Driving
innovation
and agility
through an
API strategy

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Today's Application Programming Interfaces (APIs) are business-level artifacts that enable new business models and modes of efficiency such as: interacting with customers over new mobility and social channels, reaching new customers through partner and 3rd party apps, monetizing your data and services for use by others and maximizing IT efficiency. Across these scenarios, APIs are keys to scale IT capability and unlock business innovation and agility.

Traditionally APIs remained the concern of IT because they were primarily viewed as standard interfaces to interact with underlying hardware and software. No longer—today's APIs offer a simplified interface to access valuable business data and functionality through Internet standards that developers understand. For example:

A Common Services Platform: An organization building applications for multiple platforms (be it for Cloud, Social or Mobility) presents a set of common functionality via internal APIs to standardize data and service access in order to minimize rework. Consider the case of Mobility. With the exponential growth of mobile devices, most companies are seeing their customers move quickly beyond browser-based web apps to mobile apps. Having a common set of functionality reduces the work involved in developing applications for multitude of mobile platforms such as iOS, Android, Windows and Mac.

A Self-Service Model: Organizations also use APIs to enable self-service models that empower internal groups, partner organizations and independent developers to enhance functionality on their own without being limited by only what can be done by their IT department. Some examples include: an individual developer extending capability to the Linux platform, a partner organization embedding your service within a mash-up, or an internal department refactoring data for a group-specific dashboard.

A Unique Offering: Public or open APIs provide unique services or data that is not available elsewhere, possibly offering opportunities for monetization if broadly adopted. For example, Netflix's use of Amazon Web Services Elastic Compute Cloud APIs[1] means that as Netflix gets more popular, the usage of Amazon's API increases, resulting in financial gains for Amazon.

APIs serve as the fixed point that decouples access from IT implementation, allowing each to evolve independently: IT can innovate and update back-end systems at the pace of technology. For example, it can modernize a legacy mainframe back-end system without impacting access systems, allowing users to continue to access the sames APIs. And the right set of APIs enables a framework for internal, partner and external users to reuse, evolve and scale your capability: new users and use cases can begin consuming your data and services via APIs without need to re-implement your back-end services.

But just having APIs is not enough. There is a big difference between an ad hoc set of APIs compared to a carefully curated and managed set. Achieving the latter requires an API program that covers the APIs through strategy, governance, design, build and operate. Together the stages work towards specific outcomes such as creating a common services platform, a self-service model or a unique offering.

[1] http://tech.fortune.cnn.com/tag/amazon-web-services/

When there are only a handful of APIs, creating them ad hoc makes good sense. However, the number of APIs can grow quickly, and keeping track of their versions, number of users and types of access quickly introduces complexity, and stand-alone services will not be enough to attract and retain users. Without visibility into who is using your APIs, it is difficult to determine which APIs and access are truly important. For example, IT monitoring is insufficient and does not identify what access and whose access drives the load. Inconsistent application of policies and development of APIs introduces business and IT vulnerability that may lead to overexposure in terms of security and compliance. Ad hoc management makes it difficult to pinpoint and resolve these issues. The result is that access and implementation are either still tightly coupled, making dealing the APIs no better than working directly with details of backend systems; or uncontrollable where the complexity of APIs becomes too great to manage. Without a structured approach, APIs lose the simplicity that makes them valuable.

APIs are quickly being promoted as something every organization needs given the need to share data across applications. They provide a common platform of functionality that minimizes rework and accelerates development. The questions then become, "what can they do for my organization and how do I get started?" As technical components alone, APIs can be simple to build, but by themselves only enable access. The challenge and reward lies in creating an API program directed to a common goal. The key elements are 1) a compelling set of services that will attract and satisfy users, and 2) a standardized governance and management model for consistent operations. As a result, they ultimately enable a self-help model for developers and also help your business innovate and grow.

Accenture API Management Suite

Accenture API Management Suite drives a unified approach across the API lifecycle stages to create and manage a curated set of APIs that achieve business innovation and agility:

Strategy: First, set your business goals and value proposition for your APIs. Determine what outcomes you want the APIs to generate within the context of your business model. APIs for a partner program may be free of charge when supporting co-innovation, or be monetized based on bulk usage when delivering partner value, or piggy-back a per use charge when the partner channel drives requests. Start by considering: Who are your end-users? What outcome does your set of APIs enable? How it is different from others on the market?

Governance: Consider the risks associated with your strategy, and identify the API owners and sponsorships to understand associated levels of responsibility. Risk-wise, governance follows the data. First, determine the data impacted by the proposed API. Then work with the data controllers responsible for the data to determine the exposure granted by the API and to authorize and scope access.

Design: Define exactly which APIs are needed from a technical perspective, focusing on what each API will do to achieve the desired business outcomes and meet governance objectives. The result will be a set of API definitions. Consistent application of best practices around error handling, security, implementation (REST, HTTP), results in a well-defined set of APIs that attracts users because they can achieve their objectives and access unique services.

Build: Implement the APIs. Standardized development frameworks and implementation patterns ensure the consistent application of designed best practices (e.g., around security, traffic management, service level management, monitoring, metering, monetizing and analytics). This structured approach minimizes risk and rework.

Operate: Leverage API management tools such as those from Apigee, Layer 7 and Mashery to manage and monitor the APIs. Visibility into what APIs are accessed, who is accessing them and how they are being used are key to understanding run-time optimization and analytics that will inform and improve your API strategy.

An API program is not a one-time process, but an agile model that is dynamic, responding to changing business conditions and requirements. Accenture API Management Suite helps companies regularly revisit the stages of the API lifecycle to effectively allocate resources and introduce updates (e.g., add/remove APIs, monetize, versions, etc.) based on changes in usage and the desired goals.

Questions to consider

1. If you are currently embarking on a Mobility, Social, Data or Cloud program, how are you going to access data and services?

2. Do you have valuable data or unique services that may be of interest to others?

3. Do your competitors have APIs?

4. If you currently have APIs: Do you know if your program successful? Do you know your end-users? How do you differentiate your APIs from others?

Accenture can help businesses develop an API-led strategy that will yield optimal business results.

Contact us

To discuss developing or refining a strategic API program, contact us:

Edy Liongosari
Managing Director—Accenture Technology Labs
edy.s.liongosari@accenture.com

Teresa Tung
Senior Manager—Accenture Technology Labs
teresa.tung@accenture.com

Jean–Marie Hunold
Global Lead—ETI Integration Domain
jean-marie.hunold@accenture.com

About Accenture Technology Labs

Accenture Technology Labs, the dedicated technology research and development (R&D) organization within Accenture, has been turning technology innovation into business results for more than 20 years. Our R&D team explores new and emerging technologies to create a vision of how technology will shape the future and invent the next wave of cutting-edge business solutions. Working closely with Accenture's global network of specialists, Accenture Technology Labs help clients innovate to achieve high performance. The Labs are located in Silicon Valley, California; Sophia Antipolis, France; Arlington, Virginia; Beijing, China and Bangalore, India.

For more information, please visit: www.accenture.com/accenturetechlabs

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