



NEWS RELEASE

F5 Helps Service Providers Modernize Critical Network Services With Greater Infrastructure Efficiency and Control

2026-10-07

Enhanced cloud-native network functions and new eBPF observability help operators move critical services to Kubernetes while improving security, performance, and visibility

SEATTLE--(BUSINESS WIRE)-- F5 (NASDAQ: FFIV), the global leader in delivering and securing every app and API, today announced enhanced cloud-native network functions and new observability capabilities that help service providers modernize critical network services as they move from virtualized infrastructure to Kubernetes and cloud-native architectures.

Service providers are under pressure to support growing 5G, edge, IT, and emerging AI workloads, boost efficiency, and maintain the performance, security, and operational control required for carrier-grade services. Moving network functions to Kubernetes lets operators use infrastructure more flexibly but also introduces additional requirements for traffic management, security, lifecycle operations, and visibility across increasingly distributed environments. F5 now accelerates this transition.

“Service providers should not have to choose between cloud-native agility and the performance, security, and control required for critical network infrastructure,” said Kunal Anand, Chief Product Officer at F5. “BIG-IP Cloud-Native Edition brings proven **F5 BIG-IP** capabilities into Kubernetes, giving network and cloud operations teams a more consistent way to deploy, secure, observe, and operate 5G, edge, and AI infrastructure at scale.”

Independent testing by The Tolly Group of selected BIG-IP Cloud-Native Network Functions within BIG-IP Cloud-Native Edition demonstrated substantial infrastructure-efficiency gains in Kubernetes-based DNS and CGNAT workloads compared with virtualized network function deployments. In a DNS scenario, F5 processed 1.9x more queries per second while using 91.5% less CPU. In a CGNAT scenario, F5 delivered comparable throughput while using 79.7% less CPU and 98.5% less memory.

A broader cloud-native solution for service providers

F5 BIG-IP Cloud-Native Edition extends capabilities from the **F5 Application Delivery and Security Platform** within Kubernetes-based service provider environments, bringing together complementary capabilities across cloud-native networking, application delivery, security, and observability.

BIG-IP Cloud-Native Network Functions extend core BIG-IP network and security services into Kubernetes-native environments, including DNS, CGNAT, network security, subscriber policy enforcement, and traffic management. BIG-IP Next for Kubernetes operates at the Kubernetes network layer, providing networking, application delivery, security, and manageability. BIG-IP eBPF Observability provides kernel-level application and network visibility for troubleshooting distributed environments.

Modernizing critical network services for Kubernetes

Enhanced F5 BIG-IP Cloud-Native Network Functions provide Kubernetes-native traffic management and security capabilities designed for service provider environments.

- **Expanded traffic management:** Broad Layer 4–7 support, including ingress and egress networking and support for TCP, UDP, HTTP/2, Diameter, SCTP, GTP, and SIP, helps operators move a wider range of network services into Kubernetes rather than limiting modernization to HTTP-based applications.
- **Subscriber-aware policy enforcement:** Operators can dynamically apply quality-of-service (QoS), traffic-shaping, and content-filtering policies based on subscriber and service requirements, supporting differentiated services while maintaining consistent policy enforcement.
- **Cloud-native lifecycle management:** Kubernetes-native deployment and management workflows let teams automate common configuration and lifecycle tasks as network functions move from VM-based to containerized infrastructure.

By moving these services into Kubernetes-native deployments, operators can make more flexible use of compute and memory resources, more efficiently using infrastructure as network traffic and service demands grow.

Deeper visibility across distributed Kubernetes environments

Network, security, application, and platform teams often rely on different tools when troubleshooting the same problem. New **F5 BIG-IP eBPF Observability** provides a consistent source of application and network telemetry across distributed Kubernetes clusters, enabling teams to examine app behavior, container activity, and network flows together when investigating performance or connectivity issues.

- Real-time, low-overhead telemetry: Operations teams gain granular network and app insights across Kubernetes environments without requiring application-by-application instrumentation.
- Scalable visibility: Kubernetes-native deployment models and a resource-efficient architecture support visibility across distributed environments, helping teams investigate issues without adding another heavy monitoring layer.
- Shared operational context: BIG-IP eBPF Observability provides correlated application and network context to determine whether an issue originates in the application, container, or network to reduce investigation time.

Independent validation of cloud-native network functions

The Tolly Group tested BIG-IP Cloud-Native Network Functions against virtualized network function deployments in the same Kubernetes environment across two essential service provider workloads.

- DNS: F5 processed 1.9x more queries per second with 91.5% less CPU demand and 48% lower average latency than the tested VNF configuration.
- CGNAT: F5 delivered comparable throughput with 79.7% less CPU demand, 98.5% less memory consumption, and 82% lower p95 latency than the tested VNF configuration.

These results demonstrate how Kubernetes-native network functions can help operators increase workload density and reduce infrastructure requirements for the workloads tested.

Extending BIG-IP as service provider infrastructure evolves

Service providers have relied on BIG-IP across physical and virtual infrastructure for critical networking and security services. As those environments increasingly incorporate Kubernetes, F5 is extending those capabilities into the architectures operators are adopting while providing a path to maintain familiar operational models and policies.

BIG-IP Cloud-Native Edition gives service providers a broader cloud-native solution across traffic management, networking, security, and observability. It also creates opportunities for operators to adopt additional F5 capabilities as their infrastructure evolves across 5G core, edge, IT, and newer workload environments. BIG-IP Cloud-Native Network Functions, BIG-IP Next for Kubernetes, and BIG-IP eBPF Observability address different layers

of that transition while helping customers maintain familiar networking, security, and operational models.

Availability

BIG-IP Cloud-Native Edition and the capabilities highlighted in this announcement are available now for service provider environments.

Supporting materials

- Resource: **BIG-IP Cloud-Native Edition**
- Resource: **BIG-IP Cloud-Native Network Functions**
- Resource: **BIG-IP Next for Kubernetes**
- Resource: **BIG-IP eBPF Observability**
- Tolly report: **BIG-IP Cloud-Native Edition for service provider infrastructure**
- Blog: **What infrastructure efficiency means at service provider scale**
- Blog: **Cloud-native modernization for the AI and 5G/6G era**
- Technical article: **Inside F5 BIG-IP Cloud-Native Edition for service providers**

About F5

F5, Inc. (NASDAQ: FFIV) is the global leader that delivers and secures every app. Backed by three decades of expertise, F5 has built the industry's premier platform—F5 Application Delivery and Security Platform (ADSP)—to deliver and secure every app, every API, anywhere: on-premises, in the cloud, at the edge, and across hybrid, multicloud environments. F5 is committed to innovating and partnering with the world's largest and most advanced organizations to deliver fast, available, and secure digital experiences. Together, we help each other thrive and bring a better digital world to life.

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