VIPRION
DATASHEET

What's Inside:

The On-Demand Application Delivery Controller

Your organization's growing infrastructure puts more pressure on the network—from rising numbers of users to data center consolidation to the deployment of more feature-rich applications. Scaling the Application Delivery Network (ADN) to meet these evolving needs means increased operational cost and complexity. The resulting strain on resources can limit your organization's ability to react quickly to developing needs.

Each VIPRION® platform is a single, powerful Application Delivery Controller (ADC) with modular performance blades you can add or remove with no disruption to your applications. Instead of adding more devices in the network and segmenting applications, you can simply add more power to your existing infrastructure as needs arise. VIPRION gives you the scalability you need to establish a solid and sustainable ADN growth strategy.

Key benefits

Reduce costs
Decrease OpEx and CapEx with the F5 Scale^{N} architecture, which provides the unique flexibility to scale up, virtualize, and scale out on demand.

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

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

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

ICSA labs CERTIFIED FIREWALL - CORPORATE

VIPRION 4480 Chassis

VIPRION 2400 Chassis

VIPRION blades can be added or removed without disruption. For more processing power, simply add a blade. It 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 growing infrastructure requires more processing 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 or four, 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 can significantly reduce the number of application servers needed. VIPRION includes:

- SSL hardware acceleration—Offloads costly SSL encryption. Accelerates key exchange and bulk encryption to provide best-in-market SSL performance.
- Hardware compression—Enables you to cost effectively offload traffic compression processing from your servers. Improves page load times and reduces bandwidth utilization.
- 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 performance, VIPRION can manage the most demanding applications, offload the servers, and consolidate the Application Delivery Network. In addition, as an ICSA certified firewall solution, BIG-IP® Local Traffic Manager™ on VIPRION provides native, high performance network firewall services to protect public facing websites and data center applications from distributed, multi-layer cyber attacks.

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 Techology

With VIPRION, your organization will benefit from the unique F5 Scale^N architecture and patented hardware and software innovations that offer unmatched capabilities.

The F5 Scale^N architecture provides you with the ability to scale up or scale out on demand, creating an elastic Application Delivery Controller processing platform that can grow as your business needs change. The Scale^N approach delivers a superior way to scale application

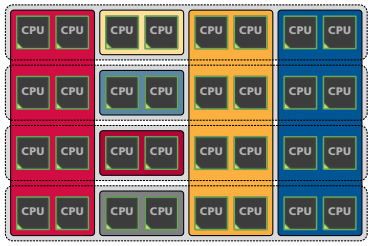
delivery services that creates true deployment flexibility and simplifies system and application level maintenance. It achieves a higher level of application uptime and helps you meet stringent Service Level Agreements (SLAs).

The flexibility to scale up, deploy virtual ADC instances, and scale out on demand is accomplished through the following three key unique F5 technologies:

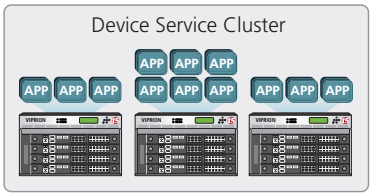
Clustered Multiprocessing (CMP)—CMP provides the ability to cluster and aggregate multiple processors (cores) within a system and across discrete processing blades to create a high-performance traffic processing platform. Using CMP, VIPRION creates a virtualized processing fabric to efficiently use all available CPU resources. When you add a new blade, the additional processor cores seamlessly join the system. In the unlikely event of a failure, you can remove the blade from the system without disruption.

Virtual Clustered Multiprocessing (vCMP™)—The vCMP hypervisor enables multiple ADC instances to run on a VIPRION device, each with a dedicated allocation of CPU, memory, and other resources. This provides multi-tenancy and complete network isolation. Each instance can then run different versions of the F5 TMOS® operating system to suit business needs. vCMP allows you to virtualize while achieving a higher level of redundancy and control.

Device Service Clustering (DSC)—DSC provides the ability to group devices and services across an array of systems (appliances, VIPRION chassis, or virtual editions) to create a horizontal cluster. With DSC, you can create high availability device clusters that scale out on demand. Devices can be added or removed to a Device Service Cluster without disrupting application services. You can failover specific application services to any device in the cluster. With DSC, the 1:1 model of active/standby is extended to N:1, where as many active devices as needed can share the application load, depending on resource constraints and availability, enabling true horizontal scaling.



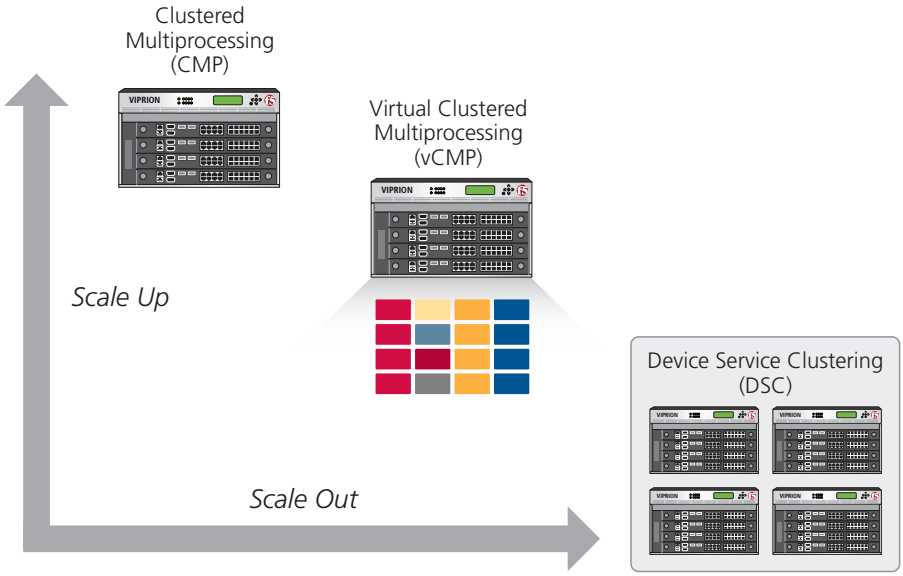
With Virtual Clustered Multiprocessing, multiple virtual BIG-IP instances can be run on the VIPRION platform, each with dedicated resources.



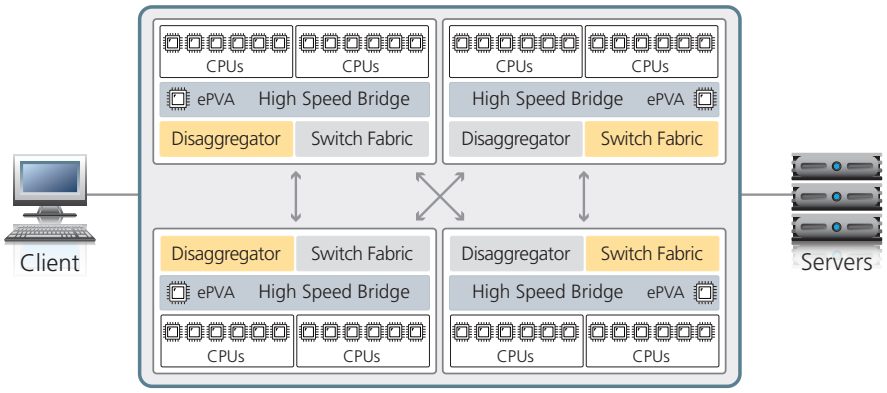
Device Service Clustering provides true scale out of BIG-IP devices, automatic configuration syncing, and failover of specific application workloads in an active N+1 device cluster.

The Scale^{N} architecture provides the ultimate flexibility to scale up, virtualize, and scale out on demand.

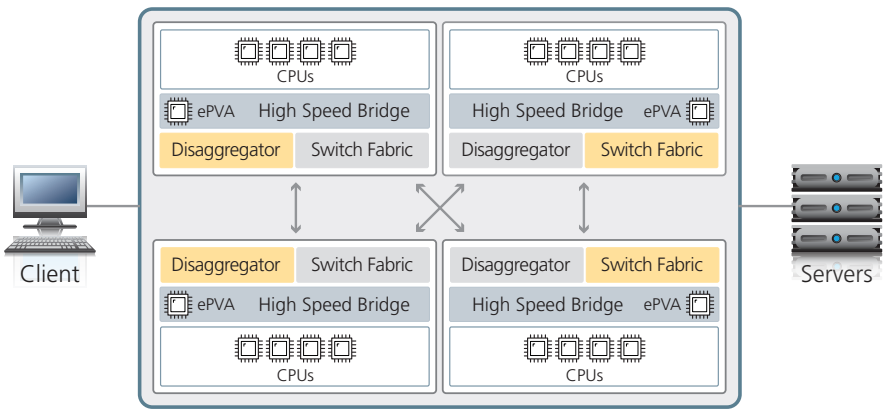
Using Clustered Multi-processing, VIPRION shares resources efficiently across the entire chassis.



The VIPRION 4300 blade has 12 processor cores, and the VIPRION 4480 chassis can support four blades.



The VIPRION 2100 blade has four processor cores, and the VIPRION 2400 chassis can support four blades.



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

Virtualized processing fabric shares the load across blades

Using custom disaggregation, high speed bridge FPGAs, and advanced software, 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 Application Delivery Controller. 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 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.

VIPRION Platforms

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

VIPRION 4480 Chassis

Physical Specifications	VIPRION 4480 Chassis
Dimensions	12.2" (30.9 cm) H x 17.4" (44.2 cm) W x 21" (53.3 cm) D Rack-mount chassis 7 rack units
Weight:	87 lbs. (39.5 kg) (4 power supplies, 1 fan tray, 3 blanks)
Power Supply:	Four 90 VAC to 240 VAC auto ranging 2100W maximum draw for low line input 2125W maximum draw for high line input 36VDC to 72VDC (option)
Operating Temperature:	32° to 104° F (0° to 40° C)
Relative Humidity:	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 NEBS Certified (future option)
Electromagnetic Emissions Certifications:	EN55022 1998 Class A EN55024 1998 Class A FCC Part 15B Class A VCCI Class A

VIPRION 4300 Blade

VIPRION 4200 Blade

Physical Specifications	VIPRION 4300 Blade	VIPRION 4200 Blade
Traffic Throughput:	80 Gbps L4, 40 Gbps L7, 20 Gbps max hardware compression 600 Mbps included compression Included SSL TPS: 500/CPU core | 6000/blade Max TPS: 150,000 (1K keys), 30,000 (2K keys) Bulk crypto: 20 Gbps	18 Gbps L4, 18 Gbps L7, 12 Gbps max compression 400 Mbps included compression Included SSL TPS: 500/CPU core | 4000/blade Max TPS: 50,000 (1K keys), 10,000 (2K keys) Bulk crypto: 9 Gbps
Processors:	2 hex core processors	2 quad core processors
Memory:	48 GB	16 GB
Hard Drive Capacity:	600 GB hard drive	160 GB hard drive 8 GB compact flash
Network Interfaces:	One 10/100/1,000 Mbps Ethernet management port Eight 1,000 Mbps/10 Gigabit ports (SFP+) (2 ea. 10GBASE-SR – 850nm transceivers included) (Optional 1G SFP fiber 1G-LC/850nm or copper RJ45 transceivers) Two 40 Gigabit (or eight 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.*	One 10/100/1000 Mbps Ethernet management port Four 10/100/1000 Mbps copper ports Eight 1000 Mbps/10 Gbps SFP+ ports (2 ea. 10GBASE-SR – 850nm transceivers included) (Optional 1G SFP fiber 1G-LC/850nm or copper RJ45 transceivers) *Note: Only optics provided by F5 are supported.*
Power Consumption:	Typical: 430W (under heavy load) Maximum: 515W	Typical: 325W (under heavy load) Maximum: 350W
Heat Output:	Typical: 1468 BTU/hour Maximum: 1758 BTU/hour	Typical: 1100 BTU/hour Maximum: 1200 BTU/hour
Weight:	18.5 lbs. (8.39 kg)	14.5 lbs. (6.58 kg)

VIPRION 2400 Chassis

Physical Specifications	VIPRION 2400 Chassis
Dimensions	6.89” (17.5 cm) H x 17.64” (44.8 cm) W x 21.18” (53.8 cm) D Rack-mount chassis 4 rack units
Weight:	42.5 lbs. (19.3 kg)
Power Supply:	AC power supply Two 100-127 VAC/200-240 VAC (1400W) auto ranging 17A per input line (max) DC power supply (option) Two 1400W 38 to 72 VDC 44A per input (max)
Operating Temperature:	32° to 104° F (0° to 40° C)
Relative Humidity:	5 to 85% at 104° F (40° C)
Safety Agency Approval:	EN 60950-1:2006, 2nd Edition Evaluated to all CB Countries UL 60950-1, 2nd Edition, CSA C22.2 No. 60950-1-03
Electromagnetic Emissions Certifications:	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

VIPRION 2100 Blade

Physical Specifications	VIPRION 2100 Blade
Traffic Throughput:	40 Gbps L4, 18 Gbps L7 10 Gbps maximum hardware compression 200 Mbps included compression Maximum SSL TPS: 50,000 TPS (1K keys), 10,000 TPS (2K keys) Bulk crypto: 9 Gbps
Software Architecture:	64-bit TMOS
Processor:	Single quad core processor
Memory:	16 GB
Hard Drive Capacity:	300 GB 10,000 RPM
Network Interfaces:	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 1G-LC/850nm or copper RJ45 transceivers) *Note: Only optics provided by F5 are supported.*
Power Consumption:	Typical: 175W (conditions: 25C, 50% load, 110 VAC) Maximum: 265W (conditions: 40C, 110 VAC)
Heat Output:	Typical: 597 BTU/hour Maximum: 904 BTU/hour
Weight:	9.5 lbs. (4.3 kg)

Ordering Information

The VIPRION 4480 chassis includes these options:

- VIPRION 4300 or 4200 blade (one required)
- Performance Extreme Pack—Includes maximum SSL acceleration, maximum compression, advanced client authentication, and advanced routing
- BIG-IP® Application Security Manager™—Web application firewall module
- Virtual Clustered Multiprocessing (vCMP) license (option for 4200 blade only)
- BIG-IP Global Traffic Manager™—Global load balancing module (option for 4200 blade only)
- BIG-IP Access Policy Manager™—Global access and security module (up to 100,000 concurrent users) (option for 4200 blade only)
- DNS module (option for 4200 blade only)
- DNSSEC module (requires BIG-IP Global Traffic Manager) (option for 4200 blade only)

The VIPRION 2400 chassis includes these options:

- VIPRION 2100 blade (one required)
- Performance Extreme Pack—Includes maximum SSL acceleration, maximum compression, advanced client authentication, and advanced routing
- BIG-IP Application Security Manager—Web application firewall module
- Virtual Clustered Multiprocessing (vCMP) license
- BIG-IP Global Traffic Manager™—Global load balancing module
- BIG-IP Access Policy Manager—Global access and security module (up to 60,000 concurrent users)
- DNS module
- DNSSEC module (requires BIG-IP Global Traffic Manager)

F5 Services

F5 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 Services can help you achieve IT agility. For more information about F5 Services, contact consulting@f5.com or visit f5.com/services.

More Information

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

Datasheets

BIG-IP Local Traffic Manager

BIG-IP Application Security Manager

BIG-IP Global Traffic Manager

BIG-IP Access Policy Manager

White papers

Clustered Multiprocessing: Changing the Rules of the Performance Game

VIPRION: The Cost of Management

Virtual Clustered Multiprocessing (vCMP)

The New Data Center Firewall Paradigm

Podcast

VIPRION: Unboxed

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