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Make Your Network an Agile Infrastructure for Application Delivery

Your network's job is to deliver applications and services, but as your business needs change and grow, it becomes more complex and more expensive for your infrastructure to keep up with these demands.

BIG-IP® Local Traffic Manager™ (LTM) turns your network into an agile infrastructure for application delivery. It's a full proxy between users and application servers, creating a layer of abstraction to secure, optimize, and load balance application traffic. This gives you the control to add servers easily, eliminate downtime, improve application performance, and meet your security requirements.

Key Benefits

Plan for growth and avoid downtime

Advanced load balancing and comprehensive health monitoring helps you seamlessly add more servers and direct traffic.

Accelerate your applications up to 3x

Reduce traffic volumes and minimize bottlenecks as well as the impact of WAN, LAN, and Internet latency on app performance.

Secure your applications and data

From powerful network- and protocol-level security to attack filtering, BIG-IP LTM protects the apps that run your business.

Reduce servers, bandwidth, and management costs

Optimize your existing infrastructure and consolidate application delivery on a unified, simple to manage platform.

Take control over application delivery

The F5 TMOS™ platform gives you complete control of your application connection, packets, and payload.

Always Available Applications

BIG-IP LTM removes single points of failure and virtualizes the network and applications. This ensures that all applications are always on, simple to manage, and easy to scale.

Comprehensive load balancing

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

Application health monitoring

BIG-IP LTM 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, RTSP, SASP, SMB, and many more), as well as customized monitors to check content and simulate application calls.

High availability and transaction assurance

BIG-IP LTM delivers sub-second system failover and comprehensive connection mirroring, resulting in a highly available solution regardless of system, server, or application failure. BIG-IP LTM can proactively inspect and respond to any server or application error.

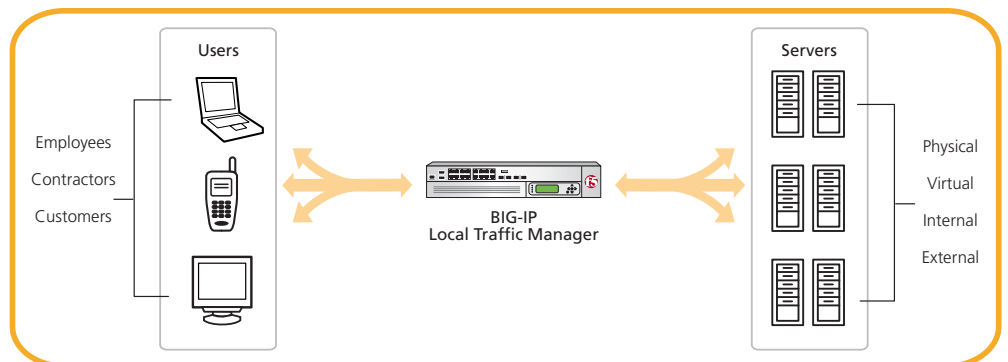
Global Traffic Manager (add-on module)

Provides high availability, maximum performance, and global management for applications running across multiple and globally dispersed data centers.

Link Controller (add-on module)

Seamlessly monitors the availability and performance of multiple WAN connections to intelligently manage bi-directional traffic flows to a site—providing fault-tolerant, optimized Internet access.

BIG-IP LTM is a full proxy between users and application servers that secures, optimizes, and load balances application traffic.



BIG-IP LTM Partner Applications

BIG-IP LTM can intelligently intercept, inspect, transform and direct any IP application, whether it is from a major vendor, custom built, or open source. BIG-IP LTM manages hundreds of partner applications:

Microsoft

- SharePoint Server
- Exchange Server
- Outlook Web Access
- Office Communications Server
- Windows SharePoint Services
- Internet Information Services
- Windows Terminal Services
- Hyper-V Server
- System Center Operations Manager
- System Center Virtual Machine Manager
- System Center Configuration Manager
- System Center Mobile Device Manager
- Windows Storage Server
- Microsoft Application Virtualization
- BizTalk Server
- SQL Server
- Commerce Server
- Internet Security and Acceleration Server
- Visual Studio
- Dynamics CRM
- Dynamics AX
- Silverlight
- Project Server

Oracle

- PeopleSoft Enterprise
- Siebel CRM
- JD Edwards EnterpriseOne
- Application Server
- Forms Server
- Report Server
- Portal
- WebLogic Application Server
- WebLogic Portal
- AquaLogic User Interaction
- Identity & Access Management Suite
- Identity Manager
- Access Manager

- Internet Directory
- Virtual Directory
- Enterprise Manager
- Beehive
- Collaboration Suite
- Converged Communication Server
- Communications and Mobility Server
- Weblogic SIP Server
- Weblogic Network Gatekeeper
- Hyperion Financials
- Hyperion BI

IBM

- WebSphere Servers
- FileNet
- Lotus Notes
- Lotus Domino
- Lotus Sametime
- Tivoli
- Tivoli – Netcool

SAP

- ERP
- NetWeaver
- Portal

Adobe

- Acrobat Connect Pro
- Flash Media Server
- InDesign
- ColdFusion

Other

- CA eHealth
- E-Business Suite
- ANGEL Learning
- Blackboard
- SunGard IntelliSUITE
- SunGard Higher Education
- ...and more.

Reduced Server Load

BIG-IP LTM provides extensive connection management as well as TCP and content offloading capabilities that optimize server performance and dramatically speed page load times.

Content transformation

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

OneConnect

F5 OneConnect™ aggregates millions of requests into hundreds of server-side connections, ensuring they are handled efficiently by the back-end system increasing server capacity by up to 60 percent.

Fast cache

Intelligent caching functionality provides tremendous cost savings by offloading repetitive traffic from web and application servers, increasing server capacity up to 9x. 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.

SSL acceleration and offload

Every BIG-IP LTM device provides hardware-accelerated SSL encryption taking the burden of SSL off of the application servers. By accelerating setup and bulk encryption, organizations can migrate 100 percent of their communications to SSL using more secure ciphers with virtually no application performance penalty or bottlenecks.

Optimized Applications

BIG-IP LTM provides a highly targeted, centralized, and efficient means for reducing traffic volumes and minimizing the effect of Internet latency and client connection bottlenecks on application performance.

Intelligent application switching

Because BIG-IP LTM has the unique ability to read all IP applications, it can switch and persist on information unique to a specific vendor's application server (Microsoft, IBM, Oracle, SUN, and more); XML data for web services applications; or custom values indicative to mobile/wireless applications. Your organization can achieve greater reliability and scalability thanks to the ability of BIG-IP LTM to switch, log, and persist in the payload or stream. You also have extraordinary flexibility to solve your organization's application delivery challenges using the F5 iRules™ control language.

Intelligent compression

Accelerate application performance as much as 3x while reducing bandwidth utilization by up to 80 percent. Condenses HTTP traffic using industry-standard gzip and DEFLATE compression algorithms, reduces bandwidth consumption and user download times over

slower/low bandwidth connections. This provides rich support for compressing a variety of file types, including HTTP, XML, JavaScript, J2EE applications, and many others.

Flexible L7 QoS Rate Shaping

Ensures optimal application performance by allocating bandwidth for higher-priority applications, controlling traffic spikes, and prioritizing traffic based on any L4 or L7 parameter.

TCP Express

The highly optimized TCP/IP stack in BIG-IP LTM, called TCP Express™, combines cutting-edge TCP/IP techniques and improvements in the latest RFCs with numerous improvements and extensions developed by F5 to minimize the effects of congestion, packet loss, and recovery. Since BIG-IP LTM is a full proxy device, TCP Express can shield and transparently optimize older or non-compliant TCP stacks that may be running on servers or clients. This then delivers up to a 2x performance gain for users and a 4x improvement in bandwidth efficiency, while reducing the connection load on your servers.

iSessions

As the foundation for data center-to-data center communication, iSessions secure and accelerate data traveling over the WAN. Any two BIG-IP LTM devices can be deployed symmetrically to create a site-to-site secure connection to improve transfer rates, reduce bandwidth, and offload applications for more efficient WAN communication.

WebAccelerator (add-on module)

The most powerful web application acceleration technology for Microsoft SharePoint, SAP, Oracle Portal, enterprise web applications, and e-commerce sites. BIG-IP® WebAccelerator™ significantly increases the speed and reduces the cost of using enterprise web applications in remote office and mobile deployments. It is most ideal for extremely scalable Dynamic Content Caching—lowering costs through server and data center consolidation, resulting in reduced software licenses, management, power consumption, and complexity. BIG-IP WebAccelerator is also the first solution to provide robust acceleration for web content via SSL.

Secure Applications

From powerful network- and protocol-level security to application attack filtering, BIG-IP LTM deploys a suite of security services to protect your most precious resources—the applications that run your business.

Resource cloaking and content security

BIG-IP LTM virtualizes and hides all application, server error codes, and real URL references that may provide hackers with clues about infrastructure, services, and their associated vulnerabilities. Sensitive documents or content are prevented from leaving your site.

Customized application attack filtering

Full inspection and event-based policies deliver a greatly enhanced ability to search for, detect, and apply numerous rules to block known L7 attacks. BIG-IP LTM also applies secure application templates to block unknown attacks and attacks targeted at the business logic

of the application. Additional layers of security protect against hackers, viruses, and worms, while enabling continuous service to legitimate traffic.

Basic firewalling—packet filtering

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

Insulation from protocol attacks

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

Network attack prevention

BIG-IP LTM acts as a security proxy to protect against DoS attacks, SYN floods, and other network-based attacks. Features such as SYNCheck™ provide comprehensive SYN flood protection for the servers that sit behind the BIG-IP device. BIG-IP LTM uses Dynamic Reaping, an adaptive method for reaping idle connections, to filter out the heaviest attacks while simultaneously delivering uninterrupted service for legitimate connections.

Selective encryption

BIG-IP LTM delivers the industry's most selective encryption to holistically, partially, or conditionally encrypt data, enabling secure and optimized communications with a variety of different constituencies.

Cookie encryption

Cookies and other tokens transparently distributed to legitimate users are encrypted. You gain superior security for all stateful applications (e-commerce, CRP, ERP, and other business-critical applications) and a higher level of user identity trust.

Advanced encryption standard for SSL

BIG-IP LTM supports higher-standard AES algorithms with the most secure SSL encryption available on the market, at no additional processing cost.

Advanced client authentication (add-on module)

Provides top-level client authentication of HTTP and other traffic types to LDAP, RADIUS, and TACAS directories, reducing server and application load while insulating your servers and applications from attacks.

Message Security Module (add-on module)

Provides a powerful and efficient tool for dealing with the growing volume of unwanted email by leveraging reputation data from Secure Computing's TrustedSource™ multi-identity reputation engine.

Protocol Security Module (add-on module)

Enforces protocol checks for HTTP(s), FTP, and SMTP at BIG-IP system speed to prevent attacks that use protocol manipulation techniques.

The BIG-IP Dashboard provides real-time and historical system performance.

Application Security Manager (add-on module)

Award-winning web application firewall that secures web applications and web services from application attacks and helps organizations comply with PCI and other industry security standards.

Simple Configuration and Management

BIG-IP LTM provides advanced tools that make it easy to deploy and manage while maintaining flexibility and control of your infrastructure.

Advanced GUI

An advanced GUI delivers easy product configuration that lowers setup and ongoing maintenance costs. Delivered over a secure, SSL browser-based interface, the GUI includes online help, searching and sorting, in-line creation, and much more, dramatically reducing the time it takes to set up and maintain large configurations.



System management and high availability

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

Profile-based configuration

Profile objects enable you to create traffic behavior templates that can be applied to different resources, reducing repetition and providing a centralized approach to changing settings.

Administrative domains

Administrative domains enable you to design customized partitions and assign varying degrees of administrative rights and views of BIG-IP LTM functions. Administrators can

design customized views by service, application owners, or other segmentation scheme, providing management scale and organizational efficiency.

Detailed system instrumentation

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

Application templates

Templates enable you to deploy a BIG-IP with optimum configurations in only a few minutes. Through extensive testing with application vendors, F5 has built a vast knowledge base of best-practice deployments for most popular applications that can be leveraged by answering a few simple questions about your specific application.

Centralized Management

F5 offers additional products to gain control and visibility of your entire deployment of multiple BIG-IP devices.

Enterprise Manager (complimentary product)

Significantly reduce the cost and complexity of managing multiple F5 devices. You gain a single-pane view of your entire application delivery infrastructure and the tools you need to reduce deployment times, eliminate redundant tasks, and efficiently scale your infrastructure to meet your business needs. Also, F5 Enterprise Manager™ collects device and traffic statistics from LTM to provide comprehensive visibility into device health and application traffic.

F5 Management Pack for Microsoft System Center Operations Manager 2007 (option)

Integrated with Microsoft System Center Operations Manager 2007 as a plug-in, the F5 Management Pack gives you visibility into the entire Application Delivery Network of F5 devices. By alerting device of health and application traffic, you are able to ensure the successful delivery of your applications.

Architecture

The unified architecture of BIG-IP gives you application intelligence and flexibility to control application delivery without creating traffic bottlenecks.

TMOS

At the heart of BIG-IP LTM is the TMOS architecture that provides a unified system for optimal application delivery, giving you total visibility, scalability, and control across all services.

Fast application proxy

With the TMOS architecture, BIG-IP LTM efficiently isolates clients from the server-side flows and independently maintains optimal performance for each connecting device, translating communications between systems for improved system or IP application performance.

iRules and Universal Inspection Engine

TMOS incorporates F5's customizable iRules and Universal Inspection Engine to provide unprecedented control over how to handle application traffic within the application transaction or flow. With complete payload inspection and transformation capabilities, event-driven iRules, and session-aware switching, BIG-IP LTM offers you the most intelligent control point to address diverse application delivery issues at network speeds.

iControl

The F5 iControl™ API and SDK help automate communications between third-party applications and BIG-IP LTM, removing the need for manual intervention. iControl supports a true publish/subscribe model, which reduces network overhead and improves the performance of applications that integrate with BIG-IP LTM through the iControl interface. For most applications, this can reduce network bandwidth and processing time on both the client and the server.

IPv6 Gateway

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.

Layer 2 and layer 3 protocols

BIG-IP LTM supports basic layer 2 and layer 3 protocols:

- STP, MSTP, RSTP
- Link aggregation
- VLAN tagging
- QoS/ToS
- Third-party MIB support: all default Net-SNMP

Advanced Routing (add-on module)

Support for diverse routing protocols enables BIG-IP systems to share routing information with other devices for better interoperability. The following protocols are supported: Border Gateway Protocol (BGP & BGP4); Routing Information Protocol (RIPv1, RIPv2, and RIPng); Open Shortest Path First (OSPF & OSPFv3); and Intermediate System—Intermediate System (IS-IS).

BIG-IP Application Switch Platforms

BIG-IP LTM is available on switch platforms designed specifically for application delivery. See the BIG-IP System Hardware Datasheet for details.



8900 Series



6900 Series



3600 Series



1600 Series

VIPRION Platforms

BIG-IP Local Traffic Manager is also available on the F5 modular VIPRION® system. This chassis and blade architecture enables simple scalability as your Application Delivery Network grows. See the VIPRION Datasheet for details.



VIPRION Chassis



VIPRION Performance Blade 100

More Information

Visit these resources on F5.com to learn more about BIG-IP Local Traffic Manager.

Datasheet

[BIG-IP System Hardware Datasheet](#)

White papers

[Load Balancing 101: Nuts and Bolts](#)

[Load Balancing 101: The Evolution to Application Delivery Controllers](#)

Case studies

[MSN Games Portal Saves Over \\$600,000 In Annual Costs](#)

[Bluelock Launches Unique Virtual Cloud Computing Platform](#)

[American Century Investments Improves Service Levels](#)

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