



BIG-IP® Local Traffic Manager

Inefficiencies, delays, and failures in application delivery can cost millions of dollars in terms of wasted budgets, damage to company reputation, system and application downtime, legal liability and lost opportunities.

The BIG-IP® Local Traffic Manager is an application traffic management system that provides the most intelligent and adaptable solution to secure, optimize and deliver applications, enabling organizations to effectively and competitively run their business.

It's the only system that features a set of unified application infrastructure services that deliver total control, vision and flexibility into application security, performance and delivery. The result? Greater business agility and successful outcomes for the lifeblood of the organization today – the application itself.

Key Benefits

Reliability

Delivers the industry's most proven and advanced system to ensure that applications are always available.

Accelerated Applications

Provides unmatched control to accelerate application performance by up to 3-times, ensures that priority applications are served first, and offloads expensive server cycles.

Reduced Server and Bandwidth Cost

Triples server capacity through a rich set of infrastructure optimization capabilities; reduces bandwidth costs by up to 80% through intelligent HTTP compression, bandwidth management and more.

Greater Network and Application Security

From DoS protection to cloaking to filtering out application attacks, BIG-IP adds critical security features than simply cannot be addressed elsewhere in the network.

Unmatched Application Intelligence and Control

The industry's only solution which delivers complete application fluency – enabling network-speed full payload inspection and programmable event-based traffic management to understand and act upon application flows.

Total Integration for All IP Applications

Provides a comprehensive solution that can integrate with all applications, not just Web based protocols (HTTP/S). Provides organizations with a centralized solution for all IP applications, including legacy and emerging applications like VOIP – all in a single unified system.

Industry Leading Performance

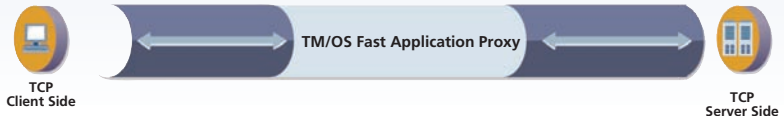
Delivers the industry's fastest traffic management solution to secure, deliver and optimize application performance. As a proven leader, BIG-IP again sets the performance bar with best-in-market SSL TPS, bulk encryption, and the highest concurrent SSL connections available today.

Simple To Manage, Better Visibility

New GUI greatly simplifies product configuration, offering granular visibility into traffic and box resources, as well as support for making rapid changes across large configurations.

The Powerful TM/OS Architecture: Complete Application Intelligence and Network Adaptability

At the heart of the new BIG-IP is a revolutionary new architecture called TM/OS (Traffic Management/Operating System) that provides organizations with a unified system for optimal application delivery. TM/OS enhances every function riding on top of BIG-IP – delivering total vision, flexibility and control across all services while empowering BIG-IP to intelligently adapt to the diverse and evolving requirements of applications and networks.



TM/OS Fast Application Proxy

TM/OS enables BIG-IP to efficiently isolate clients from the server-side flows and independently maintain optimal performance for each connecting device, translating communications between systems for improved application performance. Any system or IP application connected to BIG-IP will now work more efficiently.

TCP Express

TCP Express, an industry first, is integrated into F5's TM/OS. A state-of-the-art TCP stack, it offers a clientless approach for WAN optimization - delivering up to 80% performance gain for users and up to a four-fold improvement in bandwidth efficiency. Enterprises achieve higher performance, mitigate WAN induced errors, and increase their bandwidth efficiency for their existing infrastructure.

iRules and Universal Inspection Engine

The TM/OS incorporates new versions of F5's customizable iRules and Universal Inspection Engine (UIE) to provide unprecedented control over how to handle application traffic at any moment within the application transaction or flow. With complete payload inspection and transformation capabilities, scalable event-driven iRules, and session-aware switching, BIG-IP provides the most intelligent control point to address diverse application delivery issues at network speeds.

BIG-IP Unified Application Infrastructure Services



Invoked through a simple-to-manage GUI and traffic profiles or through iRules, BIG-IP's Unified Application Infrastructure Services represent the most cohesive set of functionality, allowing organizations to more efficiently combine, target and extend the services required to improve the efficiency of each application deployment.

Deliver...	Optimize...	Secure...
Comprehensive Load Balancing	SSL Acceleration (M)	Advanced Client Authentication (M)
Advanced Application Switching	Intelligent HTTP Compression (M)	Resource Cloaking
Session/Flow Switching	TCP Optimization	Cookie Encryption
Customized Health Monitoring	L7 Rate Shaping (M)	Selective Content Encryption
Intelligent Network Address Translation	Content Spooling/Buffering	Application Attack Filtering
Universal Persistence	Content Transformation	DoS Attack and SYN Flood Protection
Response Error Handling	Connection Acceleration	Firewall – Packet Filtering
IPv6 Gateway (M)	Intelligent Quality of Service	Packet Sanitization
Advanced Routing (M)	WAN Optimization	
Intelligent Port Mirroring	Fast Cache (M)	

(M) = Available as an add-on module



Deliver: Maximum Reliability and Scalability

BIG-IP removes single points of failure and virtualizes the network and applications by providing industry-leading L7 intelligence. This ensures that all sites are always on, more scalable and easier to manage than ever before.

Application Health Knowledge

BIG-IP provides sophisticated monitors to check device, application and content availability, including specialized monitors for many applications (including various application servers, SQL, SIP, LDAP, XML/SOAP and many more) as well as customized monitors to check content and simulate application calls. In addition, BIG-IP can effectively manage applications on a shared server and allow applications to proactively report on their health.

High Availability and Transaction Assurance

BIG-IP delivers sub-second system failover and comprehensive connection mirroring, resulting in a highly available solution regardless of system, server or application failure. BIG-IP can proactively inspect and respond to any server or application error. Organizations achieve superior reliability while reducing their system load.

Comprehensive Load Balancing

BIG-IP includes rich static and dynamic load balancing methods, including Dynamic Ratio, Least Connections and Observed Load Balancing, which tracks dynamic performance levels of servers in a group, ensuring that the best resources are always selected for improved performance and scale.

Intelligent Application Switching

Because BIG-IP has the unique ability to read all IP applications, it can switch and persist on information unique to a specific vendor's application server (BEA, Microsoft, IBM, Oracle, SUN, etc.); XML data for Web services applications; or custom values indicative to mobile/wireless applications. Organizations achieve greater reliability and scalability for all of their applications thanks to deep packet inspection using iRules and BIG-IP's ability to switch, log and persist in the payload or stream.

Comprehensive IPv6 Gateway

Organizations need a clear and seamless strategy for staging network migration to support the growing IPv6 requirements. BIG-IP, through the IPv6 Gateway Module, provides complete IP transformation and load balancing capabilities between v4 and v6 networks. This makes user migration and the pooling of mixed IPv4 and IPv6 host resources manageable, cost-effective and possible.



Optimize: Reduce Infrastructure Cost and Accelerate Applications

BIG-IP's unequalled intelligence provides a powerful solution for organizations looking to improve their application performance, increase the capacity of their existing infrastructure, lower infrastructure costs, and accelerate their applications.

WAN Optimization and Application Acceleration

BIG-IP provides a highly targeted, centralized and efficient means for reducing traffic volumes and minimizing the effect of Internet latency and client connection bottlenecks on their application performance. Through capabilities such as intelligent compression, BIG-IP provides rich support for compressing a variety of file types such as HTTP, XML, Javascript, J2EE applications and many others – accelerating application performance as much as 3 times while reducing bandwidth utilization by up to 80%.

Ensure Critical Application Performance

BIG-IP's flexible L7 Rate Shaping capabilities enable organizations to manage bandwidth to ensure that priority applications are delivered without delay. BIG-IP also provides customized control to set application-based bandwidth limits, allowable bandwidth spikes, and can even establish queuing relationships between applications.

Increased Server Capacity and Improved Site Responsiveness

BIG-IP provides extensive connection management as well as TCP and content offloading capabilities which optimize server performance and dramatically speed page load times. For example, BIG-IP's OneConnect™ can increase server capacity by up to 60% by aggregating millions of client requests into hundreds of server side connections – ensuring requests are handled efficiently by the backend system.

Fast Cache - Up To A 9x Boost In Server Capacity

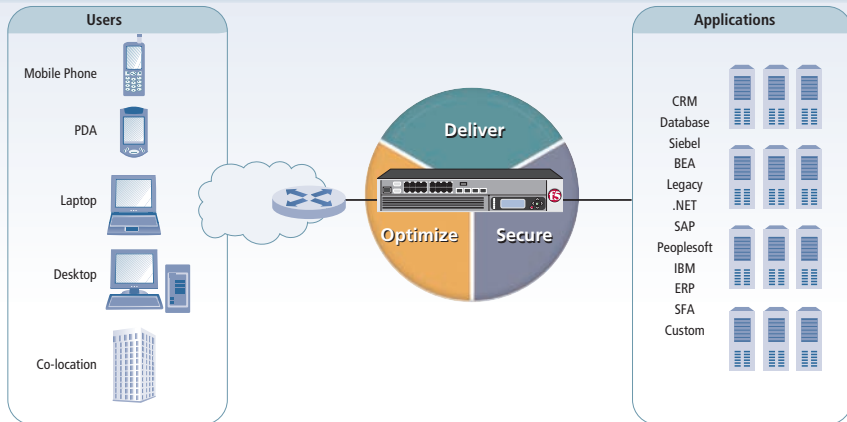
BIG-IP's intelligent caching functionality provides tremendous scalability and cost savings by offloading repetitive traffic from web and application servers. It's also the only solution that offers multi-store caching to manage distinct cache repositories per application or department, delivering precise and intelligent control for priority applications.

Encryption Everywhere

As the leading solution for SSL acceleration, BIG-IP provides dramatic scalability for SSL processing with up to 2 Gbs of sustained SSL throughput. By accelerating the encryption of both bulk and setup, organizations can migrate 100% of their communications to SSL using more secure ciphers with virtually no application performance penalty or bottlenecks.

Content Transformation

BIG-IP provides a comprehensive solution to offload many burdensome or repetitious functions onto a centralized and high powered network device. Beyond SSL, Compression and many other functions, BIG-IP provides a complete content transformation gateway to redirect, insert or holistically transform application content for effective and efficient application integration.



Secure: Greater Protection From Attacks

It's not just about stopping attacks – it's also about simultaneously serving legitimate users. BIG-IP delivers the best of both worlds, providing a suite of security services that play a significant and increasing role in bolstering network and application security. From adding powerful network and protocol level security to filtering application attacks, BIG-IP is deployed at a critical gateway to your most precious resources: the applications that run your business.

Bolsters Application Security

- **Resource Cloaking** – BIG-IP virtualizes and hides all application, server error codes and real URL references that may provide hackers clues into infrastructure, services and their associated vulnerabilities.
- **Customized Application Attack Filtering** – BIG-IP's full inspection and event-based rules deliver a greatly enhanced ability to search for and apply numerous rules to block known L7 attacks – while also defining policies for blocking access or disallowing commands to be run. Additional layers of security protection are provided against hackers, viruses and worms (e.g. Code Red) while still allowing continuous service to legitimate traffic.
- **Centralized Authentication** – By acting as an authentication proxy for various traffic types, organizations can provide top level authentication for applications at the BIG-IP system. This allows them to push their security perimeter one level further in the network (away from the applications), providing greater protection for their Web and application tiers.
- Supports higher-standard AES (Advanced Encryption Standard for SSL) algorithms with the most secure SSL encryption available on the market, at no additional processing cost.
- **Content Protection** – Allows organizations to prevent sensitive documents or content from leaving their site.

Protects Against Heavy Attack Volumes

BIG-IP combines a suite of security features to provide comprehensive protection against DoS Attacks, SYN Floods and other network based attacks. Features such as SYNCheck™ provide comprehensive SYN Flood protection of the servers that sit behind the BIG-IP device. BIG-IP acts as a security proxy that is designed to protect the entire network. Combined with the Dynamic Reaping capabilities, an adaptive method for reaping idle connections, BIG-IP provides robust security to filter out the heaviest attacks while simultaneously delivering uninterrupted service for legitimate connections.

Insulation From Protocol Attacks

BIG-IP provides Protocol Sanitization and a Full TCP Termination point which independently manages client and server side connections, protecting all backend systems and applications from malicious attacks.

Firewalling – Packet Filtering

BIG-IP now integrates a control point to define and enforce L4-based filtering rules (based on PCAP, similar to network firewalls) improving network protection.

More Protection For Critical Content

- Delivers the industry's most **selective encryption** to holistically, partially or conditionally encrypt data. This fine-grain control allows secure and optimized communications with a variety of different constituencies.
- **Encrypts cookies** and other tokens that are transparently distributed to legitimate users. Organizations gain superior security for all stateful applications (e-commerce, CRP, ERP and other business-critical applications) and a higher level of user identity trust.

BIG-IP Performance and Reliability

Ground Breaking Performance

BIG-IP delivers the industry's fastest application traffic management solution, with a specially designed architecture that merges a high performance switching fabric with individual, best-in-class hardware optimizers for SSL and L4 to completely offload system CPU. BIG-IP delivers real-world performance across all functions and provides deep packet inspection at network speeds.

System HA and Management

BIG-IP improves system management through critical features such as multi-boot, warm upgrades and lights out management. As a high availability device, BIG-IP also provides unmatched visibility into the status of all processes running under the "HA table."

New GUI and Simplified Management

A new, advanced GUI delivers extremely simple product configuration that lowers setup and ongoing maintenance costs.



Profile Based Configuration

New Profile Objects allow organizations to create set traffic behavior templates that can be applied to different resources, reducing repetition and providing a centralized approach to changing settings.

Better Visibility

BIG-IP provides detailed system instrumentation on traffic statistics (globally and per object) to help organizations better monitor all activities and resources.

Rich User Interface

BIG-IP's new GUI provides numerous usability enhancements delivered over a secure, SSL browser-based interface. Enhancements include online help, searching and sorting, in-line creation and much more – dramatically reducing the time spent dealing with setup and maintenance for large configurations.



iControl – Creating the Application Aware Network

FS's iControl™ API & SDK helps automate communications between 3rd party applications and BIG-IP, removing the need for manual intervention. iControl has been extended to support a true publish/subscribe model. This model reduces network overhead and improves the performance of applications which integrate with BIG-IP through the iControl interface. For the majority of applications, this can reduce a large amount of network bandwidth and processing time on both the client and the server.

Networking

Supports STP, MSTP, RSTP

Link aggregation

VLAN tagging

QoS/ToS

3rd party MIB support: all default Net-SNMP

BIG-IP – Scale, Secure and Optimize:

Apache

BEA WebLogic

Check Point VPN-1/FireWall-1

Citrix MetaFrame Presentation Server

HP OpenView

Lotus/Domino Notes servers

IBM WebSphere

Oracle:

– 9i Application Server

– 10g Application Server

– E-Business Suite 11i

– Collaboration Suite.

Microsoft:

– Application Center

– Commerce Server

– Exchange Server

– Outlook Web Access

– Windows Terminal Services

– SharePoint Portal Server

– Internet Information Services (IIS)

– Live Communications Server

– SQL Server

– Microsoft Operations Manager

– Mobile Information Server

– Internet Security and Acceleration Server

– Visual Studio .NET

Siebel eBusiness Applications

PeopleSoft Enterprise

Macromedia ColdFusion

Trend Micro InterScan

Mercury Business Availability Center

SAP mySAP Business Suite

Netegrity SiteMinder

webMethods Enterprise Services Platform

Tivoli Access Manager

RSA SecurID

RealNetworks RealSystem Servers

Sun iPlanet Servers

...and many more

Available Add-On Modules

Intelligent Compression Module

Squeezes down HTTP traffic using industry-standard GZIP & Deflate compression algorithm; reduces bandwidth consumption and speeds end user download times over slower/low bandwidth connections.

SSL Acceleration Module

Dramatically improves the performance of servers while providing security, speed and traffic management during business-critical online transactions. Up to 20,000 SSL TPS available on the BIG-IP 6800. All BIG-IP systems include a 100 TPS license.

L7 Rate Shaping Module

Ensures optimal application performance by allocating bandwidth for higher priority applications; controls traffic spikes and provides priority to traffic classes based on any L4 or L7 parameter.

Advanced Client Authentication Module

Allows BIG-IP to provide top level client authentication of HTTP and other traffic types to LDAP, Radius, TACAS and other centralized authentication devices.

IPv6 Gateway Module

Provides complete IP transformation and load balancing capabilities between v4 and v6 networks. Makes user migration and the pooling of mixed IPv4 and IPv6 host resources manageable, cost-effective and possible.

Routing Modules

Individual networking routing modules for BGP, RIP, and OSPF, respectively.

Fast Cache Module

Improves application and server performance by offloading repetitive requests for content from the backend infrastructure.

BIG-IP Local Traffic Manager is available on four platforms. Additional software modules and hardware accelerators can be added upon demand.



6800 Series – Ultimate Multi-Purpose Traffic Management

Processor: Dual CPU
Base Memory: 2 GB
ASIC: Packet Velocity ASIC 2
Gigabit CU Ports: 16
Gigabit Fiber Ports (SFP - GBIC Mini): 4 (2 standard, 2 optional)
Included SSL TPS/Max TPS/Bulk Crypto: (100/20,000/2 Gb/s)
Traffic Throughput: 4 Gb/s
Available Hardware Option: Hardware Compression* (2 Gb/s)
Input Voltage: 90 – 240VAC +/-10%
 90 – 132 9A
 180 – 264 4A



6400 Series – Best Multi-Purpose Traffic Management

Processor: Dual CPU
Base Memory: 2 GB
ASIC: Packet Velocity ASIC 2
Gigabit CU Ports: 16
Gigabit Fiber Ports (SFP - GBIC Mini): 4 (2 standard, 2 optional)
Included SSL TPS/Max TPS/Bulk Crypto: (100/15,000/2 Gb/s)
Traffic Throughput: 2 Gb/s
Available Hardware Options: – Hardware Compression* (2 Gb/s)
 – FIPS Processing** (8,000 TPS and 1 GB SSL Throughput)
Input Voltage: 90 – 240VAC +/-10%
 90 – 132 9A
 180 – 264 4A



3400 Series – Better Multi-Purpose Traffic Management

Processor: Single CPU
Base Memory: 1 GB
ASIC: Packet Velocity ASIC 2
Gigabit CU Ports: 8
Gigabit Fiber Ports (SFP - GBIC Mini): 2 optional
Included SSL TPS/Max TPS/Bulk Crypto: (100/5,000/1 Gb/s)
Traffic Throughput: 1 Gb/s
Input Voltage: 90 – 240VAC +/-10%
 90 – 132 6A
 180 – 264 3A



1500 Series – Good Multi-Purpose Traffic Management

Processor: Single CPU
Base Memory: 768 MB
ASIC: None
Gigabit CU Ports: 4
Gigabit Fiber Ports: 2 optional
Included SSL TPS/Max TPS/Bulk Crypto: (100/2,500 Mb/s)
Traffic Throughput: 500 Mb/s
Input Voltage: 90 – 240VAC +/-10%
 90 – 132 6A
 180 – 264 3A

*The industry's first Integrated Hardware Compression ASIC cost-effectively centralizes traffic compression processing, improves server capacity by up to 20% and speeds application response times for end users.

**FIPS 140-2 Level 2 Certified processing provides enhanced security for SSL keys by storing them in a hardware secured module. Ideal for sites looking for heightened internal protection of their most sensitive content.



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