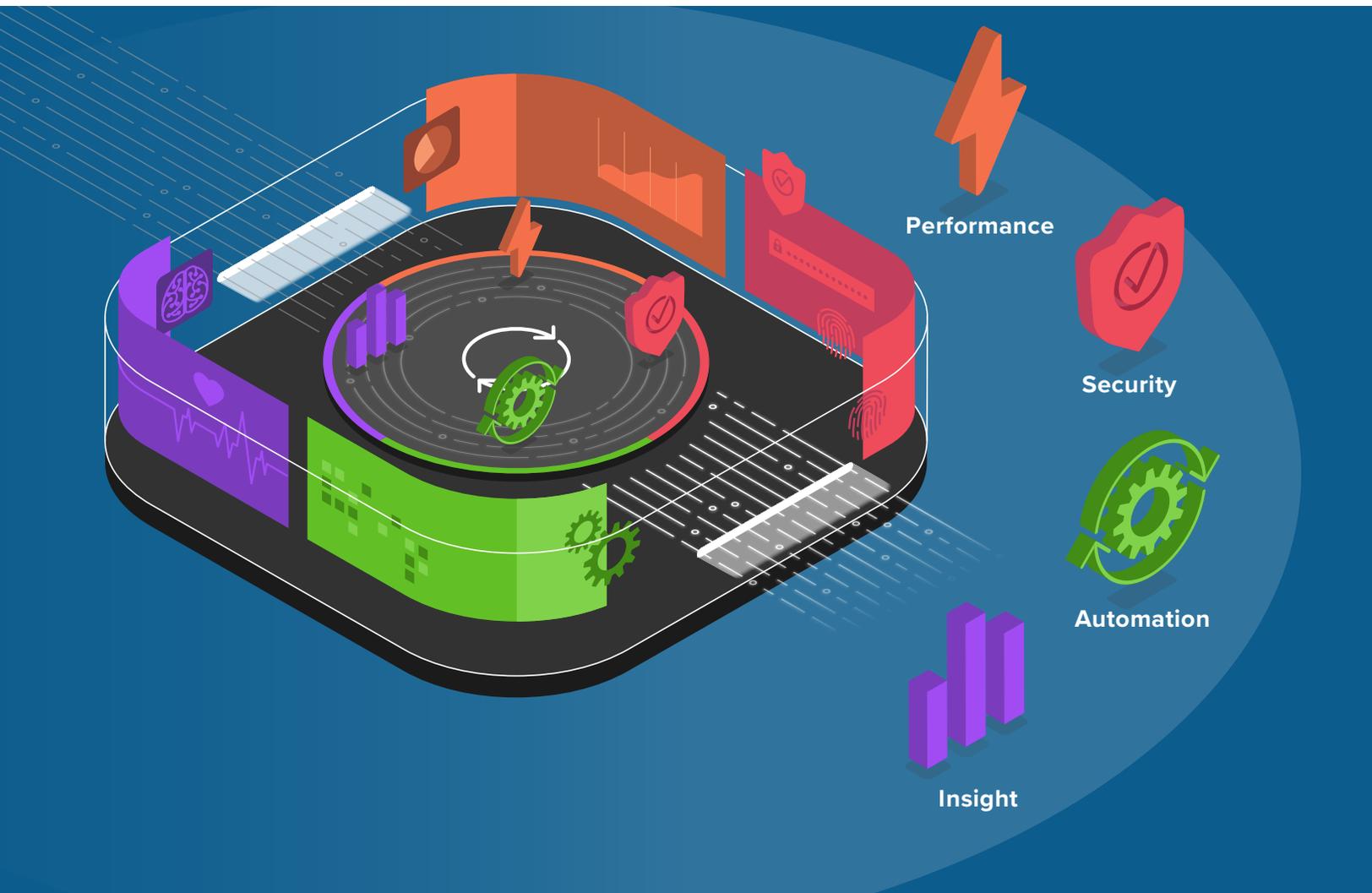




# Powering and Protecting Adaptive Applications

F5 enables organizations to bring extraordinary digital experiences to life.



## FAST FACTS

### President & CEO

François Lochon-Donou

### Headquarters

Seattle, WA

### Founded

1996

### IPO

June 1999

### Market symbol

FFIV (NASDAQ)

### Employees

Over 6,000

### Operations

76 locations in 43 countries

## CUSTOMERS

### F5 solutions are deployed in:

- 48 of the Fortune 50 companies<sup>1</sup>
- All 15 executive departments of the U.S. cabinet<sup>2</sup>
- 10 of the top 10 global telecom operators<sup>3</sup>
- 15 of the top 15 U.S. commercial banks<sup>4</sup>

## F5's approach

A long-standing belief that applications are the most valuable assets of any organization in the digital age has been the foundation of F5's strategy to become a leader in multi-cloud application security and delivery technology. F5 and NGINX power more than half of the world's applications across all types of environments. When this expertise is combined with Shape's AI-centric insight in mitigating one billion application attacks per day and Volterra's universal edge-as-a-service platform with unlimited scalability, the result is a company that enables our customers to secure and deliver extraordinary digital experiences.

In light of the global pandemic, F5's **human-first** approach to application security and delivery technology is more critical than ever. Digital experiences are now the primary way that people interact and transact with almost every organization. Applications are at the core of these digital experiences. Whenever a customer interacts with a company online—whether ordering a meal, refinancing a mortgage, or uploading a family video—the applications that organizations design, build, and operate are the face of that company.

F5 empowers its customers—the world's largest enterprises, service providers, financial and educational institutions, government entities, and consumer brands—to create, secure, and operate applications that deliver extraordinary digital experiences. Fueled by automation and AI-driven insights, these applications will naturally adapt based on their changing environment—so companies can focus on their core business, boost speed to market, improve operations, and build trust with their customers. By enabling these **adaptive applications**, F5 with NGINX, Shape, and Volterra technologies offers a comprehensive suite of solutions for every digital organization in the world.

1 Fortune

2 whitehouse.gov

3 Forbes

4 Federal Reserve Statistical Release

## Customer challenges

Customers and users expect a lot from the organizations with which they interact: personalized experiences; secure transactions; and apps that are speedy, reliable, and always on. But meeting those demands can be challenging in today's rapidly evolving application landscape. When F5 speaks to its customers about their digital transformation projects, they describe their challenges with remarkable similarity.

### COMPLEX APP PORTFOLIOS

While aspiring to digitally transform, many organizations are stuck somewhere between the old world and the new world—classic monolithic and three-tier architectures alongside microservices and cloud-native architectures. Unsurprisingly, managing this mix of old and new is a significant challenge. Manually stitching together best-of-breed solutions isn't fast or scalable—and the toil it generates places a burden on customers while increasing their overall costs. In addition, this piecemeal approach offers none of the comprehensive visibility needed to realize the benefits of automation and insight.

### EVOLVING SECURITY THREATS

Applications have become the focal point for cybercriminals—and problematically, the effort of executing sophisticated attacks keeps dropping, but the cost of defense is always rising. In particular, the huge number of data breaches in the last decade have made it possible for nearly any cybercriminal in the world to take over application accounts by checking to see where users have reused passwords across websites. The amount that companies lose from fraud and the number of attacks on apps both increase every year, and during the global pandemic there have been unprecedented spikes. Globally in 2021, the amount lost to cybercrime is predicted to reach USD \$6 trillion—nearly the equivalent of China's entire gross domestic product.

Given that the majority of cyberthreats target the application or the identity associated with that application—and that the threat surface area is rapidly expanding as applications are disaggregated into composite services and distributed to different environments—protecting applications is critical to business success.

### INADEQUATE VISIBILITY

Part of delivering a compelling digital experience is being able to optimize the performance for the end user. Gaining insight into how application traffic is flowing—and where and how to tune it—requires granular, end-to-end visibility. However, the infrastructure and services supporting applications are complex and siloed, so it's challenging to develop this capability

for even the most critical customer-facing apps. Moreover, without aggregated telemetry and the efficiencies produced by AI, machine learning, and automation, visibility alone can't help businesses optimize application performance or their end users' digital experience.

## INSUFFICIENT EDGE SOLUTIONS

Today's digital experiences require a combination of multiple networks, clouds, CDNs, and edges that are manually stitched together. This exposes new ways for attackers to exploit vulnerabilities and creates complexity because each platform has a unique set of tools and services. Current edge solutions are simply inadequate. They are content-driven, don't make security a priority, weren't built with an enterprise's heterogeneous, multi-cloud world in mind—which means that they perpetuate the pain of building, running, and securing apps.

The result of all these challenges is that organizations struggle to distribute, scale, and secure their applications, potentially leading to damaged customer relationships and diminished business success. Delivering the digital experiences that customers expect is non-negotiable. However, the complexity, vulnerability, and—frankly—fragility of the status quo is untenable.

### INDUSTRY RECOGNITION

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Selected as one of Fortune magazine's **World's Most Admired Companies** in the networking and other communications equipment category for 2019

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Hailed as one of Puget Sound Business Journal's **Top Corporate Philanthropists**

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Listed as one of Barron's 100 **Most Sustainable U.S. Companies** for 2019

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F5's Shape Security won **2020 Fortress Cyber Security Award: Software & Applications**

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Given **Microsoft's Security Partner Award for Customer Impact** at the 2020 RSA conference

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Recognized as a finalist for the **CRN 2020 Tech Innovators Award** in IT infrastructure monitoring for F5 Beacon

## The new world of adaptive applications

F5 envisions a world where an organization's application portfolio adapts to any changing environment.

- It automates redundant processes for greater efficiencies.
- It expands and contracts based on performance needs.
- It protects itself, securing points of vulnerability.
- And by mining and analyzing data, it gets smarter, becomes self-healing, and evolves even more quickly.

## AUTOMATING TRADITIONAL APPLICATIONS

F5 offers a robust toolchain to enable businesses to automate their multi-cloud application security and delivery deployments using simple scripting and integrations with common automation tools such as Ansible and Terraform. Automation not only helps save time by eliminating redundant and manual processes, but also reduces errors and keeps the overall application security and delivery infrastructure more robust by providing guardrails around the configurations that can get provisioned. In addition, automation can decrease deployment times from weeks or months to minutes, enabling IT to keep pace with the speed of the business.

## **POWERING MODERN APPS AT SCALE**

F5 enables innovation by giving the developers at the center of the modern application platform self-service access through declarative APIs to easily deploy their configurations and code in real time. At the same time, a library of standardized configurations allows the operations team to manage deployments while also maximizing performance and flexibility for developers. Automation that's integrated between Kubernetes clusters makes it easy to tune and optimize performance—as well as troubleshoot any issues—based on rich telemetry collected from applications. And because a modern app platform is only as good as the security it offers, F5 takes a zero-trust approach for end-to-end security along the entire data path. Finally, to advance the vision of adaptive applications, F5's modern app platform leverages deep insights about application and user behavior from data analysis powered by machine learning to drive growth, revenue, and customer satisfaction.

## **SECURING APPS AND APIS EVERYWHERE**

F5 helps protect the world's largest enterprises, service providers, governments, and consumer brands from application-layer and API attacks with continuous, real-time, and high-efficacy security fueled by machine learning and artificial intelligence. And, unlike other companies, F5 helps streamline security for applications and APIs by providing visibility and control from Layer 4 through Layer 7 and across clouds, data centers, and a growing set of edge locations.

Powered by Shape technology, F5 has the most sophisticated AI and cloud-based analytics intellectual property in the business to detect, flag, and mitigate unwanted and malicious online traffic, learn from previous attacks, and prevent the next ones. Plus, Volterra's unique SaaS-based platform makes it easy to distribute cloud-based security and application services wherever businesses need to run their workloads or deliver their applications—across clouds, on Volterra's global network and cloud-native points of presence, or even at an organization's own edge locations. Taken together, F5's security solutions have the potential to save customers billions of dollars lost to fraud, mitigate costly disruptions incurred during digital transformation, and prevent reputational damage.

## **INTELLIGENCE AND INSIGHT**

To truly optimize digital experiences, organizations need to feed data from their applications to an engine capable of analyzing that data and producing actionable and automatable insights. F5 is further developing its cloud-based analytics tools to help businesses monitor, operate, and protect digital workflows. Using F5's own offerings built upon Shape's industry-leading AI-powered analytics engine plus integrating with third-party analytics products will give customers access to the data—and the insights—they need to protect, scale, and enhance the entire user experience.

BY SIMPLIFYING  
TRADITIONAL APPLICATION  
DELIVERY FOR MULTI-CLOUD  
DEPLOYMENTS, ENABLING  
MODERN APP DELIVERY AT  
SCALE, SECURING EVERY  
APPLICATION ANYWHERE,  
AND UNLOCKING THE  
VALUE OF INSIGHTS AND  
AUTOMATION, F5 EMPOWERS  
ITS CUSTOMERS TO BRING  
EXTRAORDINARY DIGITAL  
EXPERIENCES TO LIFE.

## **TURNKEY ECOSYSTEM INTEGRATION AND TECHNOLOGY ALLIANCES**

F5 collaborates with many of the world's leading technology companies to improve manageability, strengthen security, and ensure faster and more successful application deployments. Organizations can benefit from the integration and interoperability that result from these partnerships. F5 application security and delivery technology integrates into major public cloud providers like AWS, Microsoft Azure, and Google Cloud Platform, as well as private cloud and open source platforms such as VMware and Red Hat. F5 also integrates with Ansible and Terraform to streamline advanced automated deployments that are highly performing and secure. For enabling microservices in container environments, F5 offers turnkey integrations with Kubernetes and Mesos.

## **FLEXIBLE CONSUMPTION**

To keep pace with innovation, many customers need greater budget flexibility. F5 offers its application security and delivery technology solutions as hardware or software, and also provides flexible licensing subscriptions or pay-as-you-go models. F5 also offers managed services and as-a-service options for businesses that need an on-demand, self-service model.

