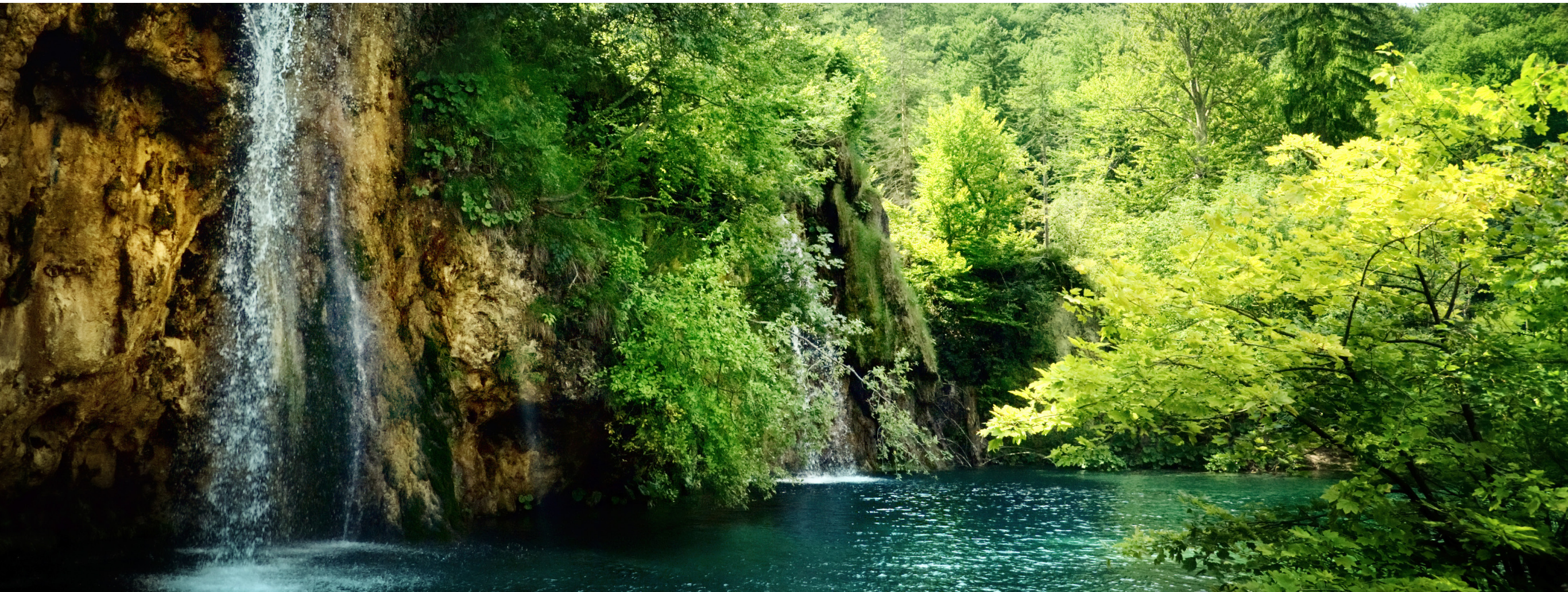# Why APIs?

apigee

Agile innovation, adaptive apps, and a wealth of data

Summary

Why APIs? It's a fair question. After all, with the amount of time and money many enterprises invest in their IT infrastructure, the notion of layering on more technology might seem daunting, or at least redundant.

But consider what is happening among your customers, employees, and partners. People who interact with your business have a whole new set of expectations. They expect to have information at their fingertips. They expect a modern experience with your enterprise. They expect you to meet them where they are doing business, or shopping, or buying.

This has created a tidal wave of apps and, with it, a river of data. All of this presents businesses with a new set of challenges, but also opportunities.

For businesses, mobile devices offer an extraordinary channel through which to reach customers right in the palms of their hands, while at the same time providing insights into how they

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interact with the business. Internal expectations are evolving too, with the consumerization of IT, the BYOD revolution, and the possibility of digitizing internal processes all creating new expectations among employees.

Many organizations recognize these trends, but do they all have a strategy to capitalize on the big shift? It goes without saying that smart businesses align their strategies with customers' and employees' habits and needs, but what is the right way to meet these new expectations?

APIs are the answer.

APIs open the door to agile innovation, improve the ability to adapt quickly to market changes and new competitors. and create the opportunity to gather a wealth of data about app developers and users

The end of the one-off approach to apps

You realize that your business needs to meet the expectations of customers in a mobile, social, cloud-enabled world. So you decide it's time to develop an app. It's common for the initial order of an iPad app to come from an enterprise's executive office or marketing team.

An enterprise might start by developing an app in conjunction with one of its products, a partner, a social network like Facebook, or a cloud service like PayPal. The app is built, and all is well—for the time being. Then the business realizes that there's also a user base on Android, so the app is rebuilt for that platform. This development method continues for more social networks, platforms, partners, and cloud services, and results in a pile of incompatible apps.

Similarly, when an app is built as a one-off project, developing the next mobile

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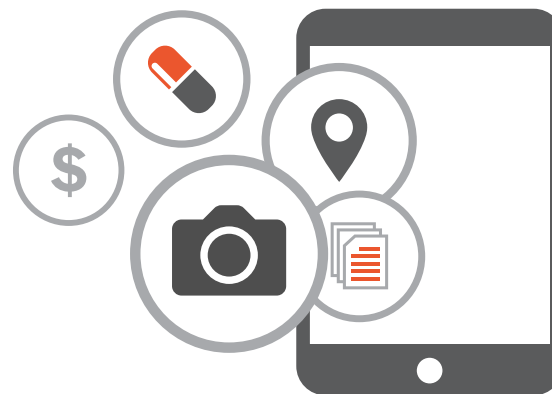
app from scratch forces the recapture of the user base and user data that had been gathered by the first. The solution: develop the first app with the expectation of more. Each successive app will support or complement its predecessors and benefit from access to common data already compiled. This enables the common user base to continually grow, adding up to a compelling, unified user experience.

This kind of platform scenario—and the ability to enable and simplify app development for a variety of devices and platforms—is made possible by APIs.

"An API works behind the scenes, to expose or project data and functionality for use by apps and the developers that create them. APIs make enterprise assets reachable by apps; the enterprise chooses those assets in order to enable customers, partners, or employees to interact in ways that reinforce the business model."

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An innovation platform atop legacy systems

Service-oriented architectures (SOA) traditionally addressed the needs of corporate information system integration, but projecting data via apps places new demands on companies.

SOA models discrete information systems or components as services, which are accessible over a network via well-defined protocols and data formats. This
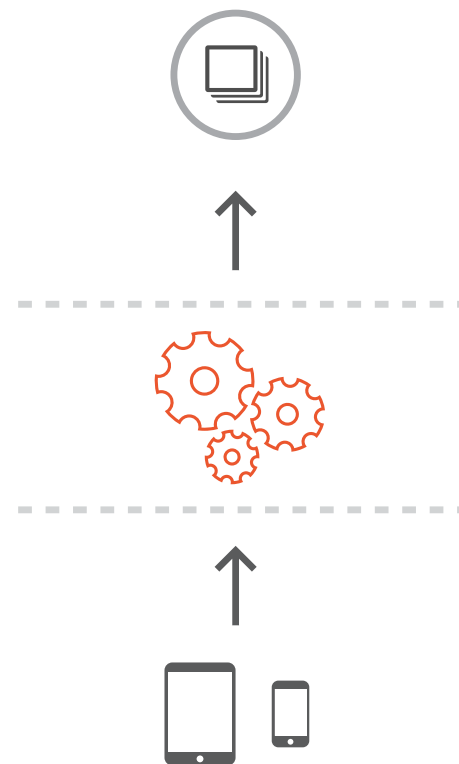
enables independent development and the evolution of cooperating systems, without the need to employ a common technology base. This, in turn, gives companies flexibility in managing discrete business functions, which translates to operational efficiency.

Enter the iPhone. Not long after its introduction in 2007, this wireless device began its disruptive influence on information systems. The viral spread of

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smartphones and the advent of tablets, along with advances in browser technologies, brought new interactivity, style, and power to web applications, and enabled consumers to carry the web around with them.

This change creates the need for a way to connect corporate information systems with remote systems and mobile devices, in a way that SOA can't.

That said, APIs aren't necessarily a replacement for SOA and legacy systems. Rather, APIs can act as a façade in front of these systems; adding this layer fosters digital ecosystems by enabling developer portals and analytics. APIs offer the ability to hide complexity and expose functionality in an easily consumable way.

They also present the opportunity to learn the ropes of the digital economy and the market value implicit in APIs.

A very powerful use case exists in the way an API layer can help a company discover how to simplify the upgrade of legacy back-end systems. It also makes it far easier to upgrade these systems without disruptions.

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Open up—thoughtfully and securely

Companies that decide to leverage their brand and value propositions through apps understand that there is value in their internal systems and data and that they must participate in the digital economy in the same way as they did in the web economy during the past decade.

However, an app developer can't simply access a typical internal system at a Fortune 500 company. Providing this kind of access requires a very deliberate, thoughtful, and secure process on behalf of the business.

Social, mobile, and cloud services empower developers by enabling them to access and interact with corporate data, but IT departments still need to be concerned with security, compliance, and rapid changes.

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The key to crossing the chasm between IT requirements and those of the new digital economy is an API. As with any technology that involves enterprise data, security should always be a prime concern. It should be built into the APIs themselves, but threat protection, identity services, infrastructure security, and compliance must also be considered.

"Any API-centric architecture must meet the security requirements from each of the stakeholders: the developer, the API architect, the security architect, the application/business owner."

– Christian Reilly, Bechtel Corp.

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Data—a two-way street

APIs don't just enable an enterprise to expose or project data. They also create a path for data to flow back to the enterprise. They're critical for data analytics, because they give enterprises end-to-end visibility from the back-end all the way to the mobile user.

With an API, a company receives feedback and data that provide a powerful view of whomever is using an app, whether it's a customer, a partner, or an employee. Which developers or partners are using your API, how much traffic is moving on it, how the API is performing, how many purchases and downloads of your apps have occurred, how many developers are building apps—all of these data streams can be captured and analyzed.

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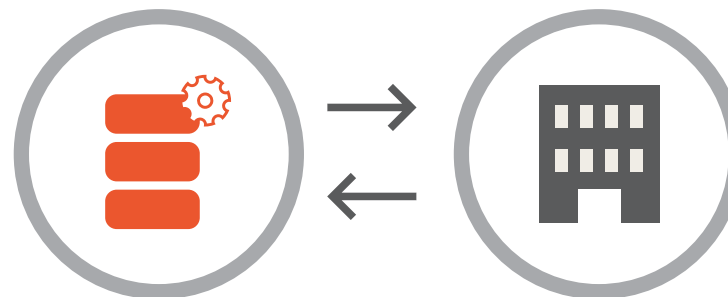
Which API initiative is right for you?

With the understanding of how and why APIs enable digital acceleration, the next question becomes: how does a business go about building an API strategy? Is your business seeking to connect with customers, or digitize and streamline internal business processes, or create new channels to work with partners? An understanding of the different kinds of API models, and which one is right for your business, is critical.

For an explanation of the three API initiatives, download "What's Your Problem? Internal, Partner, and Open API Initiatives to fit your Business Challenge."

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Where to go from here...

If you own a digital or mobility program for retail or other business, these eBooks will help you understand how to meet the challenges of building a digitally enabled customer experience, digitizing business processes, and creating your own digital business model and roadmap.

▶ What's Your Problem? Internal, Partner, and Open API Initiatives to fit your Business Challenge

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