

A Better Experience Demands a Modern Application Architecture

Why APIs and Microservices Are Key

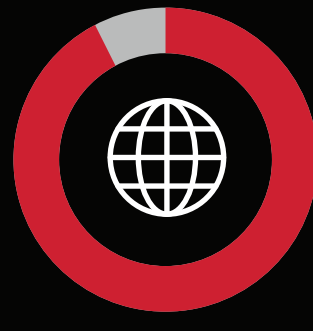
In the application economy, **customer experience (UX) is everything**. And as you continue to grow and expand your digital operations, you need to ensure that you can support seamless transactions.



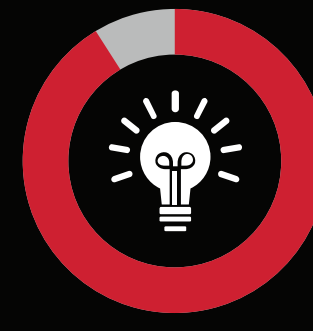
But only when you implement advanced API and microservices management can you drive results like these:



89% improved customer experience scores.¹

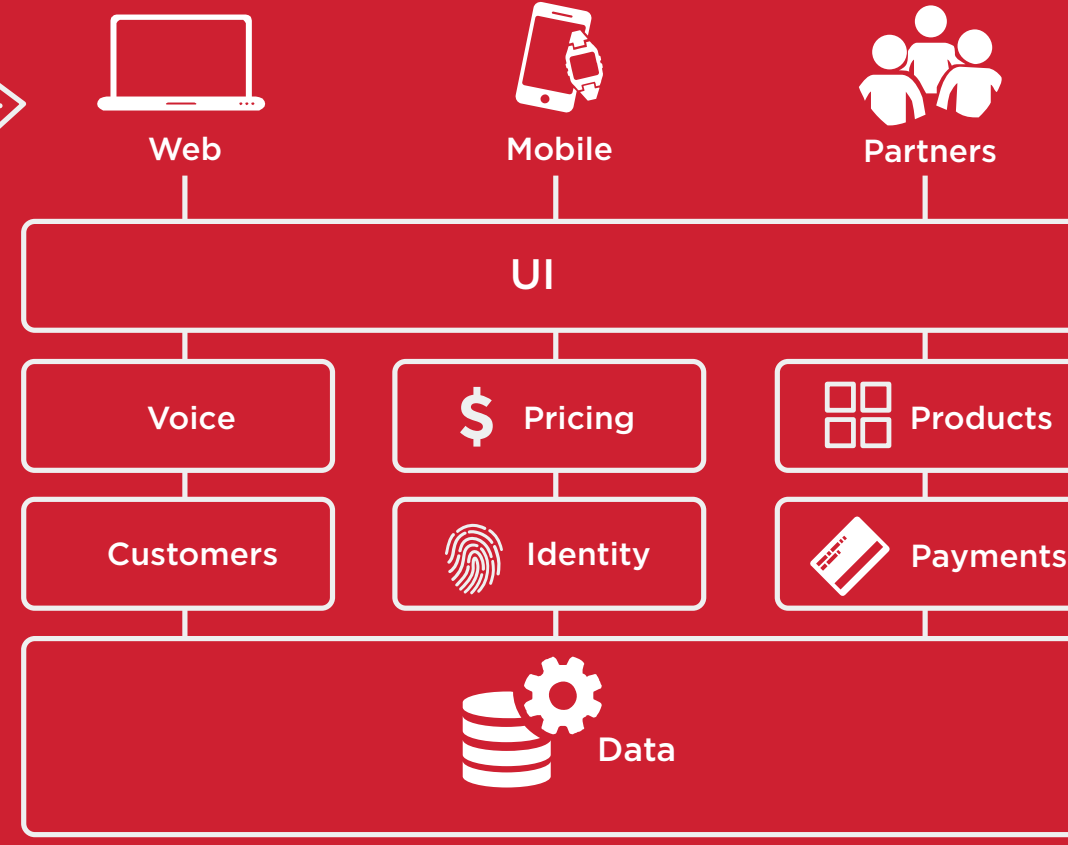


85% boosted the reach of their digital ecosystem.²



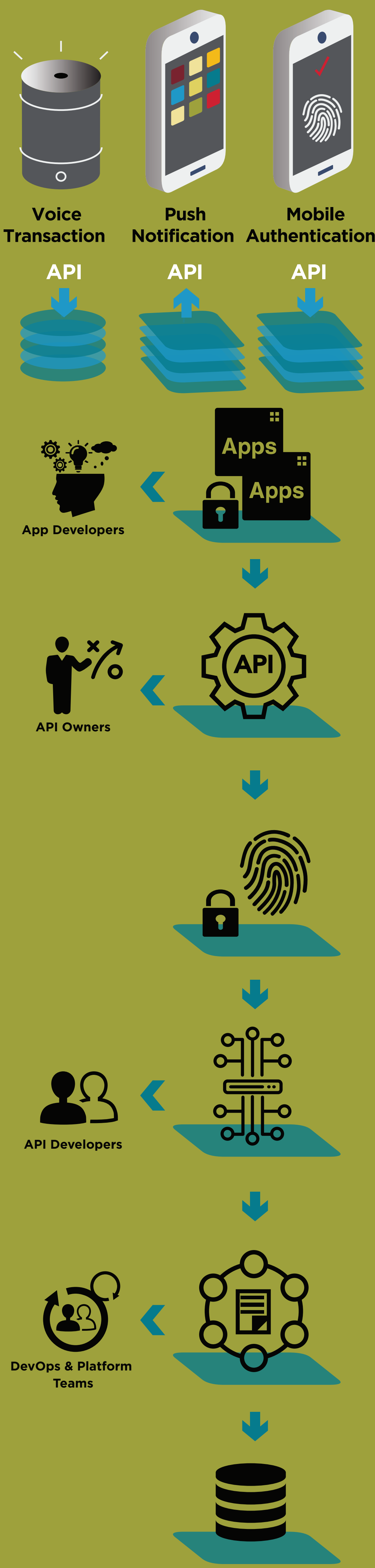
83% scored higher in developer innovation.³

Yet, today you often struggle with an existing **monolithic architecture** that works against your UX goals. Why is this so challenging? And how can you modernize your architecture to enable an agile business that both promotes innovation and a better experience?



The Path to an Amazing User Experience

First, you need to know what good looks like.



When you move from a monolithic environment to a modern application architecture, you can establish an application experience that helps enhance quality, consistency and security. For example, you may be looking to create a user experience where you employ a sensitive voice transaction to automatically trigger a request for authentication on a linked smartphone.

But to accomplish this, you need to understand the critical issues at every layer and **what's required to build a modern, high-quality application architecture**.

Amazing User Experience

App Development

Challenge: App developers need to add security enhancements to their voice and mobile apps, but trying to discover, acquire and consume the APIs required is time-consuming.

Strategy: Speed development by making it easy to register for APIs, access documentation, generate code and build secure features.

Technology: Collaboration and interactive documentation tools plus automated code generation and testing tools and mobile SDKs—all provided through customized developer portals.

API Management and Monitoring

Challenge: It's hard to manage, improve and scale experiences when your enterprise lacks the capabilities to orchestrate services, enforce policies and monitor performance and compliance.

Strategy: Use automated software to monitor and analyze performance at multiple levels, including app, API and infrastructure, so you can uncover address specific performance issues while optimizing critical APIs.

Technology: API management and precision monitoring tools to enhance scalability, reliability and improve API operations.

API Security and Identity

Challenge: The same APIs that app developers have used to design and integrate their mobile apps can expose customer data to security threats and violations of privacy and compliance requirements.

Strategy: Apply end-to-end API protection and access control to identify and neutralize threats, including Open Web Application Security Project (OWASP) vulnerabilities, in order to safeguard your mobile apps and all their connections. And add integrations with authentication software to establish identity and trust across users, apps and devices.

Technology: Omnichannel security that reaches across all layers from mobile security SDKs, to gateway enforcement, to integrations with advanced authorization, single sign-on (SSO) and identity systems to streamline the UX as it relates to security.

API Development

Challenge: Enterprise developers need to aggregate both microservices and legacy APIs into business APIs that apps can use, but there's no streamlined way to build, test, orchestrate and deploy APIs and microservices to support multiple endpoints from cloud to mobile to Internet of Things (IoT).

Strategy: Employ API creation and testing tools to bring a DevOps managed lifecycle to API development.

Technology: API management that goes beyond a gateway to cover the full API lifecycle, including rapid API creation tools, API-specific tools for testing and service virtualization—all working with existing DevOps toolchains.

Microservices

Challenge: You need to establish a secure, repeatable, usable new microservices architecture that can scale across your enterprise.

Strategy: Provide tools that allow agile teams to quickly build, secure, orchestrate and connect microservices to support business APIs and the apps that consume them.

Technology: Microgateways that provide for discovery, security and aggregation of microservices and make it easy to scale and support a flexible application architecture for the enterprise.

Legacy Data and Apps

Challenge: Data siloed in large, monolithic apps requires you to engage in significant refactoring or point-to-point integrations to enable a mobile experience.

Strategy: Decompose apps into lightweight microservices that speed development and improve the quality of your new mobile app while allowing easier scalability of frequently used services.

Technology: Low-code tools that enable architects and developers to create microservices in minutes from existing data sources and legacy monolithic enterprise applications.

Learn how Layer7 API Management can help you achieve the benefits of a modern application architecture, visit ca.com/api



^{1,2,3}Coleman Parkes Research, "Business Impact of APIs," January 2017.

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