

TECHNOLOGY AUDIT

VIPRION







F5 Networks


BUTLER GROUP VIEW

ABSTRACT

VIPRION is the latest hardware platform for F5's BIG-IP, the application delivery networking system that provides an intelligent and adaptable solution to secure, optimise, and deliver applications. The device is a single, powerful Application Delivery Controller (ADC) containing blades that can be deployed or removed without disrupting applications. Instead of adding more appliances into the network more processing power can be achieved by inserting a new blade into the chassis, enabling seamless scalability without impacting management overheads or availability. Underpinning VIPRION is TMOS a shared platform designed to address the challenges of application delivery and enabling F5 products to communicate with each other. VIPRION is also able to exploit iControl to facilitate integration of applications with network elements and iRules, a programmable rules engine that enables script-based application traffic management. The product is aimed at top-end ADC performance where companies have outgrown appliance-based solutions. Butler Group recommends that very large organisations which find themselves with application delivery scalability issues should look to begin a proof-of-concept project using VIPRION.

KEY FINDINGS

- | | |
|---|--|
|  Blades-based architecture managed as single virtual entity. |  Integration capabilities provided by iControl software. |
|  Flexibility offered by iRules functionality. |  Scalability of solution. |
|  Platform designed for very large organisations and service providers. |  New product offering with currently one public reference customer. |

Key:  Product Strength  Product Weakness  Point of Information

LOOK AHEAD

In early 2009 F5 plans to offer a Layer 7 application firewall on the VIPRION product. F5 is also looking to offer full Web optimisation and specific protocol firewall capability in the mid term.

FUNCTIONALITY

Product Analysis

Within the majority of organisations IT departments are becoming more accountable for performance. They are feeling the pressure when services do not live up to expectations, with estimates from as low as 20% of applications actually meeting their reliability targets. In recent years Web-based applications have become increasingly mission-critical, especially for many larger organisations and service providers, with many companies which have now deployed this type of software facing growing problems with poor performance, reliability, and security. This is partly due to the consolidation of the IT infrastructure, along with the increasing use of remote locations and mobile solutions.

In addition, the move from the Web as a one-way channel, where users consume information, to a bi-directional medium that supports transactional capabilities, enabling users to utilise to end-to-end processes that reduce time-to-results in accessing goods and services, is having an impact on performance. Encouraging users and customers to be involved with increasingly in-depth Web participation is firmly on the agenda for both public and private sector organisations as a raft of significant benefits can be realised, many of which have a direct impact on the bottom line.

The reduction in application response times improves productivity and can provide a welcome boost to usability for Web-based applications by increasing the number of employees and customers using the software. Poor performance is a major cause of disenchantment with computer systems, which leads many to stop using them despite investment in marketing and business process re-engineering. Although there are physical limits to the performance of any software, better performance can usually be brought about by the use of an Application Delivery Controller (ADC). For very large organisations and service providers F5 has developed the VIPRION hardware platform to meet the challenges outlined. And to also address the following areas:

- **Consolidation of infrastructure:** many existing customers have deployed multiple F5 devices because their requirements were greater than could be met with a single F5 device. These customers view VIPRION as an opportunity to reduce the cost of ownership of their estate in terms of both man hours and footprint.
- **Increased capacity:** VIPRION has the ability to deploy applications in a more scalable and manageable way. In the past some application optimisation/security related tasks have been viewed as 'too complex', as to solve the problem would be computationally expensive, and would have required a multi-tier deployment of ADCs, which can be impractical. VIPRION allows this kind of deployment to be feasible.

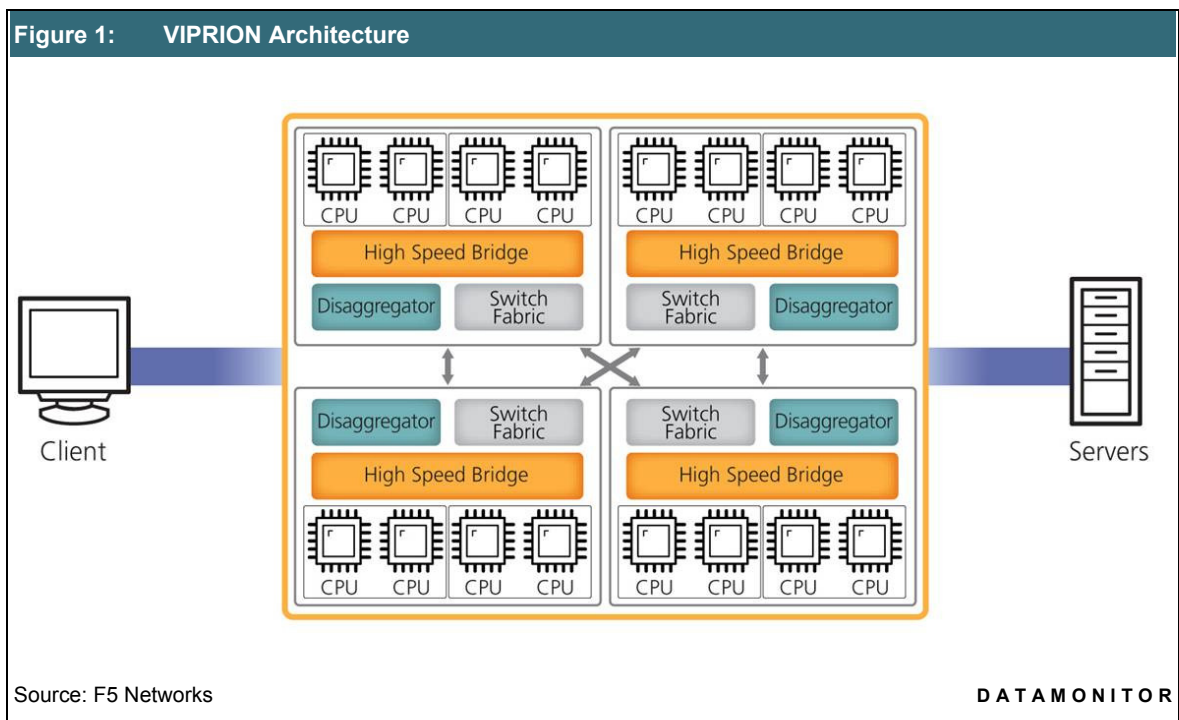
Product Operation

VIPRION is the latest hardware platform for F5's BIG-IP, the application delivery networking system that provides an intelligent and adaptable solution to secure, optimise, and deliver applications. BIG-IP features a set of unified application infrastructure services that deliver control, visibility, and flexibility into application security, performance, and delivery. The hardware platform is a single, powerful ADC containing blades that can be added or removed without disrupting applications. Instead of adding more devices in the network and segmenting applications, more processing power can be added by a new blade in the chassis.

VIPRION supplies the scalability needed to establish a solid and sustainable application delivery network growth strategy. Other chassis-based products tend to tie together discrete appliances that function as separate devices. The design of VIPRION provides the scalability of a blade chassis combined with the ease of management associated with a single device.

Underpinning VIPRION, as with all F5 BIG-IP offerings, is TMOS a shared platform designed from the ground up to address the challenges of application delivery and enabling F5 products to communicate with each other. VIPRION is also able to exploit the iControl an Application Programming Interface (API) and provides a Software Development Kit (SDK) to facilitate integration of applications with network elements, as well as iRules, a programmable rules engine that enables script-based application traffic management. TMOS enables VIPRION to intelligently adapt to the diverse and evolving requirements of applications and networks.

At the core of VIPRION's architecture is a virtual processing fabric, which is a combination of Field Programmable Gate Arrays (FPGAs) that quickly decide which CPU to route traffic to, a high-speed bridge that provides fast connections between the switch fabric and the CPUs, and clustered multiprocessing software that allows the CPUs to run in parallel.



Despite the use of blades VIPRION remains an integrated network device. This integration and device flexibility enables better manageability and Total Cost of Ownership (TCO), as infrastructure simplification provides organisations with greater network reliability and control over operational costs. When enterprises require more processing power, whether for L7 processing, SSL, or compression, it will be possible to add another blade to an existing unit rather than deploy an additional device. The platform offers two-tiered availability at both the blade and chassis level.

Like all BIG-IP products, VIPRION can be deployed in an active/standby pair for redundancy, but additionally, due to VIPRION's architecture, if a blade fails the others in the chassis can take over processing traffic with no disruption. Similarly, a blade can be manually taken offline and moved without disruption. Neither upgrades to capacity, or individual hardware component failures, affect the delivery of applications. The chassis contains redundant power supplies and field-swappable components.

Product Emphasis

VIPRION is an ADC hardware solution that is designed to scale seamlessly without impacting management overheads or availability. The product is aimed at top-end ADC performance where companies have outgrown the appliance-based solutions. Unlike other ADC architectures on the market additional blades can be added seamlessly, as increased processing power is required.

DEPLOYMENT

A successful VIPRION deployment requires basic networking knowledge and expertise in routing and switching, as well as familiarity with the BIG-IP system. F5 provides optional installation services, or can recommend several third-party System Integrators (SIs). The implementation time for VIPRION can vary greatly depending on the complexity and size of the project. The company always recommends that any user looking to deploy VIPRION performs a detailed proof-of-concept evaluation.

VIPRION is a modular platform by design, and can be deployed with a single blade, then as enterprises require more processing power another blade can be added to an existing unit rather than deploying a separate device. In addition, the VIPRION software is modular, with options that can be added at any time after deployment. Like most data centre equipment, VIPRION requires power, space, and cooling, but, by using the processing power available very efficiently the performance per power unit is better than would otherwise be the case.

Some ongoing management of VIPRION is required by the customer. However, the administration costs of VIPRION are inherently lower than a traditional application delivery solution, owing to its virtualised architecture and the ability to manage the system as a single entity rather than as individual blades in a larger system. This reduces the administration overhead necessary and in turn reduces the costs associated with managing the device. This is especially true as capacity is added, as it would require multiple appliances to match the processing power of a single virtualised chassis-based system. Each additional appliance must be managed, as well as adding to the amount of power consumed and heat generated, making the appliance approach much more expensive to scale.

The company provides comprehensive product training at classroom facilities around the world, as well as providing online training. Additionally, F5 maintains an online knowledge base known as "Ask F5" and a community of over 30,000 users and enthusiasts at devcentral.f5.com. F5 Support Services supports the solutions offered by the company delivering a full range of services, ranging from online Web tools and direct access to Network Support Engineers to round-the-clock access to technical information. F5 Support Services aims to enable customers to get the most from F5 products, improve Return On Investment (ROI), and reduce administration worries, as well as ensuring the resilience of the network and the applications that run on it.

Most IT organisations are already equipped to manage their traffic optimisation infrastructure. This existing structure can be used to manage VIPRION as well. However, because VIPRION and other ADCs span both the network and application tier, F5 recommends that the IT organisation ensures that the network and application teams have a close working relationship.

The VIPRION system requires at least one blade and the associated chassis. The list price for a blade is €72,688 and the chassis is €28,265. Additionally, the Performance Extreme (PX) Pack can be added for maximum Secure Sockets Layer (SSL), maximum compression, and advanced routing as well as the Advanced Client Authentication module. The list price for the PX pack is €56,535.



PRODUCT STRATEGY

The market for VIPRION includes large Web-based organisations and telecommunication providers, along with very large enterprises and financial services organisations. Over time, the target market is expected to grow as demands for scalability and advanced application delivery functionality become more commonplace. Another area being explored is smaller organisations that have complex and computationally intensive requirements from their application delivery infrastructure. Currently there is no direct equivalent of VIPRION on the market.

The ROI proposition of VIPRION varies depending on the business issues that the client is facing. These can include reducing the number of SSL certificates required from many to one, optimising the performance of servers, and offloading server workload, lowering the investment required to enhance the existing environment, and increasing the uptime of applications thereby reducing the possibility of damage to brand equity.

F5 operates a global two-tier channel sales model, supported by a partner accreditation programme to ensure that F5 products are competently deployed and supported. F5's key technology partnerships for all products include Microsoft, Oracle (including BEA and PeopleSoft), SAP, IBM, EMC, HP, VMware, WhiteHat Security, and Secure Computing.

The platform includes the base software licences. In addition, optional product and feature software licences, as well as licence upgrades are available depending on base product. The software is licensed for use in conjunction with F5 hardware. The licence is a legal agreement between F5 and the customer under applicable terms and conditions. The software incorporates certain third-party software programmes that F5 has full rights to licence in conjunction with the F5 product. Licence cost is in part covered by the initial purchasing cost of the base system, and in part by the initial cost of optional software modules. All software is subject to annual maintenance agreement payments for support calls, software updates, and bug fixes.

An example configuration includes two VIPRION base systems in a redundant configuration, each configured with a Performance Blade 100, and a Performance Extreme Add-On Licence. The total recommended list price for this configuration, including 24x7 Premium Service, is €368,523. This is split €314,977 for hardware and software and €53,546 for one year of Premium Service. Premium Service includes 1 year access to 24x7 technical support, Ask F5 online database, software updates, and 10-day hardware replacement. Additional service options include four-hour, next-day, and five-day hardware replacement services.

F5's product strategy is very much based around TMOS, which enables the products to run many discrete functions on a single device, and additional functionality will continue to be added to the platform. In early 2009, F5 plans to offer a Layer 7 application firewall running on a single, scalable, VIPRION device. F5 is also looking to deliver full Web optimisation and specific protocol firewall capability on the platform in the mid term.

COMPANY PROFILE

F5 Networks is engaged in providing application delivery networking products which improve the performance, availability, and security of applications running on IP networks, and manage IP traffic between network servers, clients, and other devices. The company operates worldwide and is headquartered in Seattle, Washington, US, with international operations in Europe, Japan, the Middle East, and Asia Pacific. The company employs around 1,600 people and is publicly owned, listed on the NASDAQ (FFIV).

The company's products monitor and manage local and geographically dispersed servers and intelligently direct traffic to the server best able to handle a user's request. The company sells five product families: VIPRION, BIG-IP, WANJet, ARX and FirePass. In addition, the company offers professional services such as technical support, basic to advanced training, auditing/customisation services, and network monitoring and performance analysis reporting for future capacity planning.

Table 1: Financial Details			
Year ending	2007	2006	2005
Revenue (US\$ Million)	525.7	394	281.4
Change on Previous Year (%)	33.4	40.2	64.3
Total Net Income/(Loss) (US\$ Million)	77	66	51.7

Source: F5 Networks **DATAMONITOR**

Over 16,000 organisations and service providers worldwide use F5 to keep their applications running. VIPRION was launched in January 2008 and is a major purchase/implementation decision, and as such there are a relatively small number of customers so far, though the product is being evaluated by many customers worldwide. Only one publically referenceable VIPRION client exists to date: Flash Networks in Israel. Flash Networks specialises in mobile Internet quality-of-experience (QoE) solutions. Mobile Internet data traffic will be routed by VIPRION to Flash Network's QoE platforms thereby preventing delays due to bottlenecks, which is made possible by the even allocation of network load among various network servers. Response time is the number one factor for customer satisfaction when Web browsing and VIPRION provides the extra speed and high availability that gives Flash's mobile Internet solutions a competitive edge.

SUMMARY

The VIPRION hardware platform provides very large Web-based organisations, enterprises, and service providers with the ability to cater for the continuing growth needs of applications accessed from the Internet. In designing a blades-based infrastructure F5 is able to ally the concerns found in the high-end traffic environment with a platform which is scalable and easy to manage. Butler Group recommends that organisations which find themselves with these challenges should look to begin a proof-of-concept project using VIPRION. In addition, the ease of integration provided by iControl and the flexibility available through the use of iRules make it an innovative solution.

Table 2: Contact Details	
<p>Corporate HQ F5 Networks, Inc. 401 Elliott Avenue West Seattle Washington 98119 USA Tel: +1 (206) 272-5555 Fax: +1 (206) 272-5556 E-mail: info@f5.com www.f5.com</p>	<p>EMEA HQ F5 Networks Chertsey Gate West 43-47 London Street Chertsey Surrey KT16 8AP UK Tel: +44 (0) 1932 582 000 Fax: +44 (0) 1932 582 001 E-mail: EMEAInfo@F5.com www.f5networks.co.uk</p> <p>Asia Pacific HQ F5 Networks 5 Temasek Boulevard #08-01/02 Suntec Tower Five Singapore 038985 Tel: (+65) 6533 6103 Fax: (+65) 6533 6106 E-mail: sginfo@f5.com www.f5apac.com</p>
Source: F5 Networks	DATAMONITOR

Headquarters

Europa House,
184 Ferensway,
Hull, East Yorkshire,
HU1 3UT, UK
Tel: +44 (0)1482 586149
Fax: +44 (0)1482 323577

Butler Direct Pty Ltd.

Level 46, Citigroup Building,
2 Park Street, Sydney,
NSW, 2000,
Australia
Tel: + 61 (02) 8705 6960
Fax: + 61 (02) 8705 6961

Butler Group

245 Fifth Avenue,
4th Floor, New York,
NY 10016,
USA
Tel: +1 212 652 5302
Fax: +1 212 202 4684

Important Notice

This report contains data and information up-to-date and correct to the best of our knowledge at the time of preparation. The data and information comes from a variety of sources outside our direct control, therefore Butler Direct Limited cannot give any guarantees relating to the content of this report. Ultimate responsibility for all interpretations of, and use of, data, information and commentary in this report remains with you. Butler Direct Limited will not be liable for any interpretations or decisions made by you.

For more information on Butler Group's Subscription Services please contact one of the local offices above.

