee provides API-DN, which is like a content delivery network (CDN) for your API, dramatically improving speed, reliability, and consistency of service to improve app end-user experience. API-DN also improves scalability and protects your backend systems by offloading intensive API functionality to the local regions.
- Apigee is deployed in more than a dozen data centers in multiple geographical locations and has the proven ability to scale with hundreds of customers' mission critical deployments.

API Security

API management solutions secure and mediate the traffic between a company's APIs and the developers, customers, partners, and employees who use those APIs.

Digital business is built on the design principle that internal and external users will use the system. OAuth is one of the most widely used forms of a uthentication for consumer or partner-facing apps making OAuth support for all constituents critical to modern API infrastructure.

Security is foundational to API infrastructure both from the APIs to the backend services and from the API to the apps—that is, across the entire digital value chain. Malicious users access your systems through the same channels as your legitimate users. Therefore it's critical for this core function to be easily configurable and to enable security at all points of engagement.



SECURITY AT ALL POINTS OF ENGAGEMENT

Message content is a significant attack vector used by malicious API consumers. Sometimes attacks are threatening not because of malicious intent, but due to badly constructed request content. API management solutions need to provide ways to mitigate the potential of a company's backend services being compromised by attackers or by malformed request payloads. They must protect against cross-site scripting attacks and screen against XML threats with tactics such as validating messages against a valid schema, finding specific blacklisted keywords or patterns in messages, or detecting abnormally formed messages.

Most modern apps require some social component. API management solutions that provide third-party sign-in can improve user experience while increasing adoption, giving the API provider access to valuable information from social networks and services.

Auditing and compliance processes dictate that RBAC (Role Based Access Control) be supported by enterprise platforms, allowing for an audit trail and administrative accountability. RBAC also aids in the software development life cycle (SDLC) by limiting the potential for one team's work to interfere with the work of another team.

As the API economy takes off, and companies in all industries become digital businesses, many APIs require payment processing as part of a monetization strategy. PCI certification is necessary for processing credit card transactions. HIPAA compliance is a requirement of API management solutions so that organizations regulated under HIPAA can show that their API programs can securely handle personal health information.

The Apigee Edge security framework provides the following capabilities:

- OAuth is available as a core capability and require no additional hardware, software, or licenses.
- Security features are available via configuration of standard policies. This policy-based security architecture provides a configurable model that enables enterprise-grade security to protect the business from threats, backend overload, and service issues.
- Out-of-the-box policies mitigate the potential for your backend services to be compromised by attackers or malformed request payloads and protect against JSON and XML threats.
- Multi-tenancy allows for separation of internal development teams and lines of business through the concept of organizations. Within an organization, RBAC further segments users and their privileges. Within an organization, Edge supports multiple environments, which an enterprise can use to mirror internal product lifecycles such as development, testing, staging, and production environments.
- SSL support helps ensure that messages are encrypted as they travel through the request and response life cycle.
- A unified security mode throughout the platform provides secure portal access and can support other pre-existing security programs by using pluggable authentication.
- In addition to supporting user management and OAuth-based logins for apps, Edge enables easy integration of third-party authentication through popular services including Facebook and Twitter.
- The Apigee platform is PCI and HIPAA certified.

API Analytics

How is your API traffic trending over time? Who are your top developers? When is API response time fastest? Slowest? Are you attracting more developers? Geographically where do you see the most API traffic?

Robust API management tools empower businesses to answer questions like these, which helps enterprises improve their APIs, attract the right app developers, troubleshoot problems, and, ultimately, make better business decisions related to the API program.

API management solutions typically provide the visualization tools, dashboards, and reports to help measure a broad spectrum of data that flows across APIs. This information is most useful in today's dynamic API economy when it is gathered, analyzed, and provided to the business in real time. Beyond simple charts and graphs, both the ops and business teams should be able to gain deep visibility into the performance of the API program.

Apigee Edge enables business and operational metrics to provide a complete 360-degree view of your business.

The platform goes beyond operational and developer level metrics to provide visibility to the business. Traffic composition reports provide insights into the most valuable entities of an API program: the apps, developers, APIs, and resources. Enterprises use the reports to detect business problems such as lower traffic trends or diminishing contribution from key apps and developers. They can get early notification of new entities that contribute to API traffic, and take actions to respond. For example, you can determine which developers are contributing most and include them in nurturing programs.

Operation visibility is provided out of the box—across all APIs, all API traffic, top API movers, top API products, top ranked apps, top ranked developers, anomaly inspection, and trend analysis. For individual APIs, enterprises can measure traffic, average response times, average target response time, maximum response time, error rate, and average data exchange.

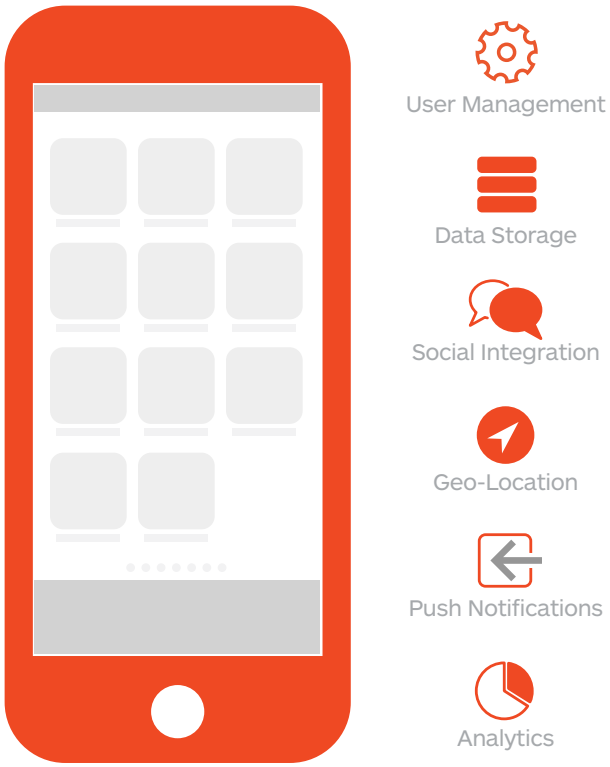
Edge Analytics Services provides several visualization tools, including the dashboard (which gives an overall view of your entire API program), custom reports (to select, combine, filter, and drill down into specific API metrics), GeoMap (which tracks traffic patterns, error patterns, and quality of service across geographies), and tools that allow you to plot trends in traffic, response time, and other metrics for an API's individual resources.

Backend as a Service

BaaS (sometimes referred to as mBaaS, or mobile BaaS) is a framework that makes it easy for developers to set up, use, and operate a cloud backend for their mobile, tablet, and web apps. BaaS provides app developers with a way to link their apps to backend cloud storage while also providing features such as user management, push notifications, and integration with social networking services. These services are provided through customized software development kits (SDKs) and APIs.

While BaaS is rarely included as part of an API management solution, a BaaS is one of the core capabilities in Apigee Edge. Why? In the digital world, it is imperative for businesses to deliver the apps and experiences that customers expect of a modern business. However, most modern apps require functionality such as data storage and synchronization, messaging, geo-location, user management, as well as push notifications and social graph functionality for building personalized applications. All of this is missing from existing backend systems.

These capabilities enable the app developer—the key constituent in the digital value chain—to build compelling apps and experiences fast and support a full range of devices (some of which are not invented yet). BaaS delivers the speed and agility that a developer needs to



BAAS CAPABILITIES

easily change a data structure, build predictive app functionality, and change app functionality and behavior without always having to go though the app store. By leveraging the Apigee out-of-the-box API BaaS, enterprises speed time to market for apps and reduce costly backend cycles and developer cycles.

The Edge BaaS out-of-the-box features are easily integrated into an API or app design. Edge BaaS delivers a combination of some of most modern features that developers need to add to apps:

- User management enables registration and login, roles and permissions, groups, third-party authentication such as Facebook, Twitter, and other OAuth-enabled accounts.
- Scalable REST data storage provides the ability to store information in a NoSQL format and have an auto-generated REST API in front of that data, therefore making the data readily consumable by developers.
- Social features enable developers to quickly build social graph capabilities into apps.
- Geolocation enables an app to capture geolocation data from GPS-enabled devices to more effectively target campaigns, push notifications, and offers. Geolocation also gives you an important data point for contextualizing and analyzing trends and user behavior.
- Push notifications, including Apple Push Notifications Service, Google Cloud Messaging, and Windows Push Notification Services.
- Storage for transient activities, such as shopping carts—anything that is time-based or changes frequently.

API monetization

Digital assets and services that provide value to customers, partners, and end users can be a source of revenue. Companies can charge for data or services as part of their business model, or they can share revenue with partner companies and developers. For example, content providers can offer valuable content such as maps and images that partners and developers will pay to access, or companies can offer digital services such as address verification or credit checks.

In the pre-API world, these transactions were done via contractual processes, data sharing agreements, or, in some instances, the data was given away for free. With APIs, a company can make data and services available to front-end applications and partners in an easy and scalable manner while tracking usage and billing in real time.

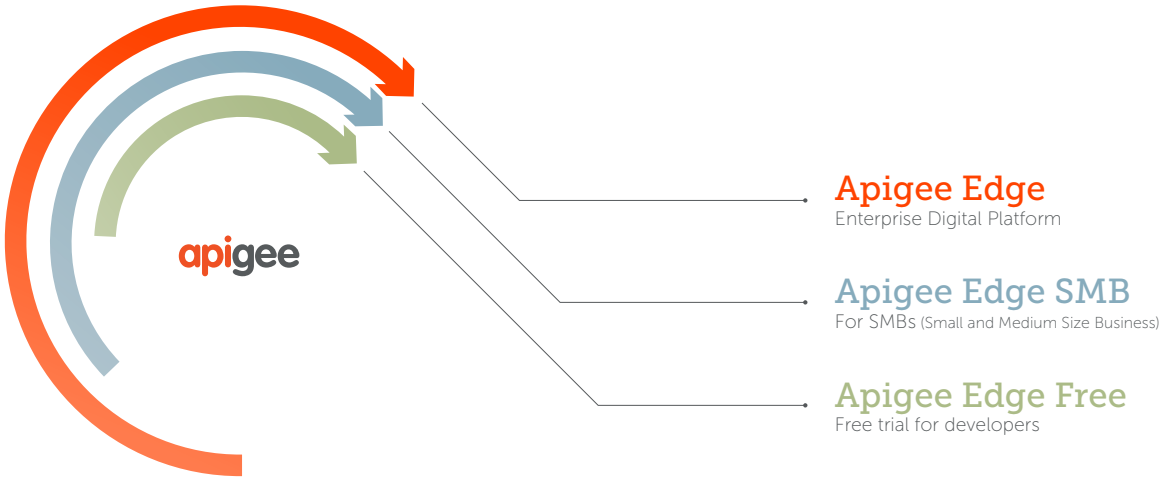
Monetization, a feature of Edge Developer Services, provides the following capabilities.

- Rate plans: Using monetization, you can create a variety of rate plans that charge developers (or pay them through revenue sharing) for the use of your APIs. You can create pre-paid, post-paid, fixed-fee, variable rate, and "freemium" plans, as well as plans tailored to specific developers, plans covering groups of developers, and revenue sharing.
- Reporting and billing: API providers can get reports on traffic to the APIs for which developers purchased a rate plan. API providers can create billing documents (which include applicable taxes) for the use of their API packages and publish those documents to developers. Monetization also integrates with payment providers, such as WorldPay, allowing developers to pre-pay for their API use.
- Setting limits: An API provider can set limits to help control and monitor the performance of APIs, and can set up automatic notifications for when limits are approached or reached.
- Monetization-related content: The Edge developer portal includes content that an API provider publishes or viewing by a developer, such as a catalog of available API packages and rate plans for each package. API providers take advantage of the monetization features in the developer portal or integrate monetization features into their own developer portal.

Scalability

Companies from small and medium businesses to large enterprises are using APIs as the foundation upon which they build their digital business. API management is important to ensuring success, whether it's employed at a global enterprise running mission critical business on its APIs, or a startup trying to get its business off the ground.

Whether you're a retailer on Black Friday, a travel site gearing up for holiday travel, a media/entertainment company streaming a big event or running a promotion on your website, traffic bursts are a reality in almost every industry. Enterprises want to know that their capacity can scale along with these dynamic fluctuations in traffic. An API management solution needs to support these high-performance requirements.



In order to build a system that can perform at scale, Apigee uses a variety of best practices and technologies. These include:

- High-performance pipelined proxy architectures that can effectively handle high levels of API traffic, efficiently processing the traffic whether to analyze or transform it with minimal computational overhead.
- Automated elastic computing to devote additional computational resources on-demand.
- Micro-services architecture—constituent services powering specific features—which can scale independently as necessary based on usage patterns.
- Distributed database technologies and expertise that allows us to manage the storage requirements for our architecture as demand grows.

Apigee supports very high-performance requirements by employing a scale-out design. To allow additional workload, an API provider can add additional compute or storage nodes. These processes are deployed on separate machines to allow flexible allocation of resources such as CPU, storage, network I/O, and to allow independent scale-out. These components can also be spread across multiple data centers.

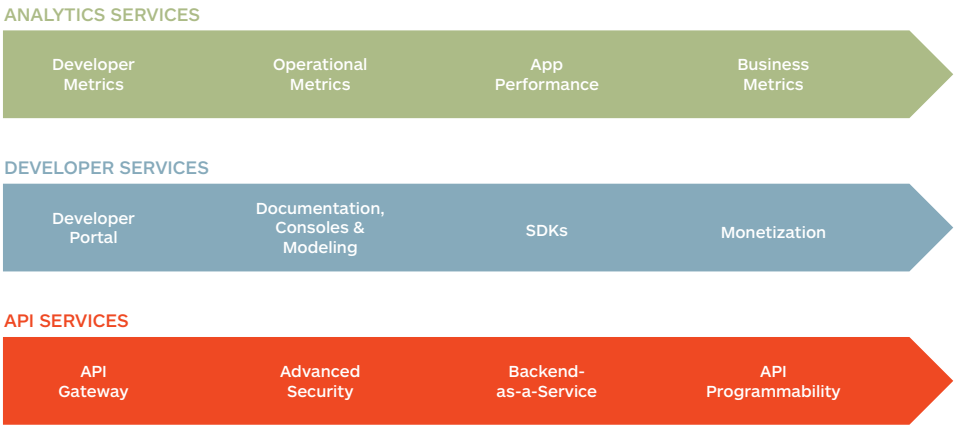
Apigee's API-DN improves an enterprise's scalability and protects its backend systems by offloading intensive API functionality to the regions.

In addition to some of the world's largest enterprises, Apigee supports developers, and small and medium-sized businesses (SMBs) with its Edge API management platform. Developers can try the platform in a free trial and Apigee Edge SMB is available at an annual subscription rate that is based on the number of API calls per quarter. There's no limit on the number of APIs or API products a business can build or the developers it can support.

Apigee Edge SMB is a self-service and SaaS experience and includes the same core API management functionality as the full Edge enterprise platform and a developer portal.

Extensibility and the power of platform

Time to market is a primary concern for all businesses. To improve speed of delivery and reduce costs, companies strive to minimize professional services engagements with their API management partners. But organizations sometimes want to extend the capabilities of a solution. An API management solution that is a platform can help an organization meet these goals. Software platforms have been around for a long time, but the same principles apply today as did with the early platforms. In simple terms, a software platform is the base upon which applications, processes, and other technologies are built, deployed, and managed. Platforms are open to extension or complements from third parties.



COMPONENTS OF THE APIGEE EDGE API MANAGEMENT PLATFORM

So what does it mean for API management? An API management platform, such as Apigee Edge, is designed to enable a business to easily extend its capabilities by supporting commonly used and popular languages such as Java, Python, and JavaScript or by supporting open source and customer-modifiable extensions.

Apigee Edge:

- Is extensible using standard Java, Python, and JavaScript. Through the use of callout policies, this code executes as part of the request/response pipeline, like any out-of-the-box policy.
- Provides a set of extension policies out of the box including a Java callout policy, JavaScript policy, message logging policy, Python script policy, service callout policy, and statistics collector policy. These allow API developers to provide custom policy functionality, with support for such features as service callout, message data collection, and calling Java, JavaScript, and Python behavior you have created.
- Can host and run unmodified Node.js applications. With Node.js gaining traction in the enterprise, the ability to host and run Node.js applications on Edge without requiring another tool to be introduced into the environment is increasingly popular with Edge customers.
- Can be extended via open source and customer-modifiable connectors. Having access to the code in a connector and being able to make modifications or source additional connectors from open source provides flexibility and control for the API provider. Examples of open source and customer-modifiable connectors are available at https://github.com/apigee-127/volos-connectors.

The three components of Apigee Edge—API Services, Developer Services, and Analytics Services—in concert provide a solution that addresses the entire digital value chain. Going far beyond the traditional core features of the API gateway, the developer portal, and developer metrics, the Apigee platform delivers operational metrics, API design and modeling, and advanced security to make APIs enterprise-ready. App performance metrics, SDKs, and a BaaS enable modern app development. And business metrics, monetization capabilities, and API programmability drive innovation in digital business.

Conclusion

APIs have become a requirement for building digital businesses. They enable companies to quickly devise new approaches to serving the needs of a diverse mix of users with a whole new set of expectations.

In many industries, APIs aren't anything new. However, to think of them as a continuation of the integration-based architectures that have long been used within enterprise IT is a narrow view. They have become a foundational technology for the development of scalable enterprise applications. Whether they are used on the backend for integrating with internal systems, "on the sides" to enable other applications to access internal data and processes, or on the front end for connecting to rich clients, APIs have become central to the application development process and key to competing in the digital economy.

With the new requirements of the digital world, customer-centric IT organizations, and the ever-present need to connect disparate internal systems, managing APIs and API-driven businesses becomes increasingly challenging. How do you ensure developers and partners are productive? How do you manage, secure, and mediate your API traffic? How do you grow your API program and your developer ecosystem to meet increasing demand?

API management is the solution that enables businesses to create, manage, secure, analyze, and scale APIs.

Demise of the centralized service governance model

The rise of virtualization, IaaS, and PaaS as well as a generation of internet developers with easy access to server resources, have all led to the demise of the centralized service governance model. SOA governance, which focused on centralized IT resources, has ceded ground to API governance, which focuses on supporting the application teams and agile and decentralized API-first architectures.

About Apigee

Apigee delivers an intelligent API platform to accelerate the pace of digital business. We help companies – from disruptive start-ups to the Fortune 100 – use their enterprise data and services to create connected digital experiences for customers, partners, and employees. This is digital business.

APIs are the foundational technology for digital business. Behind every smartphone, mobile app, and connected experience is at least one API – and APIs need to be managed, secured, analyzed and scaled. That's what we do. Apigee helps businesses use APIs to securely share data and services across a myriad devices and channels. Built for the new requirements of today's digital business, our platform helps companies serve customers in a real-time, anywhere-anytime fashion, use data to continually improve the customer experience, and drive additional revenue.

Many of the world's largest organizations choose Apigee to enable their digital business, including 20 of the Fortune 100, five of the top 10 Global 2000 retail brands, and six of the top 10 global telecommunications companies.

For more information, visit apigee.com.

Share this eBook