Dynamic, Multi-Layered Security for Service Providers

Whether they're using mobile devices, fixed-line devices, computers, or digital or analog communications—nearly everyone, everywhere communicates. And in the emerging era, machines and "things" everywhere will also communicate. Securing your business and network, and your customers' communications and data, will continue to be a daunting task.

The Challenge of Communicating Securely

Service providers know they need to secure their customers' calls, texts, emails, and Internet access, without sacrificing reliability. But with the fast transition to more open, IP-based 4G LTE; to the broadband data explosion; and to cloud migration and Network Functions Virtualization (NFV), service providers are facing more challenges than ever.

The flood of new devices requiring secure connectivity and management continues unabated. Service providers will need to address security and communications challenges posed by wearable devices, the Internet of Things (IoT) and the Internet of Everything (IoE).

Finally, the dynamically evolving threat landscape, with advanced persistent threats (APTs) and distributed denial-of-service (DDoS) attacks multiplying in frequency and unpredictability, makes attending to security paramount. Otherwise, you risk losing business and consumer subscribers, revenue, market share, and most of all, credibility.

Carrier-Class Network Firewall

F5's portfolio of dynamic, multi-layered security solutions, based on a single service delivery architecture and a powerful, extensible operating platform, combine to deliver a carrier-class network firewall for service providers, comprising interoperable, intelligent, high-performing security, delivery, and management components that work seamlessly together to secure, optimize, and monetize your network.

A high-performance, stateful, full-proxy firewall, F5® BIG-IP® Advanced Firewall Manager™ (AFM) defends against network-layer DDoS attacks, session-layer attacks, and detects and mitigates SIP DoS attacks, supporting escalating subscriber and data use. BIG-IP® Application Security Manager™ (ASM) is an agile, scalable web application firewall that leverages F5's deep application fluency to detect and mitigate HTTP-based attacks. It protects vital applications with comprehensive, policy-based web application security by blocking attacks and securing data center applications against threats. Its leading Layer 7 DDoS defenses detect, mitigate, and enable visibility into granular attacks. BIG-IQ®, F5's intelligent management and orchestration system, streamlines the deployment and administration of F5 firewall policies. It increases network integrity with health checks, incident monitoring, and centralized DDoS attack responses.

Key features

- A full-proxy architecture delivers superior visibility and control by terminating, inspecting, and forwarding sessions

- The unified platform simplifies operations, saves time, and significantly reduces costs, while increasing security and performance

- Scalable, carrier-class performance supports hundreds of millions of concurrent user connections and millions of connections per second

- Superior programmability automates service provisioning and configuration, and customizes functionality through a flexible set of templates (iApps®) and a powerful event-driven scripting language (iRules®).
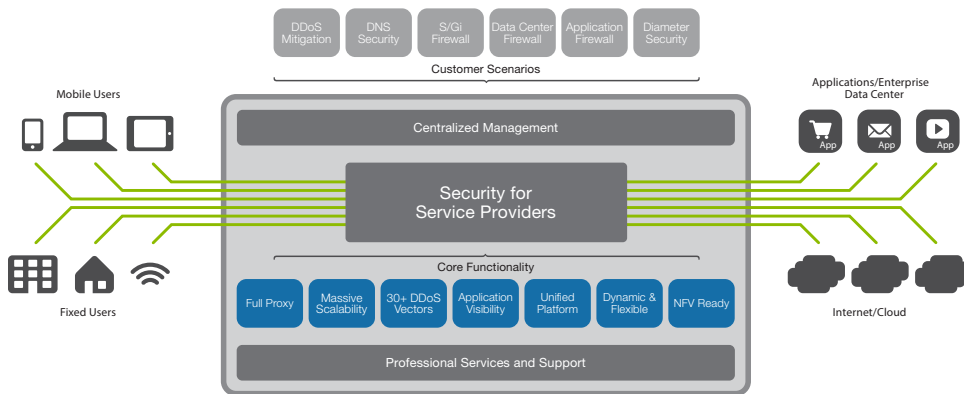
Key benefits

- Reduce OpEx, CapEx, and TCO through a unified security platform and single architecture for data and signaling networks

- Improve performance with a decreased number of network hops that reduces latency and accelerates security

- Enhance service protection, availability and reliability for increased subscriber trust, and service quality, data, and corporate reputation protection.

- Realize unparalleled defense and scalability for superior throughput, connections per second, and concurrent sessions, and protection against volumetric attacks.

BIG-IP® Global Traffic Manager™ (GTM) secures DNS infrastructure during high query volumes and DDoS attacks, mitigating DNS-based network and session threats. A real-time DNS security solution, it protects against hijacking attacks, and mitigates complex threats by blocking access to malicious IP domains. It improves application performance and availability by intelligently routing users to the optimal physical, virtual, or cloud environment. BIG-IP® Local Traffic Manager™ (LTM), a flexible, high-performance ADC, delivers content-based, intelligent traffic management, increasing application availability and ensuring peak network performance. Its SSL performance delivers cost-effective protection, encrypting everything from client to server. It protects against crippling DDoS attacks and manages SIP traffic, delivering scalability, availability, and reliability to SIP devices.

Efficiently manage network traffic and gain insight into subscriber behavior with BIG-IP® Policy Enforcement Manager™ (PEM). Its varied policy enforcement capabilities control exploding data traffic driven by resource-intensive content, so you can provide custom service plans, employ better network use controls, and realize increased profits. And with BIG-IP® Carrier-Grade NAT (CGNAT), you can seamlessly migrate to IPv6 addresses while maintaining interoperability with existing IPv4 devices and content—optimizing network performance and securing IPv6 migration.

The F5 Traffix™ Signaling Delivery Controller™ (SDC) is a single platform for Diameter routing, load balancing, and interworking functionality. It provides topology hiding and signaling storm protection from third parties, eases migration and connectivity between Diameter-based interfaces and legacy signaling protocols, secures LTE roaming, and simplifies network architecture.

BIG-IP® Access Policy Manager® (APM) consolidates remote, mobile, LAN, and web access, and wireless connectivity into a single management interface, delivering secure mobile and remote access, and enabling identity federation.

Learn more

For more information about F5 security solutions for service providers, please see the following resources or use the search function on f5.com.

Web pages

F5 BIG-IP Modules

F5 Service Provider Products

F5 BIG-IQ

Security for Service Providers Reference Architecture

F5's multi-layered security solution for service providers delivers a carrier-class network firewall that provides scalability, flexibility, application visibility, and manageability in a single service delivery architecture.

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