SOLUTION OVERVIEW

Analyze and Optimize Application Performance

See and take action on real-time analytics to maximize application performance and reliability with F5's suite of traffic visualization and management solutions.

KEY BENEFITS

Real-Time Control
Maintain application availability by influencing traffic in real time and understanding applications, protocols, and networks.

SSL Offload
Offload SSL encryption from data center servers and free resources to boost app performance.

Health Monitoring
Simplify troubleshooting and assess health and performance at a glance with big-picture and application-specific dashboards.

In-Depth Analytics
Improve your app performance and uptime by leveraging valuable analytics and actionable insights.

Simplified Management
Increase your speed to market by eliminating tool sprawl with our single, ecosystem friendly, cloud agnostic platform.

Telemetry Insight
Aggregate, normalize, and stream telemetry from BIG-IP LTM to a consumer application.

Downtime is no longer the determining metric for application availability. Performance is now, more than ever, a requirement in addition to reliability, no matter where your customers or applications reside.

Applications need to be responsive and available to customers, no matter where you or they are located. Public cloud adoption is increasing our ability to move application presence closer to more people and with greater speed. What were once acceptable performance tolerances and predictable outage windows for regional availability are no longer tolerable—users have too many other options to choose from.

As F5 Director of Product Development Jason Feldt affirms, "Slow is the new down." In many cases, your application is your primary customer engagement, and customer loyalty and the bottom line are a direct reflection of their digital experiences. But research shows that 32% of all customers would stop doing business with a brand they loved after just one bad experience.[1] And customers share bad experiences almost as frequently as they share good experiences. A recent survey showed 57% of customers stopped buying from a company because a competitor provided a better experience. And 62% share their negative experiences with others.[2]

This customer sensitivity, combined with the complexity of applications hosted in the cloud or on-premises and increasing demand for performance anywhere, means that successful applications require that much more attention to performance details. But don't forget about security, either. While hyper-agile development teams enjoy measuring success with deploy-per-week metrics, studies show that "security and reliability serve as a baseline indicator for trustworthiness."[3] And the same study showed a customer's digital experience goes further with a company they can trust.

Raise Performance While Lowering Cost

Performance isn't measured by how many systems are running at peak capacity. Traffic bottlenecks or the inability to manage incoming volumetric threats may be causing your applications to scale to meet artificial demands, not your customers' requests.

32% OF ALL CUSTOMERS WOULD STOP DOING BUSINESS WITH A BRAND THEY LOVED AFTER ONE BAD EXPERIENCE.[1]

Time and time again reports show businesses spending more money on cloud strategies, but those strategic decision makers aren't always clear about what their spending is accomplishing, and they typically underestimate how much of that spend is being wasted. A recent cloud study showed that organizations estimate 30% of what they spend on the cloud is wasted. The surveyors themselves put that estimate higher, at 35%. In addition, 67% of

the respondents said they don't rely on mulit-cloud tools, which means they face increased complexity in seeing and managing their cloud performance and availability.[4] Meanwhile, nearly 30% of the 310 respondents to another survey said their biggest cloud management challenge is cost management. Security took second place with 22% of responses from across all job categories, although developers put performance in second place.[5]

THE NUMBER TWO CHALLENGE ENCOUNTERED BY DEVELOPERS AFTER COST MANAGEMENT IS PERFORMANCE.[5]

Digital transformation is about enabling a connected digital experience while managing rising infrastructure costs, and application owners must meet exceedingly high expectations from both internal and external customers. Align with a strategic partner who can help application owners to:

- View inline traffic performance and analytics to understand where performance issues or gains may improve the digital experience for customers.
- See how and when your application is scaling to prevent or alleviate artificial expansion in the cloud, saving you money across your cloud providers.
- Implement high-performing security solutions to prevent unwanted volumetric traffic attacks from stealing application capacity from legitimate users.

Take advantage of these and many other ways to optimize application traffic and prevent malicious attacks from costing you money—and possibly customers.

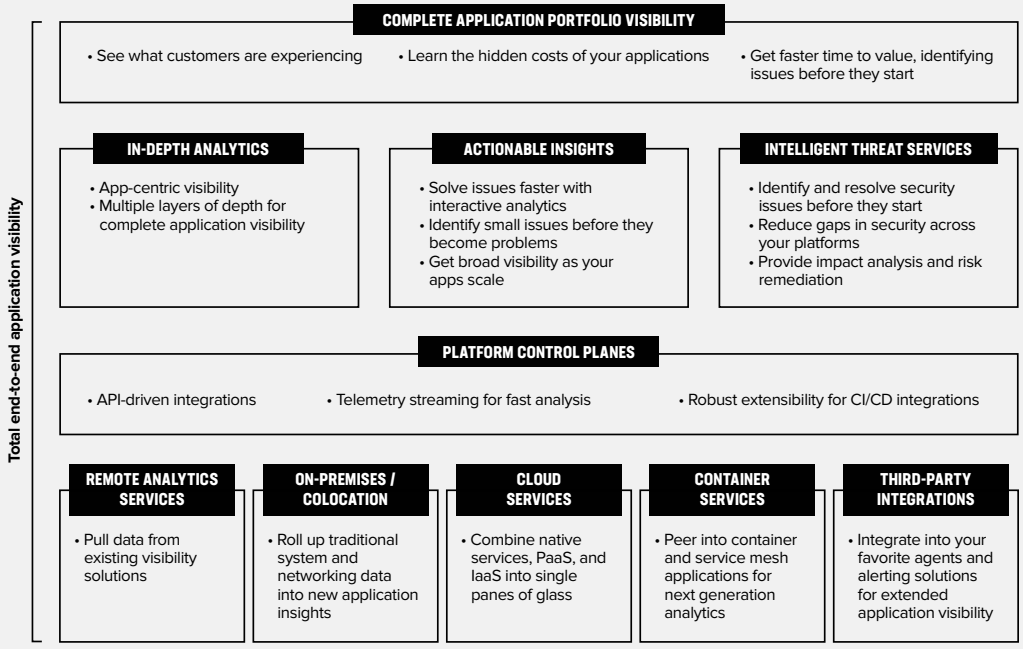

Figure 1: Optimize application performance with end-to-end visibility.

KEY FEATURES

Analytics and Visibility
Collect and aggregate detailed metrics such as transactions per second, server and client latency, request and response throughput, and sessions.

App Portfolio Management
Gain new insights into app performance and reliability so you can pinpoint performance issues before they impact production.

Flexible Portability
Deploy anywhere to provide performance and visibility on any platform: public cloud, private cloud, bare metal, virtual machines, and containers.

Programmatic Traffic Management
From defeating zero-day attacks to dealing with custom protocols, adapt to traffic challenges across your application portfolio with F5's event-driven scripting capabilities.

NEARLY 30% OF SURVEY RESPONDENTS SAID THEIR BIGGEST CLOUD MANAGEMENT CHALLENGE IS COST MANAGEMENT. SECURITY TOOK SECOND PLACE WITH 22%.[5]

Architectural Components

F5 offers solutions for visualizing and managing applications for optimal performance, with security solutions that enhance the digital experience for your customers—not for attackers.

F5® BIG-IP® Local Traffic Manager™ (LTM) offers industry-leading application traffic management for your preferred application and infrastructure platform. Optimize the speed and reliability of your applications via both the network and application layers. BIG-IP LTM dramatically improves application and network traffic performance using real-time protocol and traffic management decisions based on application and infrastructure conditions, extensive connection management, and TCP and content offloading. Deliver up to a two-times faster TCP performance for users and a four-fold increase in bandwidth efficiency with BIG-IP LTM. (Results based on independent testing tools.) The solution also cost-effectively protects the end-to-end user experience by encrypting everything from the client to the server.

Visualize application traffic telemetry and make policy decisions fast with F5® BIG-IQ® Centralized Management. Effective management—orchestration, visibility, and compliance—relies on consistent app services and security policies across on-premises and cloud deployments. Easily control all your BIG-IP services with a single, unified management platform. Reduce blind spots and mitigate risks with a birds-eye view of your security posture. Simplify troubleshooting and assess health and performance at a glance with big-picture and application-specific dashboards. Powerful declarative API templates make it easy for application teams to spin up BIG-IP application, network, and security services, keeping performance and security in step with automated deployments.

NGINX Controller is the first app-centric, multi-cloud application platform for modern app teams created by modern app teams. From NetOps to DevOps, app teams today need a self-service, API-driven platform that integrates easily into CI/CD workflows to accelerate app deployment—whether your app has a hybrid or microservices architecture—and make app lifecycle management easier. Built to manage NGINX Plus instances, NGINX Controller is a cloud-native, secure, and high-performance solution. The number two challenge encountered by developers after cost management is performance.[6] Accelerate delivery of your digital experiences to win customer loyalty while you improve app performance and uptime by leveraging valuable analytics and actionable insights.

F5® DDoS protection services entail multiple solutions to prevent malicious volumetric attacks from keeping your users away and your application unavailable.

- F5® DDoS Hybrid Defender® protects against blended network attacks and sophisticated application attacks, while enabling full SSL decryption, anti-bot

capabilities, and advanced detection methods—all in one appliance. DDoS Hybrid Defender also provides an option for automated upstream signaling to scrub bad traffic before it reaches your data center.

- F5® Silverline® DDoS Protection is a fully managed, cloud-based protection service that detects and mitigates large-scale, SSL/TLS, or application-targeted attacks in real time.
- Achieve high performance DDoS protection in virtualized environments with F5 BIG-IP Virtual Edition for SmartNICs, which utilizes Intel's FPGA PAC N3000 SmartNIC to offload DDoS mitigation to an embedded FPGA.

Analytics and Performance Are a Match Made from Necessity

DELIVER UP TO A 2X TCP PERFORMANCE GAIN FOR USERS AND A 4X INCREASE IN BANDWIDTH EFFICIENCY WITH F5 BIG-IP LTM.

Smart performance optimization requires smart application-centric analytics so you're not fixing the wrong issue–or worse, breaking what wasn't broken.

BIG-IP LTM and NGINX Plus are uniquely positioned to see deeper into your application than standard out-of-band monitoring services. They allow you to collate, analyze, and visualize data in a holistic application view from anywhere F5 services are deployed. All members of your deployment teams, SecOps, NetOps, and DevOps gain the ability to view how your application is behaving as your customer experiences it. From performance metrics to packet captures, F5 solutions deliver the insight you need to maintain your applications and infrastructure at peak performance.

Whether you rely on BIG-IQ Centralized Management to manage BIG-IP services or deploy NGINX Plus functionality through NGINX Controller, F5 products combine analytics and management for fast and easy-to-understand application, network, and security solutions. With API-first programmability and with role-based access control (RBAC), integrate F5 solutions safely and securely into all of your application platforms.

Conclusion

F5 wrote the book on load balancing and we're still writing. There's a reason 48 of the Fortune 50 use F5 in their infrastructure. F5 and NGINX provide the most scalable and reliable load balancing solutions for your application plans. It doesn't matter if you're managing a top-performing enterprise solution or a scrappy application on the rise. Make F5 part of your application lifecycle and we can grow with you.

To learn more, contact your F5 representative, or visit f5.com/solutions.

Endnotes

[1] PricewaterhouseCoopers research report, Experience Is Everything: Here's How to Get It Right, found here https://www.pwc.com/us/en/advisory-services/publications/consumer-intelligence-series/pwc-consumer-intelligence-series-customer-experience.pdf#page=8

[2] Salesforce 2018 State of the Connected Customer Report, found here https://c1.sfdcstatic.com/content/dam/web/en_us/www/documents/e-books/state-of-the-connected-customer-report-second-edition2018.pdf

[3] Salesforce 2019 State of the Connected Customer Report, found here https://www.salesforce.com/form/conf/state-of-the-connected-customer-3rd-edition

[4] Flexera 2020 State of the Cloud Report, found here https://info.flexera.com/SLO-CM-REPORT-State-of-the-Cloud-2020

[5] AWS Cloud Adoption, Visibility, and Management, found at https://www.kentik.com/resources/aws-cloud-adoption-visibility-management/

[6] Ibid.

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