THE API ECONOMY PLAYBOOK

Driving business value with secure, self-service digital capabilities

CONCENTRIX
CATALYST

Executive summary

The democratization of software is enabling consumers and business users alike to build ecosystems of services, from playing Spotify on a refrigerator to using Alexa to dictate their next business presentation, all without asking any of the companies behind these services for help. This makes interactions between experiences, from keeping store inventory information up to date for buy-online-pick-up-in-store transactions to providing access to real-time patient data for telehealth appointments, increasingly important to deliver on the expectations of today's consumer—and all of this hinges on the application programming interfaces (APIs) that facilitate these interactions.

Many organizations, however, still view APIs solely through the lens of integration, which means they run the risk of being left out in this new economy of democratized self-service. Still others provide a "spaghetti experience," building a bunch of interconnected APIs and throwing them at as many employees as possible to see what sticks—an approach that creates waste for API developers and users alike. And confusion.

With the cost of owning and maintaining an API landscape like this prohibitive, an increasing number of organizations are beginning to treat APIs more like products to realize value from their API investments. When these interfaces are productized, businesses have an API program that satisfies needs across the organization—and aligns with the value that the organization is trying to create in the marketplace.

When successfully productized, APIs can help you drive revenue and value across the organization while accelerating delivery. By creating a portfolio of business capabilities expressed as APIs, you can build upon those capabilities to solve a wide variety of consumer problems for internal as well as external consumers.

In this whitepaper, we provide a playbook for how executives can help the broader organization accelerate delivery and increase the success rate of transformation initiatives by optimizing an API strategy. We'll outline a few key rules for API productization and detail the governance and security required to deliver on the promise of the API economy.

- **Section 1:** API productization and reuse: there's no need to reinvent the wheel

- **Section 2:** API governance: faster outcomes, greater value

- **Section 3:** Digital security: bolstering defenses against an API attack.

API productization and reuse

Stop reinventing the wheel

The number of channels, and the diversity of those channels, in the customer ecosystem is growing and changing exponentially—and we can expect it to continue to do so. As the primary mechanism for system-to-system communications in a digital-first world, APIs play an increasing role in enterprise modernization.

Consider, for example, a healthcare organization that brings together information from multiple sources to give providers a more complete view of a patient's medical history. Or a logistics company that uses map data to direct delivery drivers to the fastest route at any given time. Or a solution that gives brokers access to quotes from multiple insurance providers on a single platform. Each of these leverages APIs to bring software and data together in a way that enhances the experience of the consumer, whether it be a developer, a partner company, or an end user.

> **Productization aligns your APIs with the purpose and value your customer is trying to derive. It establishes an extensible base of strategic, reusable APIs that create a flywheel effect, delivering economies of scale while accelerating delivery.**

Productization aligns your APIs with the purpose and value your customer is trying to derive. When you productize an API, you position it to answer a question your customer is asking, rather than pushing a solution to a non-existent problem.

Some companies have tens of thousands of APIs. Productizing APIs so that they can operate in a frictionless way—without having to hand-hold customers—adds business value in multiple ways. Productization establishes an extensible base of strategic, reusable APIs that create a flywheel effect, delivering economies of scale while accelerating delivery.

API portal streamlines operations for insurer

A national health insurer wanted to simplify and align APIs for insurance brokers to do business directly through their business systems. We refactored the insurers' APIs, making them consumer-oriented to the broker, including working with brokers to understand what the portal should look like, how it should function, and the language it should use. The result? The insurer increased its ability to onboard broker partners from three to 42 brokers in one year and created such a convenience for its partners that <u>it realized more than a $100 million increase in net new revenue—</u> that's what great APIs do.

Generally speaking, products are designed to satisfy a want or need, and API products are very much like any other product. There are three legs to any products; all characteristics must be present for a product to be viable.

PROBLEM: Does the solution solve a problem that customers are trying to solve (i.e., jobs to be done)?

FIT: Does the solution solve the problem in a way that delights customers?

QUALITY: Is the product a quality product that the consumer is satisfied with and would recommend to others (i.e., Net Promoter)?

Too often, enterprises are focused on solving one of the legs of the stool. But if you have a product that solves a problem customers have and does it in a way the customer loves but is poor quality, customers will not use it because they can't rely on it—whether it's an API or any other type of product, the end result will be the same.

Products today must be focused on ecosystems, from the car to the web, wearables, the connected home and more—not simply on a company's interactions or revenue. That means they must focus on the customer's jobs to be done, not on the value the customer provides the organization.

But focusing on the customer's jobs to be done, not the value they provide the organization, is easier said than done. Four rules can help guide you as you productize your APIs.

Rules of API Productization:

- **Leadership must be aligned:** API programs are often seen as technology concerns. Successful API programs are a shift in how organizations design, build, and run API programs to align with consumer value. A lack of mandate and alignment forces the API consumers—for example, developers or a partner company—to use whatever interfaces that are given to them, even if they are a poor fit and difficult to use. A formal API Center of Enablement (CoE), with responsibility for aligning API activities to enterprise goals, can help drive alignment.

- **Funding should be allocated based on the value to be derived:** Funding for APIs typically come from a project that is measured by integration or channel success. That results in APIs that are purpose-built for a single project, for example APIs built for a mobile app rather than something that meets broader needs; there is little or no consideration given to the costs and timeline concerns for expanding the use. Instead, fund teams to build productized APIs based on allocated project funding.

- **API teams must be dedicated and multi-functional:** API teams typically aren't continuously assigned to one or many APIs; instead, teams are spread across the business and IT. They're often aligned horizontally by discipline (e.g., security, quality, development, or data), and new teams are more likely to build a new operation than build on top of something another team created—there's too much risk, because they don't understand what was already built well enough. To successfully productize your APIs, start with a dedicated, multi-functional team that represents all disciplines that are required to define, build, and release an API. Then, as it starts realizing success, use this team to coach others across the organization.

- **Leverage a digital platform owner:** APIs can no longer be treated as a bunch of integrations; the real value of APIs now lies in what can't be easily duplicated— their look, their feel and how they address market needs. The time has come for companies to focus on creating quality APIs, and to do this, they will need a specific role dedicated to delivering them: the digital platform owner. This person brings a higher-level view than an **API product manager**, who has ownership of the three-legged stool of a successful product we discussed earlier in this whitepaper (problem, fit, and quality). The digital platform owner is responsible for shaping capabilities across the portfolio. By establishing tiers for different use cases, the organization can deliver more reliable, scalable APIs. This becomes a very efficient way to manage things that are used broadly across the enterprise.

API governance

Faster outcomes, greater business value

What do a major healthcare company, one of the world's largest transportation companies, and a leading digital financial services provider have in common? Their future success is dependent on delivering on the potential of their APIs—in each case, through **a robust API governance model**. Regardless of industry, APIs have become a mainstay of many organizations' go-to-market. However, most look narrowly at infrastructure or compliance governance when they consider how to govern instead of thinking about driving value to the business from their API program. A good API program creates:

Capability democratization: Giving API consumers access to capabilities that they require to conduct business and create value, without having to go through internal gatekeepers.

Consumer independence: Building in such a way that APIs are answers to the consumer's problem—whether that consumer be someone inside the organization, a partner, or a customer—and self-service, enabling them to understand, test, requisition, and go live with an API with little or no human intervention.

These are key drivers of business value for an API program. These drivers accelerate delivery by making data more easily accessible. They enable innovation through ready access to your core capabilities. They are more secure—single-variant productized APIs replace dozens of integrations, creating trusted security patterns and reducing the number of attack points. They enable more efficient use of resources—independent API consumption frees critical IT resources to focus on creating new value instead of helping customers consume existing value. In short, democratization and consumer independence enable frictionless consumption, which allows you to build more channels and realize greater agility.

Governance removes friction

One of the nation's largest agricultural retailers, which works with a lot of downstream partners, wanted to create a new customer engagement platform, and it needed to resolve a critical bottleneck in the process—aligning downstream partners to accelerate integration. We created and implemented a powerful API practice strategy and governance plan that enabled the company to execute the Apigee API Gateway and a branded developer portal in just three weeks, significantly ahead of schedule. **The result?** The agriculture retailer can now onboard downstream delivery partners in one week instead of three or four months.

API governance makes all this happen. A broad concept that is focused on the secure and reliable delivery of consumer-independent APIs for high-value democratized capabilities, governance should encompass a few key areas:

1
Design

API contract, behavior, security, and patterns.

2
Operations

Scalability, resilience, high availability, automation, and points of presence.

3
Performance

Response times and caching.

4
Productization

Consumer orientation, design, packaging, and self-service.

5
Security

Transport and message security, threat modeling, and AuthN/AuthZ patterns.

6
Compilance

EULA, legal instruments, regulation, design patterns, data management, and audits.

7
Organization

Dedicated, multi-functional teams that are aligned with the value derived by the business.

8
Incentivization

Teams are measured and rewarded based on API value creation.

9
Financial

The program is funded and measured based on the value that is being created for the organization.

Lowering risk and accelerating delivery requires applying the right processes at the right time, if or when they are required. When you can take these principles and shift the way that you think about governance, then you can truly drive efficiency and acceleration.

One of the key concepts in API governance is the categorization framework, which is designed to deliver consistency and safety at speed. Speed requires autonomy, which in turn requires thoroughly published expectations and rules. The categorization framework sets expectations for creating a compliant API with physical review gates only when necessary. It runs through the entire DevOps lifecycle, integrating design-thinking principles to:

Define
What security patterns should be used for this category? Does this category require productization?

Ideate
What implementation patterns should be used for this category?

Prototype
How should you engage consumers in design for this category?

Build
What linters, validators, and static code analysis should be performed for this category?

Test
How detailed and transparent is your testing for this category?

Learn
How should you engage consumers in design for this category?

Operate
What linters, validators, and static code analysis should be performed for this category?

Implement
How detailed and transparent is your testing for this category?

Digital security

Bolstering defenses against an API attack

As API use among organizations continues to grow, it means not only more opportunities for better digital customer experiences but also more risk. **To address today's security concerns**, organizations need to eliminate risk before it happens. APIs that go untested can pose a significant risk to brand reputation and consumer trust.

API security lags behind advances

A 2020 assessment by Concentrix Catalyst of thousands of APIs found that 75% had security violations and 45% had severe vulnerabilities, meaning that there was a high probability of a substantial breach if not addressed.

API attacks have cost Venmo, Facebook, Panera Bread, Equifax and Capital One billions of dollars. As one of the fastest-growing attack vectors on the internet, APIs that go untested can pose a significant risk to brand reputation and consumer trust. Yet many organizations aren't able to say how many APIs they have, let alone whether their APIs are exposed.

The way we used to secure http traffic to ensure that it was safe is very different from how we manage and secure traffic for APIs. When we move from tightly coupled scenarios (for example, a website we manage accessing systems we own) to a more API-oriented approach (for example, using mobile applications or other things outside our environment), practices need to fundamentally change.

Consider, for example, a contact center that gives agents access to all customer data in order to facilitate better service. If an agent using the company's VPN falls victim to a phishing attack, the attacker now has access to his or her credentials—and as a result, every single account. With the recent increase in remote and hybrid work, many more employees are working from home, making it even harder to guarantee security through traditional practices.

Many organizations give employees greater access than they need to increase convenience; what they should do instead is be thoughtful about the level of access that's absolutely required. When APIs are involved, there is the opportunity for machines to take action at a broad scale.

Top 10 causes of API breaches

Broken object-level authorization

Excessive data exposure

Injection

Broken function-level authorization

Security misconfiguration

Insufficient logging and monitoring

Broken authentication

Lack of resources and rate limiting

Mass assignment

Improper management of assets

Source: https://owasp.org/www-project-api-security/

API breaches are often a result of the shift from a tightly coupled integration world to APIs that are loosely coupled, or a failure to modernize architecture and security practices to match the new paradigm. And security issues are exceedingly common: Concentrix Catalyst assessed thousands of APIs and found that the majority had security violations and almost half suffered from severe vulnerabilities. It's the equivalent of a bank leaving its door unlocked overnight and cameras off…if someone with malicious intent discovers that door, the loss could be substantial.

Across organizations, security practices have not caught up with what we are seeing in the industry. To address today's security concerns, organizations need to eliminate risk before it happens.

We recommend that organizations shift left in the development process to prepare developers to do things in the proper way. In ensuring that security is implemented throughout all of the development practices and standards, you can guarantee that security is part of the development process. From there you can execute security with a much higher level of confidence and know that you are preventing the majority of breaches before they happen.

Conclusion

Now more than ever, enterprises must design experiences that are able to keep pace with evolving end-user preferences and motivations, and the API ecosystem will enable them to capture limitless possibilities. In the API economy, productized APIs deliver simple, flexible, intuitive, and secure experiences that achieve true developer independence. By enabling effective API product management, governance, and digital security, organizations can position themselves to remain efficient, agile, and flexible and to extend capabilities at speed to satisfy emerging business needs and deliver the real-time data today's consumer demands.

Concentrix Catalyst is the experience design and engineering team of Concentrix, a leading global solutions company that reimagines everything CX through strategy, talent, and technology. We combine human-centered design, powerful data, and strong tech to accelerate CX transformation at scale.

As a world leader in API enablement, we help companies put customers at the center of their API practice. Find out how to better position your organization for the API economy.