

An Enterprise Architect's Guide to API Integration for ESB and SOA



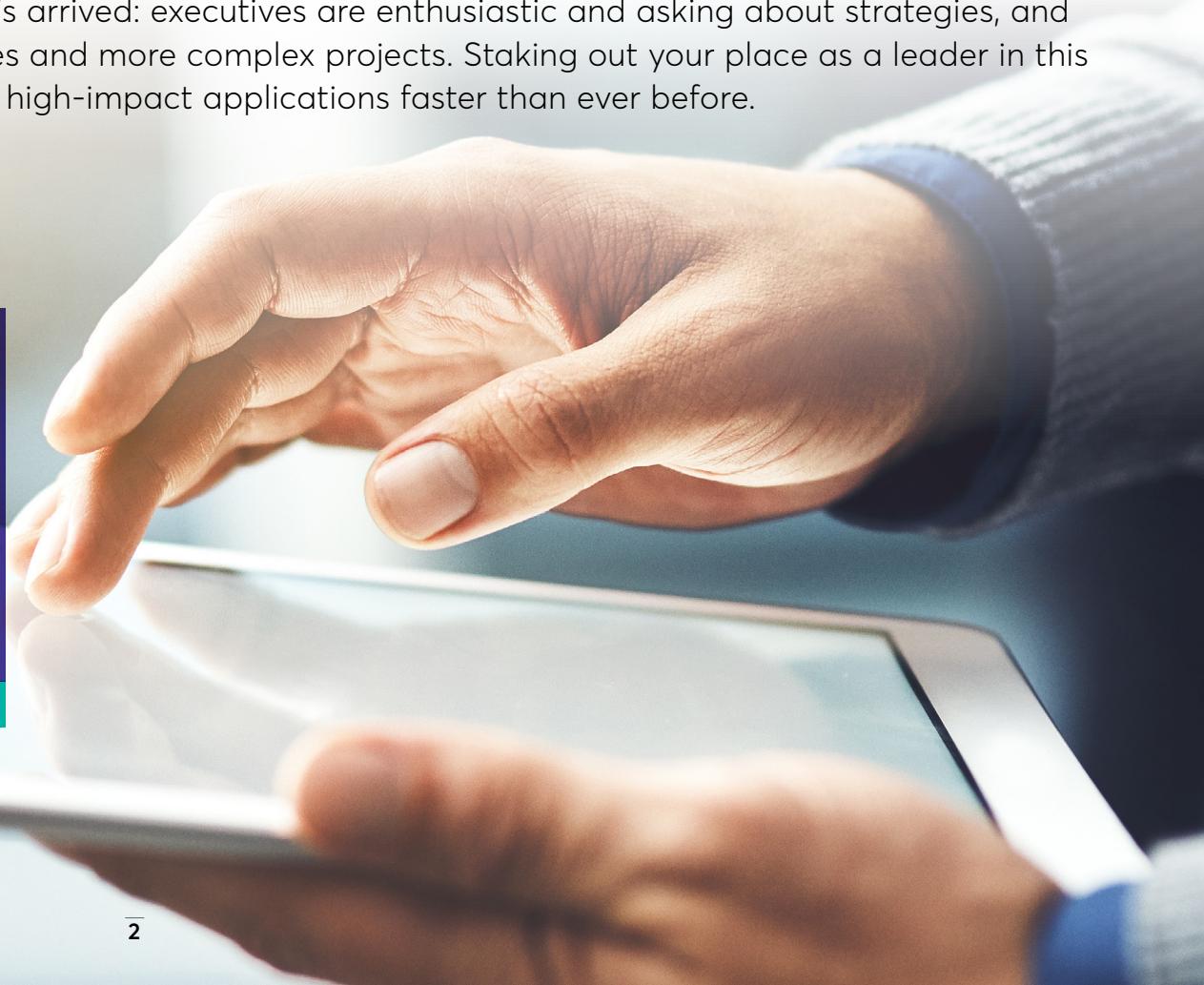
The New Digital Imperative

While some are still adjusting to the idea, you're well aware that we're living in an application economy. For the uninformed, an application economy is where everything is driven by a connected, mobile, application-based world where your customers are far more likely to experience your brand and interact with your enterprise through a software application than a live person. But, beyond the benefits, each day you're feeling the pressure it exerts on your budget, resources and network.

You've seen this wave swell on the horizon, and now it's arrived: executives are enthusiastic and asking about strategies, and line-of-business leaders are requesting faster dev times and more complex projects. Staking out your place as a leader in this new landscape will require you to develop and deliver high-impact applications faster than ever before.



78 percent of respondents are planning to upgrade their organization's enterprise applications this year in an effort to provide employees better user experiences, improve employee productivity and better secure sensitive data.¹



¹ IDG Communications survey of IT Directors and CTOs at enterprise companies with more than 1,000 employees, January 2018.

An Overview of the App Economy

By 2020,

60 percent of all enterprises will have fully articulated an organization-wide digital transformation (DX) platform strategy, and will be in the process of implementing that strategy as the new IT core for competing in the digital economy.

These statistics are indicative of an evolving landscape where the increasingly sophisticated demands of consumers and employees are driving the application economy.

This presents you with a clear business imperative: to develop and deliver applications that offer superior user experiences and engage your customers and employees.



Embrace the New (Maximize the Old)

While leadership understands that these new projects are a priority, they might not understand the complexity and risk involved. You need to find a way to expose vital business data in order to make it useful to modern applications. And you'll have to find a way to keep deriving value from the enterprise service bus (ESB) or the service-oriented architecture (SOA) suite that your company has already invested in.

If you're an enterprise architect, you're probably asking yourself:

- How can we keep the best of what we have and extend its value into this new world of modern technologies?
- How can we translate our legacy data and applications into the modern language of APIs?
- How can we avoid ripping and replacing the SOA or ESB architecture that still serves its purpose but has its limitations?

Meeting New Frontiers

Your ESB/SOA toolset still serves the vital purpose of connecting your disparate internal applications, but they were developed before the advent of the digital enterprise and application economy.

To meet the demands of today's application economy, you need to complement them with API-enabled architecture that helps you embrace mobile and Web applications, as well as microservice-based applications and the Internet of Things (IoT). With an API-enabled solution, you can:

- Expose and manage select APIs externally to customers and partners
- Adopt the right security models to secure your APIs
- Govern APIs and microservices, and manage change control for minimal impact on consumers
- Bring the necessary scalability to match the speed of the Internet and explosive growth of mobile and Web applications
- Improve IT agility in order to rapidly respond to changes requested by the business

With an API management solution in place, you can decouple your architecture, share your business data and scale your integrations beyond your firewall to external devices, cloud applications and global partners.

Modern Connectivity

Today's enterprise needs to reduce complexity, particularly at the IT integration level. The right API management solution should help you simplify integration and work across ESB, SOA, cloud and IoT—all without writing code or adding connectors.

This will allow you to:

- Work with modern message formats
- Provide mediation between legacy formats and more current standards
- Connect legacy and Web protocols

With a traditional ESB, you may be using application-specific adapters and customizing them with new code and metadata to connect with even a Web application. But, the need for adapters is being minimized now that even major on-premises application vendors are exposing APIs as a standard way of integrating with them. An API management platform does not need any adapters because it has all of this functionality built into its runtime gateway appliance component. You can use your existing infrastructure and support MQ, FTP, SMTP, SQL and various other types of messaging formats.

This flexibility is extended by dynamically routing messages to an endpoint based on multiple decision factors. These can include source, header, content, transaction metadata or an operational metric, such as time of day or transaction count.

Sophisticated Control, Authorization and Security

The right API management solution also offers real-time, dynamic routing to any of these protocols, based on message content, context or transaction metadata—again, all without configuring connectors.

Moreover, moving to an API management platform gives you more advanced ways to control access. By leveraging existing request content and identity stores, you can provide:

- Policy-based authentication
- Coarse and fine-grained authorization
- Single sign-on (using SAML, social log-in or OAuth-based federation)
- Support for Common Criteria and FIPS 140-2 certifications

With support for a wide range of credential types and backend IAM integrations—along with more power and flexibility—you can bring added security to the data being exposed.

The open enterprise should also put a premium on security and threat protection and address these concerns with both positive and negative security models.

API management platforms provide both of these models and represent an added benefit to the enterprise that wants to safely extend the perimeter of the data center to partners, hybrid and public clouds and mobile apps.



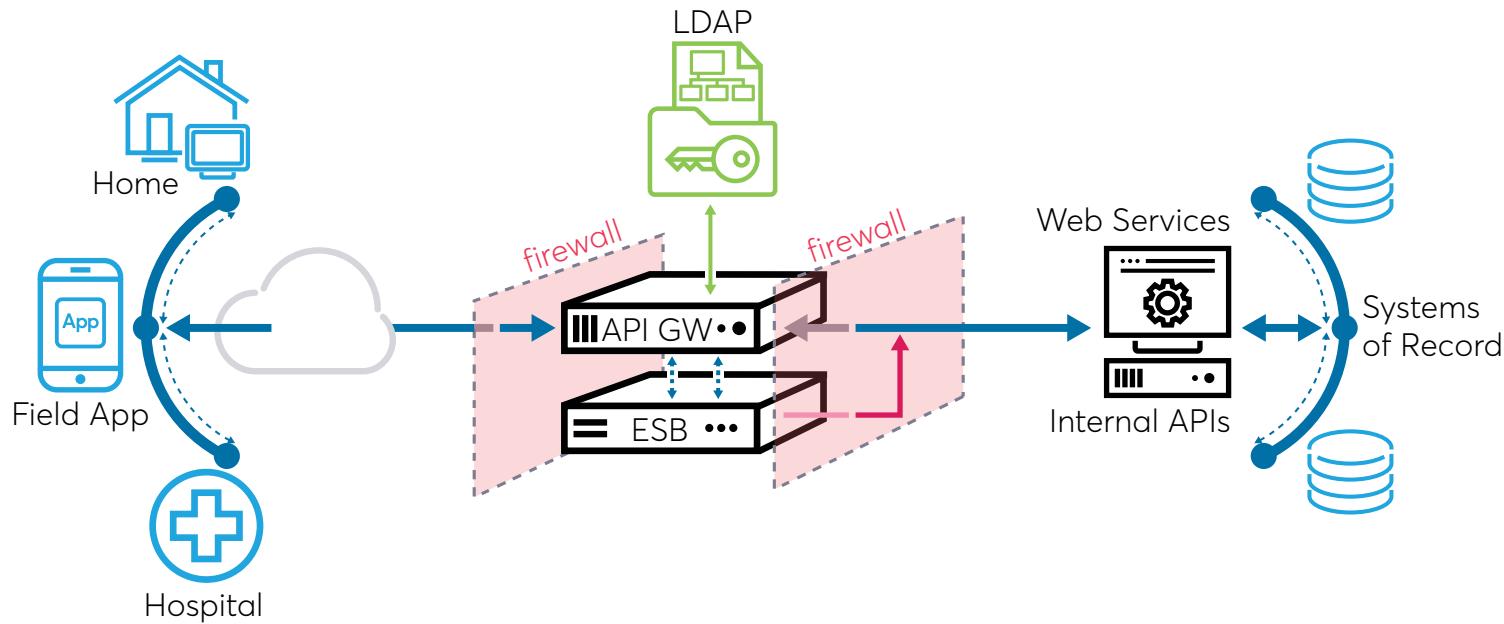
Power and Simplicity

The speed and highly competitive nature of the application economy requires high performance and agility in order to quickly respond to shifts in the market. By incorporating an API management platform to extend the functionality of your legacy systems, you can benefit from dynamic scaling to better respond to rapidly shifting environments.

Another added benefit of an API management platform is simplicity. You should have full, end-to-end application lifecycle management, along with full operational management of any API or application.

To optimize the performance of your platform, you should also look for flexibility when it comes to the deployment form factor and location. Depending on your organization's needs, you may want hardware, a virtual machine, a cloud instance or a software appliance. How you deploy your solution should just be another in an array of options that come as part of the API management platform that you choose.

API Management in Action: Enhancing Customer Engagement



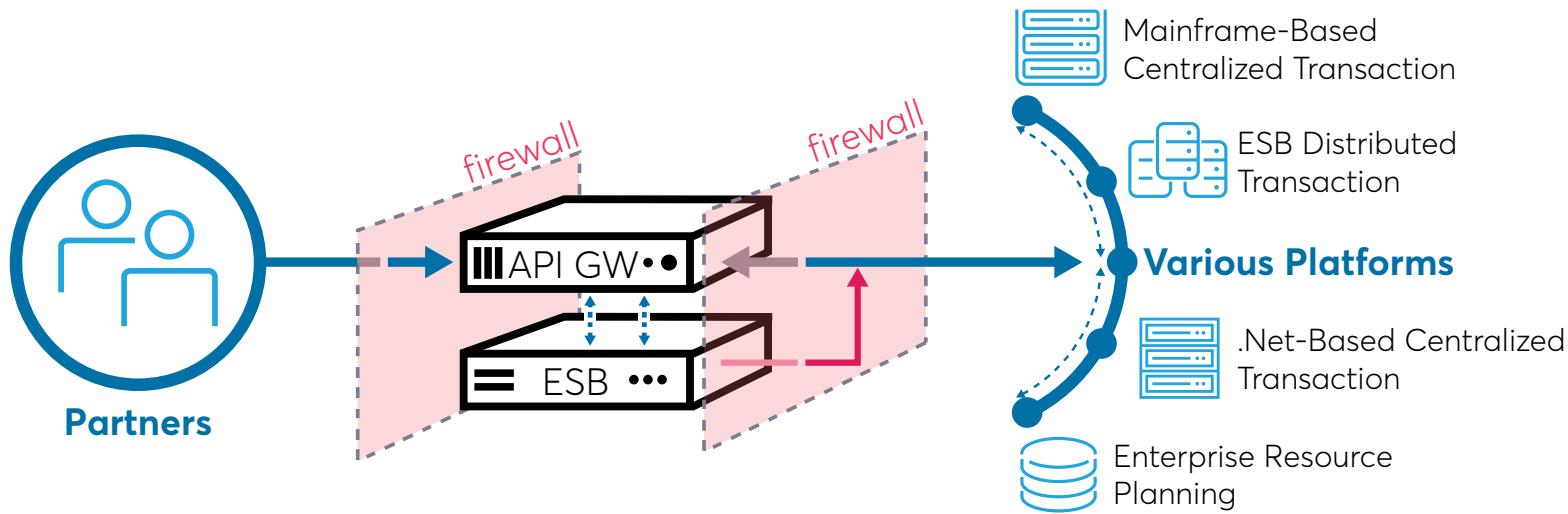
Increasing efficiency was a top priority for one wealth management firm. They needed to enable mobile among their field workers but couldn't tolerate further security risks.

After implementing an API management platform, the company was able to connect their legacy systems to the mobile devices of employees in the field working with customers.

This move toward modernization allowed the organization to:

- Decrease the amount of time workers spend on administrative tasks
- Improve interactions between employees and customers
- Provide a more engaging customer experience

API Management in Action: Cross-Domain Engagement



A large financial services company has grown significantly through multiple acquisitions. The resulting heterogeneity of platforms, however, was hindering business.

Introducing an API management platform allowed disparate systems to communicate effectively—without having to consolidate all divisions on a single IT platform.

This shift enabled the company to:

- On-board partners more quickly
- Handle acquisitions more efficiently
- Share data and functionality
- Respond to business changes with more agility

The Right Platform to Extend the Value of Your Existing Infrastructure

For many organizations, enabling the digital enterprise means deploying an API management platform, a solution that can help you more quickly enable the innovative services and applications that will grow revenue and give you a more commanding presence in the application economy.

Adaptable to your business needs, an API management platform allows you to integrate your SOA architecture or ESB with newer technologies. This means you can more securely open your internal information assets for use by:



Read about the five pillars of API management >>

CA Technologies helps customers create an agile business by modernizing application architectures with APIs and microservices. Our portfolio includes the industry's most innovative solution for microservices, while continuing to provide the most trusted and complete capabilities across the API lifecycle for development, orchestration, security, management, monitoring, deployment, discovery and consumption.

Speed and agility



- The only vendor with automated, low-code development for microservices and APIs
- Unlike other approaches, CA creates microservices and APIs with business rules in minutes from existing data via an efficient point-and-click interface
- Accelerates innovation and time-to-market without sacrificing scale or manageability

Breadth of functionality



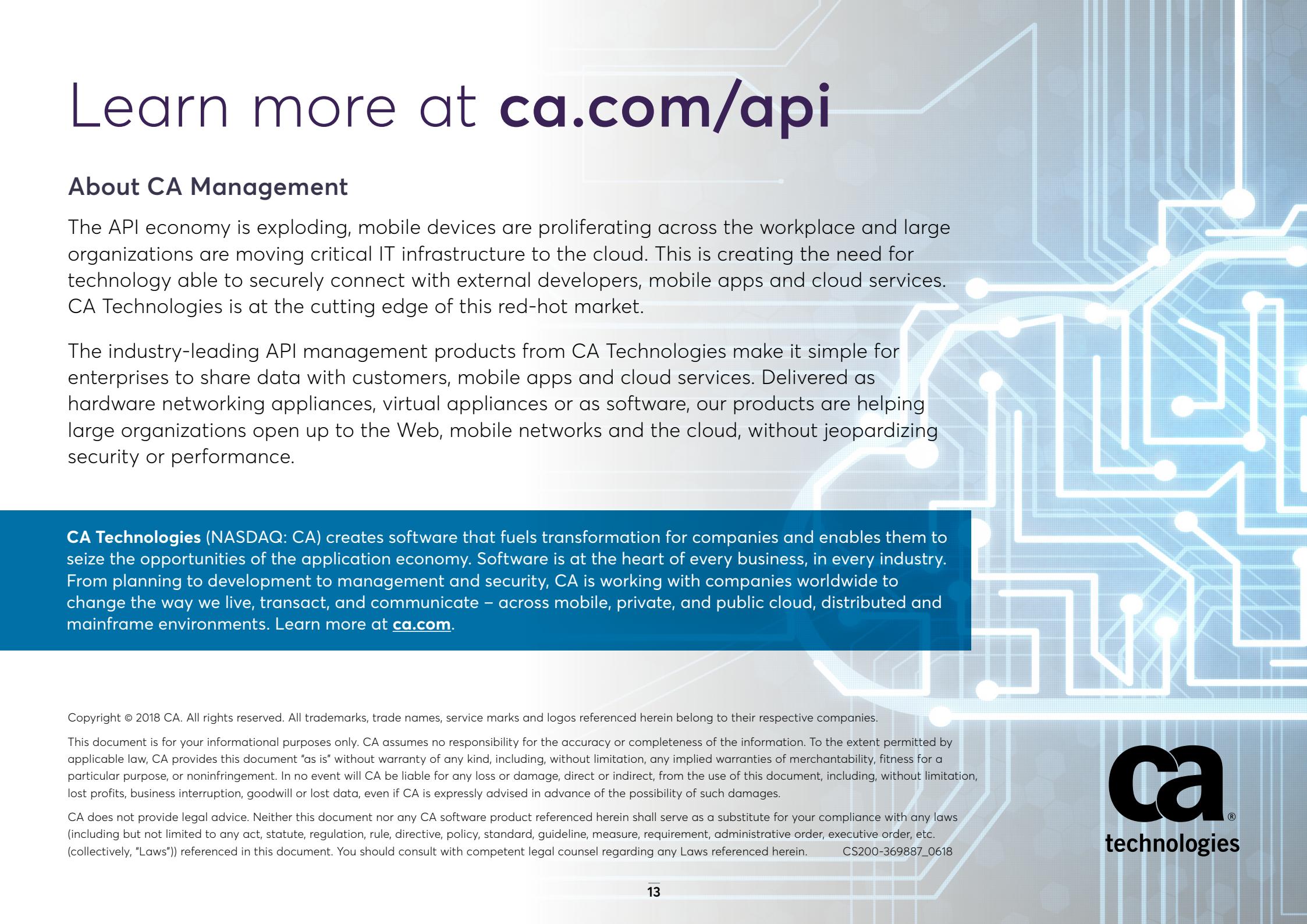
- The only vendor with a robust capability set that spans the entire API lifecycle
- Unlike point solutions, CA enables every step of digital transformation with APIs: development, orchestration, security, management, monitoring, deployment, discovery and consumption

Security and scalability



- Proven security and scale for the largest, most demanding organizations
- CA API Management is a leader in security, market presence, analyst evaluations, and customers in key industries such as finance, healthcare, retail, transportation, government, telecom and others

Learn more at ca.com/api



About CA Management

The API economy is exploding, mobile devices are proliferating across the workplace and large organizations are moving critical IT infrastructure to the cloud. This is creating the need for technology able to securely connect with external developers, mobile apps and cloud services. CA Technologies is at the cutting edge of this red-hot market.

The industry-leading API management products from CA Technologies make it simple for enterprises to share data with customers, mobile apps and cloud services. Delivered as hardware networking appliances, virtual appliances or as software, our products are helping large organizations open up to the Web, mobile networks and the cloud, without jeopardizing security or performance.

CA Technologies (NASDAQ: CA) creates software that fuels transformation for companies and enables them to seize the opportunities of the application economy. Software is at the heart of every business, in every industry. From planning to development to management and security, CA is working with companies worldwide to change the way we live, transact, and communicate – across mobile, private, and public cloud, distributed and mainframe environments. Learn more at ca.com.

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