Securing, Optimizing, and Monetizing Service Provider Networks Beyond Scale

KEY FEATURES

· Two 100 GbE ports and six 40 GbE ports, which vastly increase efficiency, throughput, and performance

· The first ADC with 100 GbE ports in the QSFP28 form factor, delivering a smaller footprint and lower power consumption

· Significant performance improvements for 2K keys with SSL

· Support for over a billion concurrent connections, ensuring network, data, and subscriber security

Service providers are overwhelmed by an ever-increasing number of mobile devices that require connectivity to the providers' networks and applications. This number will be dwarfed, though, by the demand for connectivity from the Internet of Things (IoT). In addition, the extent, tenacity, and complexity of attacks against networks, applications, and subscribers continue to worry service providers, who are also besieged by the exponential growth of signaling traffic, the impending loss of IPv4 addresses, and the growing movement to IPv6.

Unparalleled performance with legendary scale

The F5® VIPRION® 4450 blade offers two 100 GbE ports and six 40 GbE ports, vastly increasing efficiency, throughput, and performance. The purpose-built VIPRION 4450, which is Network Equipment-Building System (NEBS) compliant, scales up to 1.2 billion concurrent connections in a fully loaded VIPRION 4800 eight-blade chassis. That's enough capacity to address IoT today and in the future.

The VIPRION 4450 blade is the first Application Delivery Controller (ADC) to provide 100 GbE ports in the QSFP28 form factor, providing the smallest footprint and lowest power consumption of any 100 GbE form factors. The 4450 blade delivers significant performance improvements for 2K keys with SSL, plus additional elliptical curve cryptography (ECC) performance improvements, enhancing perfect forward secrecy (PFS) capabilities. It also quadruples the bulk throughput transaction per second (TPS) rate of the VIPRION 4300 series blade and chassis combinations.

Simplified 4G to 5G migration

As service providers explore how to best manage the migration from 4G to 5G networks, network scalability and extensibility are crucial. The VIPRION 4450 blade and 4800 chassis combine for a superior connection setup rate of 20 M connections per second (CPS), easing migration.

Furthermore, as organizations run out of IPv4 addresses, supplementing existing IPv4 addresses with IPv6 addresses, the VIPRION 4450 provides support for up to hundreds of millions of concurrent sessions, thus handling the crossover with ease.

KEY BENEFITS

· Manage security and connectivity with fewer devices.

· Scale dynamically to meet user growth.

· Reduce total cost of ownership (TCO) and speed return on investment (ROI).

· Remove complexity while increasing efficiency

Scalable, extensible security

One of the most effective network attacks continues to be distributed denial-of-service (DDoS). The VIPRION 4450, in concert with F5 BIG-IP® Advanced Firewall Manager™ (AFM)—a high-performance, stateful, full-proxy firewall—quickly ramps to distinguish between malicious and legitimate connections. This combined solution then absorbs or discards malicious connections before they can devastate network resources. Escalating subscriber and data usage helps drive the need for firewalls in a service provider's SGi LAN. The VIPRION 4450 blade's support for over a billion concurrent connections ensures that service provider networks, data, and subscribers remain secure.

The VIPRION 4450 blade effectively mitigates even the most virulent application attacks, provides an early warning of application attack vectors, and very efficiently defends against multi-pronged, simultaneous vectors. When combined with BIG-IP® Application Security Manager™ (ASM)—F5's agile, scalable web application firewall (WAF)—the F5 solution can mitigate and defend against nearly any L7 attack.

Adaptive, software-defined hardware

The VIPRION 4450 blade's advanced field-programmable gate arrays (FPGA) enable significantly improved CPU utilization, as well as capabilities for whitelisting, blacklisting, and graylisting. The personality of the FPGAs can be changed programmatically, furthering the 4450's extensibility and future-proofing the investment. The software-defined hardware capabilities delivered by FPGAs, memory, and hardware search equip the VIPRION 4450 blade to efficiently handle software-defined networking (SDN). This provides CPU offloading, optimization, and adaptability.

The VIPRION 4450 blade, in conjunction with the VIPRION 4480 or 4800 chassis, further enhances performance, enabling dynamic resource allocation and maximizing service consolidation. Performance and capacity scale in linear fashion with each additional blade, so service providers adding a blade can begin processing traffic automatically, without a major upgrade.

For more information about F5 hardware solutions and other deployment methods, please visit f5.com/solutions/service-provider.