



VIPRION

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THE ON-DEMAND APPLICATION DELIVERY CONTROLLER

Your organization's growing infrastructure puts more pressure on the network—from rising numbers of users and data center consolidation to cloud migrations and more feature-rich applications. Scaling your Application Delivery Network (ADN) to meet these ever-evolving demands means increased operational cost and complexity, limiting your organization's ability to react quickly to new needs and opportunities.

Each F5® VIPRION® platform is a single, powerful Application Delivery Controller (ADC) with modular performance blades you can add or remove without disrupting users or applications. Instead of adding devices and segmenting applications, simply add more power to your existing infrastructure as needs and opportunities arise. VIPRION enables the scalability you need to establish a sustainable ADN growth strategy.

KEY BENEFITS

Reduce costs

Decrease OpEx and CapEx with the F5 ScaleN® architecture, which provides unique flexibility to scale on demand, virtualize, and deliver application scaling in a device cluster.

Consolidate devices

Reduce the number of servers and ADCs along with power, space, cooling, and management requirements.

Maximize performance

Manage and protect demanding apps with industry-leading layer 4 and layer 7 performance and SSL processing power.

Achieve ultimate reliability

Make the ADN always available with redundancy at both the chassis and blade levels.





VIPRION 4800 CHASSIS



VIPRION 4480 CHASSIS



VIPRION 2400 CHASSIS



VIPRION 2200 CHASSIS

VIPRION blades can be added or removed without disruption. For more processing power, simply add a blade, which starts processing traffic automatically. In a VIPRION system with multiple blades, you can remove a blade and the others instantly take over the processing load.

INCREASE INTELLIGENCE, NOT OPERATING COSTS

As your infrastructure grows and requires more power for layer 4 and layer 7 processing, SSL, compression, and more, you can simply add a blade to the VIPRION chassis and it will start processing traffic automatically. Whether you're using one blade, four blades, or eight blades, VIPRION remains one device with fixed management costs.

SIMPLIFY YOUR NETWORK

VIPRION can help you simplify your network by offloading servers and consolidating devices, saving management costs as well as power, space, and cooling in the data center.

With VIPRION's massive performance and scalability, you can reduce the number of Application Delivery Controllers you need to deliver even the most demanding applications. By offloading computationally intense processes, VIPRION significantly reduces the number of application servers you need. VIPRION includes:

- SSL/elliptical curve cryptography (ECC) hardware acceleration—Offloads costly
- SSL encryption. Accelerates key exchange and bulk encryption to provide best-in-market SSL performance. Enhances perfect forward secrecy (PFS) capabilities through improved ECC performance.
- Hardware compression—Enables you to cost effectively offload traffic compression processing from your servers. Improves page load times and reduces bandwidth utilization.

F5 OneConnect™ connection pooling—Aggregates millions of TCP requests into hundreds of server-side connections. Increases server capacity and ensures requests are handled efficiently by the back-end system.

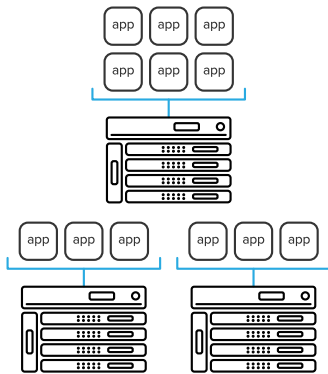
MAXIMIZE LARGE-SCALE APPLICATION AND FIREWALL PERFORMANCE

With its industry-leading layer 4-7 throughput, connection processing, and SSL/ECC performance, VIPRION efficiently manages the most demanding applications, offloads servers, and consolidates your Application Delivery Network. In addition, as an International Computer Security Association (ICSA) Labs Certified firewall solution, F5 BIG-IP® Advanced Firewall Manager™ (AFM) on VIPRION provides native, high-performance network firewall services to protect public-facing websites and data center applications from distributed, multi-layer cyberattacks.

VIPRION high-performance and distributed denial-of-service (DDoS) protection capabilities are enabled through field-programmable gate array (FPGA) technology tightly integrated with the F5 TMOS® technology and software.



With F5 Virtual Clustered Multiprocessing™, multiple virtual BIG-IP instances can be run on the VIPRION platform, each with dedicated CPU/memory resources allocated by the user.



Device and Application Service Clustering provides true scaling of BIG-IP devices, automatic configuration syncing, and failover of specific application workloads in an active N+1 device cluster.

F5 embedded Packet Velocity® Acceleration (ePVA) FPGA delivers:

- High-performance interconnection between Ethernet ports and processors.
- L4 offload, enabling leading throughput rates and reduced loads on software.
- Hardware-accelerated SYN flood protection.
- Hardware detection and mitigation of more than 100 types of denial-of-service (DoS) and DDoS attacks.
- Support for F5 IP Intelligence Services, with blacklist, whitelist, and graylist capabilities.
- Native network overlay (VXLAN/NVGRE) support.
- Hardware-enabled DNS caching, which hyperscales responses for fast service and app delivery (B2250).
- User selectable hardware profiles that enable different performance levels for targeted workloads. Initial profile options include optimized L4 throughput on select platforms for Carrier-grade NAT (CGNAT) or L4-centric traffic management solutions.

The F5 Smart Coprocessor (prioritized ePVA) provides prioritized flow processing, resulting in reduced latency and improved processor performance—ideal for 5G networks. Compute-intensive, large-object flows such as L4 and QUIC traffic are identified and offloaded to the coprocessor, leaving short-lived flows to the CPU. This maximizes efficient use of the limited coprocessor flow cache space and reduces latency and jitter of the selected flows, while at the same time reducing CPU utilization. For service providers and large enterprises, this is targeted at deployments with many (approaching 256k) high-bandwidth flows.

ACHIEVE ULTIMATE RELIABILITY

In a VIPRION system with multiple blades, you can remove a blade without disruption. The other blades will instantly take over the processing load. You can also deploy VIPRION

in an active/standby configuration to add another level of redundancy. The chassis is built with redundant power supplies and field swappable components. This multi-layered redundancy significantly reduces the possibility of downtime.

THE ADVANTAGES OF VIPRION TECHNOLOGY

With VIPRION, your organization benefits from the unique F5 ScaleN architecture and patented hardware and software innovations that offer unmatched capabilities.

ScaleN architecture provides the ability to scale performance on demand, virtualize, or horizontally cluster multiple VIPRION chassis, creating an elastic Application Delivery Networking infrastructure that can efficiently adapt as your business needs change.



VIPRION 4800 CHASSIS



VIPRION 4480 CHASSIS
(FAN TRAY)



VIPRION 4480 CHASSIS
(POWER SUPPLIES)



VIPRION 2200 CHASSIS
(POWER SUPPLIES)

The VIPRION chassis has field-replaceable parts and redundant power supplies, significantly reducing the possibility of downtime.

On-demand scaling improves performance

Increase resource capacity and performance with on-demand scaling, where you can simply add more power to your existing infrastructure instead of adding more devices. VIPRION chassis provide true linear scalability through modular blades that use F5 Clustered Multiprocessing™ (CMP) technology. As blades are added, their CPU resources, network interfaces, SSL, and compression processing power all automatically become available as the configurations and policies are copied to the new blades from the master blade.

Operational scaling enables consolidation

F5 is able to virtualize services with a multi-tenant architecture that supports a variety of BIG-IP versions and product modules on a single device. Multi-tenant device virtualization is provided by F5's unique Virtual Clustered Multiprocessing (vCMP) technology, which enables VIPRION to run multiple BIG-IP guest instances. Each BIG-IP guest instance looks and acts like a physical BIG-IP device, with a dedicated allocation of CPU, memory, and other resources. vCMP offers per-guest rate limiting for bandwidth and SSL, enabling customers to achieve different performance levels for each guest.

Each vCMP guest can further be divided using multi-tenant features such as partitions and route domains, which can isolate configuration and networks on a per-virtual-domain basis. Within each virtual domain, organizations can further isolate and secure configuration and policies by using a role-based access system for greater administrative control.

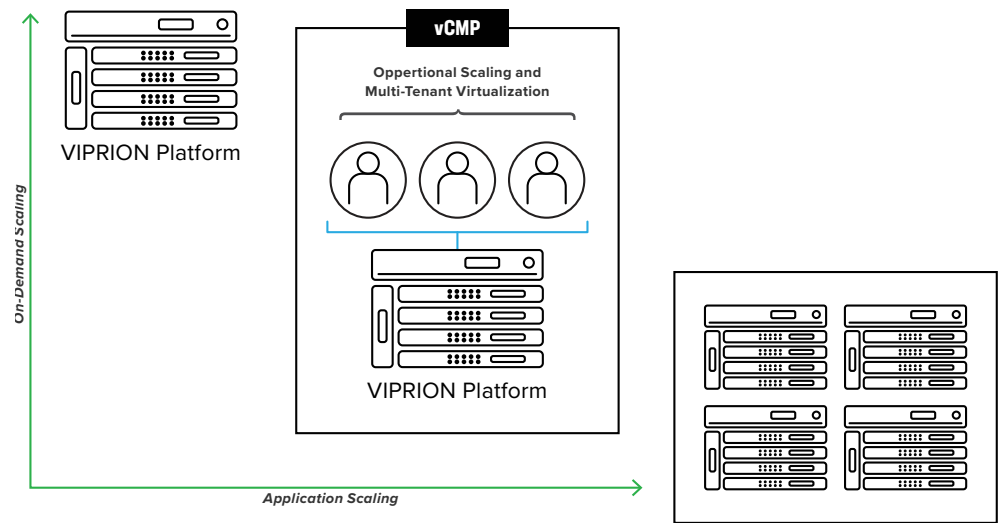
The ability to virtualize BIG-IP ADC services means service providers and enterprise users can isolate based on BIG-IP version, enabling departmental or project-based tenancy as well as performance guarantees, while getting the benefits of managing a single, consolidated application delivery platform and increased utilization of VIPRION systems.

Application scaling boosts capacity and resiliency

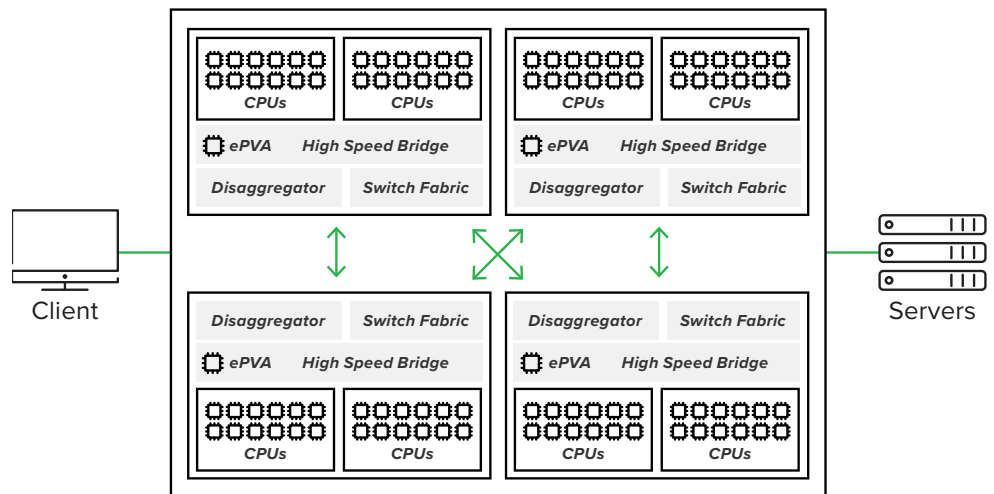
Increase capacity by adding BIG-IP resources through an all-active approach. With application scaling, you can scale beyond the traditional device pair to eliminate the need for idle and costly standby resources. Application scaling achieves this through two forms of horizontal clustering: Application Service Clustering, which focuses on application scalability and high availability, and Device Service Clustering, designed to efficiently and seamlessly scale BIG-IP application delivery services.

Application Service Clustering delivers load-aware, application-level failover and comprehensive connection mirroring for a highly available cluster of up to eight heterogeneous devices. Workloads can be moved across a cluster of devices or virtual instances without interrupting other services and can be scaled to meet demand.

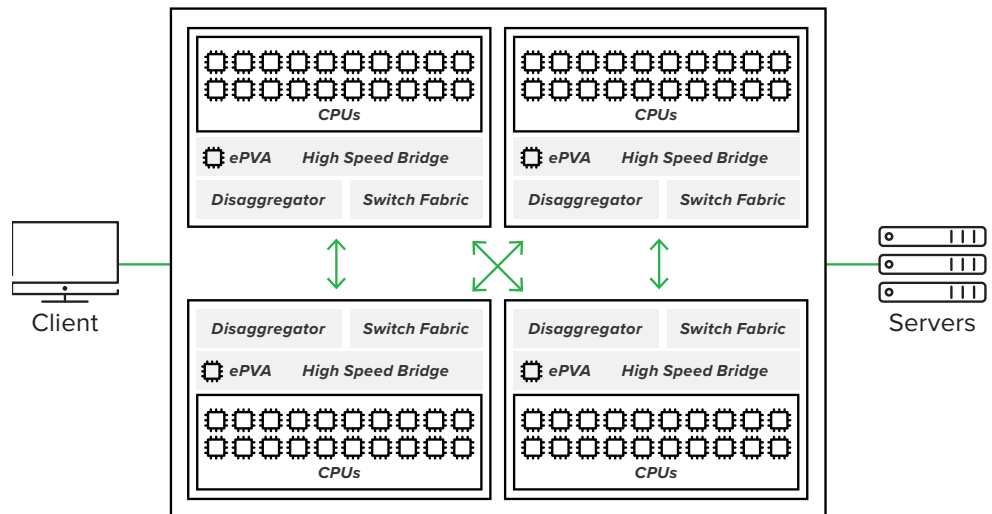
Device Service Clustering can synchronize full device configurations in an all-active deployment model, enabling consistent policy deployment and enforcement across devices up to 32 active nodes. This ensures a consistent device configuration that simplifies operations.



The ScaleN architecture provides the ultimate flexibility to scale on demand, virtualize, and deliver application scaling through device clusters.



VIPRION 4800 and VIPRION 4480 chassis: The VIPRION 4800 chassis supports up to eight blades, and the VIPRION 4480 chassis supports up to four blades. The VIPRION 4450 blade has 24 processor cores (a total of 48 hyperthreaded logical processing cores), and the VIPRION 4300 blade has 12 processor cores (a total of 24 hyperthreaded logical processing cores).



VIPRION 2400 and VIPRION 2200 chassis: The VIPRION 2400 chassis can support up to four 2150 or 2250 blades. The VIPRION 2200 chassis can support two 2150 or 2250 blades. The VIPRION 2250 blade has 10 processor cores (a total of 20 hyperthreaded logical processing cores), and the VIPRION 2150 blade has four processor cores (a total of eight hyperthreaded logical processing cores).

Note: Only the same type of supported blades are enabled for traffic processing in each chassis. Different blade models cannot be mixed within the same chassis. Only optics provided by F5 are supported.

Virtualized processing fabric shares the load across blades

Using custom disaggregation, high-speed bridge FPGAs, and advanced Clustered Multiprocessing (CMP) design, VIPRION shares the processing load not just within a blade, but across the entire chassis.

The physical interfaces are fully meshed. Any port on any blade can be used for any application, so the system can be wired for redundancy and simplicity.

Clustered management cuts administration time

Spend less time managing your Application Delivery Network. To administrators, the VIPRION unit looks like a single ADC. One blade is automatically selected as the primary, and all settings and controls are mirrored to the other blades. When a new blade is plugged in, it will install the firmware version from the primary blade, copy all of its settings, and begin processing traffic within minutes.

SuperVIP simplifies the network

Rather than requiring that a single, demanding application be segmented, VIPRION uses F5 SuperVIP®. This is a virtual IP that can span multiple blades within the VIPRION system. A demanding application will use SuperVIP to harness the processing power of all the blades in the system.

TMOS delivers performance and flexibility

At the heart of VIPRION is the F5 unique operating system called TMOS® that provides a unified system for optimal application delivery, giving you total vision, flexibility, and control across all services. TMOS empowers VIPRION to intelligently adapt to the diverse and evolving requirements of applications and networks.

Hardware DDoS approach mitigates attacks

F5 uses a collaborative software SYN cache and hardware SYN cookie approach to protect against large-scale SYN flood DDoS attacks. Using the embedded Packet Velocity Acceleration (ePVA) FPGA, select VIPRION platforms provide significantly higher performance (up to 640 million SYN cookies per second) over a pure software implementation.

When a SYN flood is detected, the ePVA turns on the F5 SYN Check™ feature to prevent invalid sessions from getting to the servers or exhausting blade resources. SYN Check is unique in that it can be applied on a per-virtual-IP/application basis, meaning if one application is under attack, the others are not affected. F5 is the only ADC that implements hardware-based SYN cookies in L4 and full-proxy L7 mode.

Blade options enable superior performance and security

Given constantly increasing demands for connectivity and growing concerns about tenacious and complex attacks, service providers and enterprises need solutions that keep up. VIPRION blade options deliver flexibility and efficient scaling capabilities. Notably, these options include the purpose-built 4450 blade, which is Network Equipment-Building Systems (NEBS) compliant and offers two 100 GbE ports and six 40 GbE ports for superior efficiency, throughput, and performance. In a fully loaded VIPRION 4800 eight-blade chassis, the 4450 blade supports around 1.2 billion concurrent connections to scale for today's Internet of Things and into the future.

The 4450 blade is the first ADC to provide 100 GbE ports in the QSFP28 form factor, the leading form factor for data centers adopting 100 GbE, 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 as well as for ECC, enhancing PFS capabilities.

The 4450 blade's advanced FPGAs significantly improve CPU utilization and expand whitelisting, blacklisting, and graylisting capabilities. The software-defined hardware capabilities of the FPGAs, memory, and hardware search enable the VIPRION 4450 blade to efficiently deliver software-defined networking (SDN), providing CPU offloading, optimization, and adaptability, while simplifying the migration to network function virtualization (NFV). The 4450 blade also supports up to 12 vCMP guests for multi-tenant app and security services architectures.

VIPRION PLATFORMS

Each VIPRION system consists of a chassis and one to eight blades.



| SPECIFICATIONS | VIPRION 4800 Chassis | VIPRION 4480 Chassis |
|---|--|--|
| Dimensions: | 27.8" (70.6 cm) H x 17.4" (44.2 cm) W x 21.25" (54.0 cm) D 16U industry standard rack-mount chassis | 12.2" (30.9 cm) H x 17.4" (44.2 cm) W x 21" (53.3 cm) D 7U industry standard rack-mount chassis |
| Weight: | 126 lbs. (57.2 kg) (2 power supplies, 2 fan trays, 8 blanks) | 87 lbs. (39.5 kg) (4 power supplies, 1 fan tray, 3 blanks) |
| Power Supply: | One to four 200 VAC to 240 VAC (2600W) auto ranging (80+ Gold Efficiency) (2 power supplies included) 18A per input (max) DC power (option) One to four 2600W -44 to -72 VDC 80A per input maximum per supply Note: Please refer to the Platform Guide: VIPRION 4800 on askf5.com for the latest specific AC power ratings. | One to four 90 VAC (1200W) to 240 VAC (2000W) auto ranging 20A per input line (max) DC power (option) One to four 1200W -36 to -72 VDC 10 to 40A maximum per supply Note: Please refer to the Platform Guide: VIPRION 4400 on askf5.com for the latest specific AC power ratings. |
| Operating Temperature: | 32° to 104° F (0° to 40° C) | 32° to 104° F (0° to 40° C) |
| Relative Humidity: | 5 to 85% at 104° F (40° C) | 5 to 85% at 104° F (40° C) |
| Safety Agency Approval: | UL 60950 (UL1950-3) CSA-C22.2 No. 60950-00 (bi-national standard with UL 60950) CB test certification to IEC 950 EN 60950 | UL 60950 (UL1950-3) CSA-C22.2 No. 60950-00 (bi-national standard with UL 60950) CB test certification to IEC 950 EN 60950 |
| Certifications/Susceptibility Standards | EN55022 1998 Class A EN55024 1998 Class A FCC Part 15B Class A VCCI Class A | EN55022 1998 Class A EN55024 1998 Class A FCC Part 15B Class A VCCI Class A NEBS Certified |
| Dimensions: | 27.8" (70.6 cm) H x 17.4" (44.2 cm) W x 21.25" (54.0 cm) D 16U industry standard rack-mount chassis | 12.2" (30.9 cm) H x 17.4" (44.2 cm) W x 21" (53.3 cm) D 7U industry standard rack-mount chassis |



| SPECIFICATIONS | VIPRION 4450 Blade | VIPRION 4340N/4300 Blade |
|---|--|---|
| Intelligent Traffic Processing: | 5M L7 requests per second 2.9M L4 connections per second 180M max L4 concurrent connections 140 Gbps L4/L7 4.8 Gbps included compression 80 Gbps max hardware compression Included RSA SSL TPS: 24,000 (2K keys) Max RSA SSL TPS: 160,000 (2K keys) Included ECDSA P-256 TPS: 24,000 Max ECDSA P-256 TPS: 80,000 Bulk crypto (RSA): 80 Gbps | 2M L7 requests per second (B4340N) 2.5M L7 requests per second (B4300) 1.1M L4 connections per second (B4340N) 1.4M L4 connections per second (B4300) 14M L4 HTTP requests per second 36M max L4 concurrent connections (B4300) 72M max L4 concurrent connections (B4340N) 80 Gbps L4, 40 Gbps L7 1.2 Gbps included compression 20 Gbps max hardware compression Included SSL TPS: 12,000/blade Max SSL TPS: 30,000 (2K keys) Bulk crypto: 20 Gbps |
| Note: Compression and SSL resources are allocated evenly across the number of vCMP guests set up. | | |
| Hardware DDoS Protection: | Support for over 100 different vectors Hardware SYN cookies: 115M SYN cookies per second | Hardware SYN cookies: 80M SYN cookies per second |
| Software Architecture: | 64-bit TMOS | 64-bit TMOS |
| Virtualization (Max Number of vCMP Guests): | 48 in a 4480 chassis, 96 in a 4800 chassis (12 per blade)* | 24 in a 4480 chassis, 48 in a 4800 chassis (6 per blade) |
| Processors: | 2 Intel 12-core processors (48 hyperthreaded logical processor cores total) | 2 Intel hex 6-core processors (total 24 hyperthreaded logical processor cores) |
| Memory: | 256 GB | 96 GB (4340N), 48 GB (4300) |
| Hard Drive Capacity: | 1.2 TB SSD | 600 GB hard drive |
| Network Interfaces: | One 10/100/1,000 Mbps Ethernet management port Six 40 Gbps QSFP+ ports Optional 40 Gbps QSFP+ SR4 (up to 100m) transceivers Optional 40 Gbps QSFP+ LR4 (up to 10km) transceivers Each QSFP+ port can convert to four 10 Gbps with QSFP+ breakout or AOC cables Two 100 Gbps QSFP28 ports Optional 100 Gbps QSFP28 SR4 (up to 70m) transceiver Optional 100 Gbps QSFP28 LR4 (up to 10km) transceiver | One 10/100/1,000 Mbps Ethernet management port Eight 1 Gbps/10 Gbps SFP+ ports Two 10GBASE-SR 850nm transceivers included Optional 1 Gbps SFP fiber SX or LX or copper RJ45 transceivers Optional 10 Gbps SFP+ fiber SR or LR or copper direct attach transceivers Two 40 Gbps QSFP+ ports Optional 40 Gbps QSFP+ SR4 (up to 100m) transceivers Optional 40 Gbps QSFP+LR4 (up to 10km) transceivers Each QSFP+ port can convert to four 10 Gbps with QSFP+ breakout or AOC cables |
| Power Consumption and Heat Output: | Please refer to Platform Guide: Viprion 4800 or Viprion 4400 for the latest specific power ratings. | |
| Weight: | 19.2 lbs. (8.71 kg) | 18.5 lbs. (8.39 kg) |

Note: Only optics provided by F5 are supported

*Requires running TMOS v13+



| SPECIFICATIONS | VIPRION 2400 Chassis | VIPRION 2200 Chassis |
|---|---|---|
| Dimensions: | 6.89" (17.5 cm) H x 17.64" (44.8 cm) W x 21.18" (53.8 cm) D 4U industry standard rack-mount chassis | 3.4" (8.6 cm) H x 17.3" (44.0 cm) W x 24.5" (62.2 cm) D 2U industry standard rack-mount chassis |
| Weight: | 42.5 lbs. (19.3 kg) (3 blank line cards, 0 power supplies, 0 blades, 1 fan tray) | 31.0 lbs. (14.1 kg) (1 blank line card, 0 power supplies, 0 blades, 1 fan tray) |
| Power Supply: | <p>AC power supply One to two 100-127 VAC (1200W)/200-240 VAC (1400W) auto ranging (80+ Gold Efficiency) 17A per input line (max) DC power supply (option) One to two 1400W 44 to 65 VDC 44A per input (max)</p> <p>Note: Please refer to the Platform Guide: VIPRION 2400 on askf5.com for the latest specific power ratings.</p> | <p>AC power supply One to two 100-240 VAC (800W) 50/60 Hz auto ranging 10A per input line (max) DC power supply (option)</p> <p>Note: Please refer to the Platform Guide: VIPRION 2200 on askf5.com for the latest specific power ratings.</p> |
| Operating Temperature: | 32° to 104° F (0° to 40° C) | 32° to 104° F (0° to 40° C) |
| Relative Humidity: | 5 to 85% at 104° F (40° C) | 5 to 85% at 104° F (40° C) |
| Safety Agency Approval: | <p>EN 60950-1:2006, 2nd Edition Evaluated to all CB Countries UL 60950-1, 2nd Edition, CSA C22.2 No. 60950-1-03</p> | <p>EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 IEC 60950-1:2005, A1:2009 CSA 60950-1-07, Including Amendment 1:2011 ANSI/UL 60950-1-2011 Evaluated to all CB Countries</p> |
| Certifications/Susceptibility Standards | <p>FCC Part 15 Class A VCCI Class A EN 300 386 V1.3.2 (2003-05) EN 55022:2006 + C1:2006 EN 61000-3-2:2000 EN 61000-3-3:1995 +A1:2000 EN 55022:2006 + C1:2006 Class A EN 61000-3-3:1995 +A1:2000+ A2:2005 EN 55024:1998 +A1: 2001 +A2:2003</p> | <p>FCC Part 15 Class A VCCI Class A ETSI EN 300 386 V1.5.1 (2010) EN 55022:2010 Class A EN 61000-3-2:2006 A1:2009+A2:2009 EN 61000-3-3:2008 EN 55024:2010 EN 55022:2010 Class A EN 61000-3-2:2006 A1:2009+A2:2009 EN 61000-3-3:2008</p> |



| SPECIFICATIONS | VIPRION 2250 Blade | VIPRION 2150 Blade |
|---|--|--|
| Intelligent Traffic Processing: | <p>2M L7 requests per second 1M L4 connections per second 14M L4 HTTP requests per second 48M max L4 concurrent connections 80 Gbps L7/L4 throughput (C2400) 155* Gbps L4, 80 Gbps L7 throughput (C2200) 1 Gbps included compression 40 Gbps maximum hardware compression Included SSL TPS: 10,000 TPS (2K keys) Maximum SSL TPS: 44,000 TPS (2K keys) Bulk crypto: 36 Gbps</p> <p>Note: Compression and SSL resources are allocated evenly across the number of vCMP guests set up.</p> | <p>1M L7 requests per second 400K L4 connections per second 7M L4 HTTP requests per second 24M max L4 concurrent connections 40 Gbps L4, 18 Gbps L7 400 Mbps included compression 10 Gbps maximum hardware compression Included SSL TPS: 4,000/Blade Maximum SSL TPS: 10,000 TPS (2K keys) Bulk crypto: 9 Gbps</p> <p>Note: Compression and SSL resources are allocated evenly across the number of vCMP guests set up.</p> |
| Hardware DDoS Protection: | Hardware SYN cookies: 60M SYN cookies per second | Hardware SYN cookies: 40M SYN cookies per second |
| Software Architecture: | 64-bit TMOS | 64-bit TMOS |
| Virtualization (Max Number of vCMP Guests): | 80 (4 B2250 blades, 20 per blade) | 32 (4 B2150 blades, 8 per blade) |
| Processors: | Single Intel 10-core Xeon processor (total 20 hyperthreaded logical processor cores) | Single Intel quad core Xeon processor (total 8 hyperthreaded logical processor cores) |
| Memory: | 64 GB | 32 GB (B2150) |
| Hard Drive Capacity: | One 800 GB solid state drive | 400 GB solid state drive (B2150) |
| Network Interfaces: | <p>One 10/100/1,000 Mbps Ethernet management port Four 40 Gigabit (or sixteen 10 Gigabit) fiber ports (QSFP+) (QSFP+ 40GBASE-SR4 100m transceivers sold separately) (QSFP+ optical breakout cable assemblies available to convert to 10 Gigabit ports) Note: Only optics provided by F5 are supported.</p> | <p>One 10/100/1,000 Mbps Ethernet management port Eight 1,000 Mbps/10 Gbps SFP+ ports (2 ea. 10GBASE-SR – 850nm transceivers included) (Optional 1G SFP fiber SX or LX) or copper RJ45 transceivers, 10G SFP+ SR or LR, 10G copper direct attach) Note: Only optics provided by F5 are supported.</p> |
| Power Consumption and Heat Output: | Note: Please refer to the Platform Guide: VIPRION 2400 or Platform Guide: VIPRION 2200 on askf5.com for the latest relevant blade power ratings. | Note: Please refer to the Platform Guide: VIPRION 2400 or Platform Guide: VIPRION 2200 on askf5.com for the latest relevant blade power ratings. |
| Weight: | 10.0 pounds (4.5 kg) | 9.5 lbs. (4.3 kg) |

*Requires TMOS v11.6 and selecting L4 Performance Optimized FPGA firmware configuration option (see BIG-LTM Manual on askf5.com for specific instructions).

F5 GLOBAL SERVICES

F5 Global Services offers world-class support, training, and consulting to help you get the most from your F5 investment. Whether it's providing fast answers to questions, training internal teams, or handling entire implementations from design to deployment, F5 Global Services can help ensure your applications are always secure, fast, and reliable. For more information about F5 Global Services, contact consulting@f5.com or visit f5.com/support.

MORE INFORMATION

For more information about VIPRION, visit f5.com to find these resources. For the latest product specifications, see the applicable platform guide on askf5.com.

Data sheets

- [BIG-IP Local Traffic Manager](#)
- [BIG-IP Application Security Manager](#)
- [BIG-IP DNS](#)
- [BIG-IP Access Policy Manager](#)
- [BIG-IP Advanced Firewall Manager](#)
- [BIG-IP Policy Enforcement Manager](#)
- [BIG-IP Carrier-Grade NAT](#)

White papers

- [Clustered Multiprocessing: Changing the Rules of the Performance Game](#)
- [Virtual Clustered Multiprocessing \(vCMP\)](#)
- [The Application Delivery Firewall Paradigm](#)
- [ScaleN: Elastic Infrastructure](#)
- [Multi-Tenancy Security with vCMP](#)

