

# Build Digital Enterprises with the Power of APIs

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**Abstract:** APIs play an important role, if your organization wants to take part in the digital economy. APIs are also business critical component for any company that wants to expand its digital assets, as APIs are also a product. This paper explains everything we need to know about API management in order to contribute successfully in the digital economy. It suggests advice on how to prepare for API management decision-making, and how to generate significant profit through working with APIs.

**Keywords:** APIs, Digital Enterprises

## 1. Introduction

API stands for Application programming Interface that is a computing interface, defines interactions between multiple software mediators. It deals with dissimilar types requests that can be made, different data forms to be used and convention flow to be followed etc.

Application Programming Interfaces (APIs) are numeral building blocks for modern applications and open integrations. APIs include a set of routines, protocols and tools to build software applications. APIs outline the set of requirements that direct the applications to communicate with one another. APIs allow communication by revealing functionalities, permitting diverse applications, websites or devices to connect efficiently with each other.

## 2. Digital Challenge

The main attraction of the online digital world deceits in the fact that technology allows us to move fast, to come up with new products as soon as the market asks for it. Technology is faster than we humans can be. There is a challenge in creating a digital counterpart to our businesses. The challenge is that we need to enable our digital assets (such as software and data) to talk to other digital assets efficiently, in order to exchange value, without the involvement of humans or other physical assets. In the past we usually built in some escape for human intervention, but when we fully automate complete value chains, we need to enable software-to-software communication in a solid and standardized way. API management takes care of this digital exchange challenge. APIs provide the digital language for our digital assets.

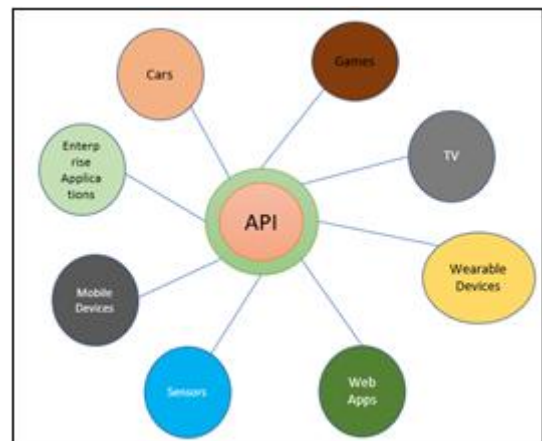


Figure 1: API Use cases

## 3. The Company as a Digital Platform

By revealing APIs to partners and customers, others also will be able to do their business using your digital assets. In this case your company behaves as a platform: an opportunity for others to develop services. A bank can expose its APIs in order to let new fintech companies do their banking business. Companies like Uber and Airbnb are organized as platforms – the taxi drivers and house owners do the actual business. API management is at the core of the platform economy.

### 3.1 What is an API?

Application Programming Interfaces (APIs) are numeral building blocks for modern applications and open integrations. APIs include a set of routines, protocols and tools to build software applications. APIs outline the set of requirements which direct the applications to communicate with one another. APIs enable communication by revealing functionalities, permitting diverse applications, websites or devices to connect efficiently with each other. Apple (iOS) API used to detect touch screen interactions is an example for API. APIs are treated as tools, allow programmer to deliver compact solutions rapidly.

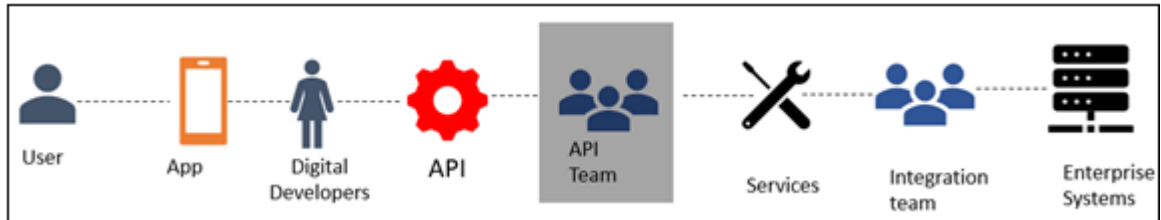


Figure 2: API Flow

### 3.3 API Management

API management is a set of capabilities that enable designing and running APIs.

- Design: Design APIs are based on open standards like open API specification and ODATA
- Develop: APIs can be developed by exposing and comprising backend interfaces apps or middleware
- Monitor and Analyze: Monitor and analyze API usage, performance and errors
- Engage and Monetize: Involve with application developers and monetize digital assets over APIs.

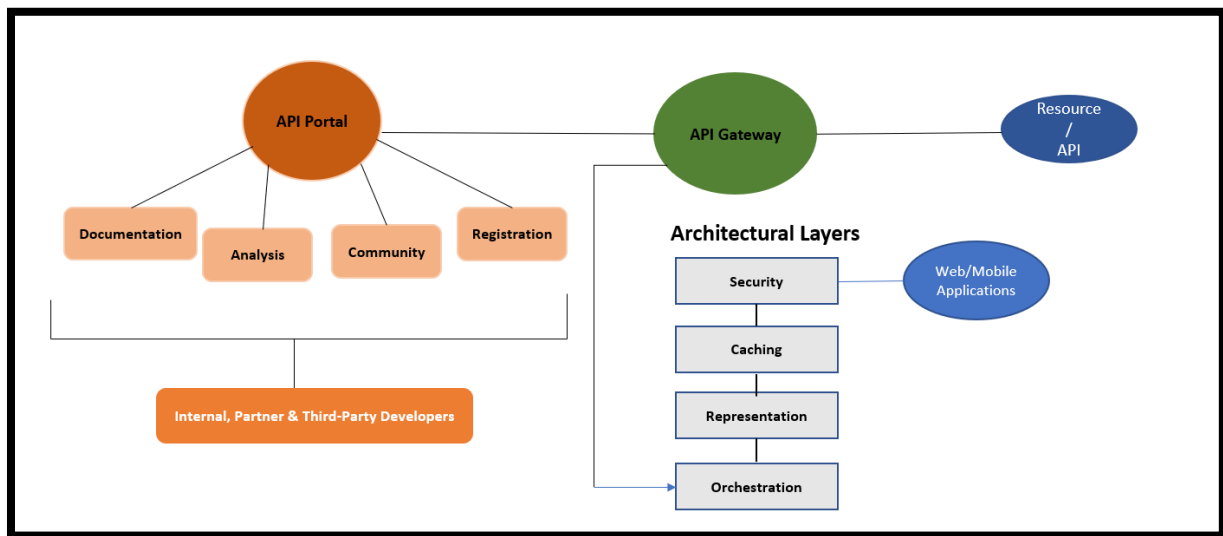


Figure 4: API Architecture

### 3.4 API use cases

#### Weather Snippets

Weather APIs allow you to connect to huge databases of weather information, forecast data and historical information. These APIs can be found on all popular platforms like Google Search, Apple' weather App etc. For example, when we search on Google for Weather followed by city name, we can see the respective search results.

#### Log in Using Face Book/ Twitter/ Google/ GitHub:

APIs help to authenticate users with login process. Application uses API every time when it loads to check whether the user has been logged into some other social media website already.

#### Pay with PayPal

PayPal is an online payments app used to pay online, straight within an eCommerce store.

When application sends an order request to PayPal API, it executes the payments process.

#### Twitter Bots

APIs help Twitter Bots to automatically tweet, retweet, follow and share messages.

Twitter APIs help bots to provide details on the site, tweeting a specific word or following a person etc.

For example, whenever new follower joins, API informs the bot on the information.

#### Travel Booking

Travel Booking Sites help to get information on different aspects like destinations, prices, comparison options etc... They use third party APIs to get information from providers.

#### Consuming data from enterprise database and exposing it as API for consumptions purposes

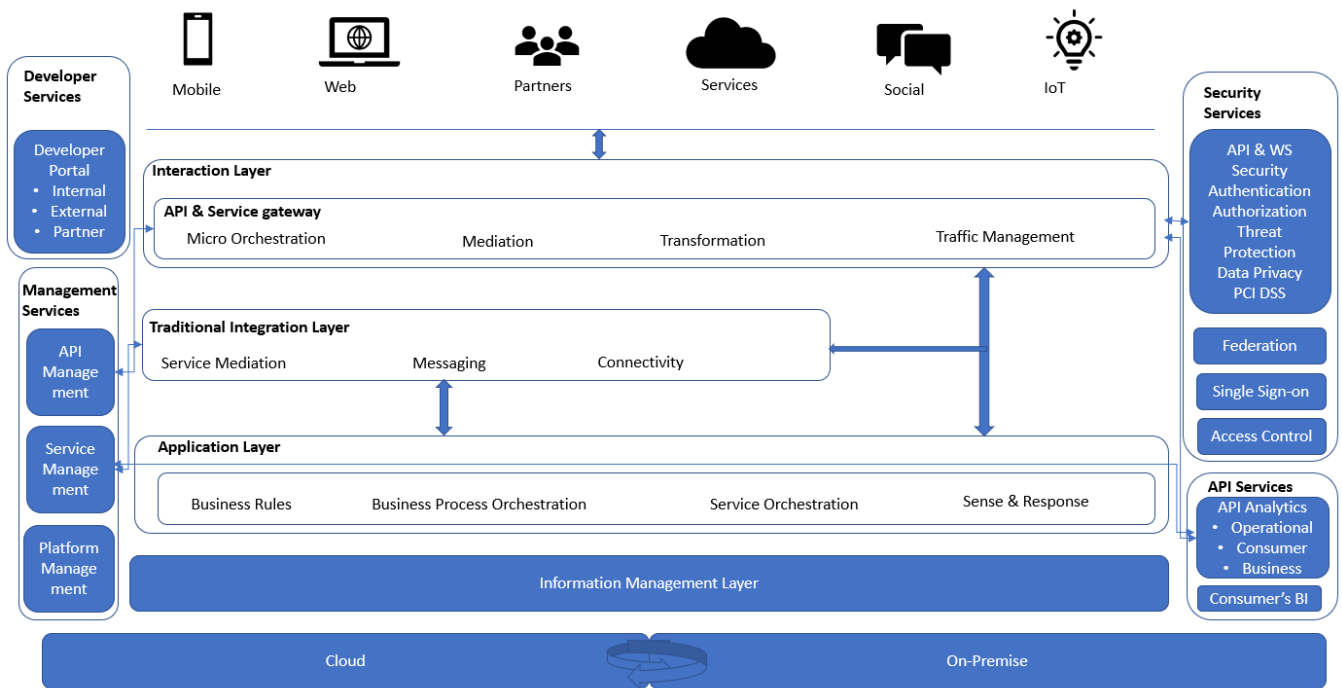


Figure 5: Enterprise Data as API

### 3.5 Different API Management Tools

Let's explore on the most popular API Management Tools that are offered in the market.

Table 1: Comparison of Different API Management tools

API Management Tools	Suited for	Size	Delivery Mode	Developer Portal availability
Apigee	Monetization tools	Small, Medium	Proxy, Agent, Hybrid	Available
3Scale	Developer Portal	Startups, Small, Medium & Large	Proxy, Agent, Hybrid	Available
IBM API Management	Improved User Experience	Enterprise	Proxy, Agent	Available
Akana	Lifecycle management tools	Enterprise	Proxy, Agent, Hybrid	Available

### 4. Conclusion

APIs can allow businesses, from smaller to huge companies; to focus on their core competencies without having to do work that has already been done. An organization can develop an API strategy consists of both public and private APIs and helps developers to create new business opportunities, improve existing products, systems and operations.

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