

BIG-IP Global Traffic Manager

Maximizing ROI, availability, and the user experience across multiple data centers and distributed sites

Site outages, attacks, and application infrastructure failures are major sources of end-user dissatisfaction, leading to a loss of revenue and customers. BIG-IP® Global Traffic Manager (GTM™) provides high availability, maximum performance, and centralized management for applications running across multiple and globally dispersed data centers.

Built on F5's modular and scalable TMOS architecture, BIG-IP GTM distributes end-user application requests according to business policies and data center and network conditions to ensure the highest possible availability.

Guaranteed Global High Availability and Reliability

Your organization relies on your applications to stay competitive, so ensuring the availability of those applications is critical. BIG-IP GTM offers complete and sophisticated health monitoring that supports a wide variety of application types, giving your organization the ability to adapt quickly and stay competitive.

Complete Health Monitoring

BIG-IP GTM checks the health of the entire infrastructure, eliminating single points of failure and routing traffic away from poorly performing sites. By collecting performance and availability metrics from data centers, ISP connections, servers, caches, and even end-user content, BIG-IP GTM ensures high availability and adequate capacity prior to directing traffic to a site.

Application-centric Monitoring

Today's sophisticated applications require intelligent health checking to determine availability. Instead of relying on a single health check, BIG-IP GTM aggregates multiple monitors so you can check application state at multiple levels. This results in higher availability, improved reliability, and the elimination of false positives to reduce management overhead.

BIG-IP GTM provides pre-defined, out-of-the-box health monitoring support for over 18 different applications, including SAP, Oracle, LDAP, MySQL, and more. BIG-IP GTM performs targeted monitoring of these applications to accurately determine their health, reduce downtime, and improve the client experience.

BIG-IP GTM also tracks the health of applications that are dependent on one another and marks down all related objects if the health check of one object in that group fails. This enables you to align and monitor application objects according to business logic and profitability, build scalable traffic distribution policies, and better manage application dependencies.

Disaster Recovery/Business Continuity

BIG-IP GTM provides the industry's most comprehensive solution for site failover and business continuity. In addition to performing comprehensive site availability checks, you can define the conditions for shifting all traffic to a backup data center, failing over an entire site, or controlling only the affected applications.

Key Benefits:

- Enables transparent delivery of applications and web services across multiple sites
- Ensures global business continuity and application availability
- Dramatically improves performance and user experience by directing users to the best site on a global basis
- Increases flexibility by delivering global traffic control to direct users according to any business policy, including geography, load, time of day, etc.
- Provides a holistic view into application and data center health from a single locale, reducing management overhead
- Increases the efficiency, scalability, and ROI of the global network by leveraging secondary data centers
- Enables automation of complex tasks to reduce maintenance and management overhead

Intelligent Global Load Balancing to Maximize Performance and Improve the User Experience

The user experience suffers when organizations with distributed data centers are unable to distribute their global traffic by routing the user to the best and closest data center based on specific business policies. Changing network and user conditions can overwhelm a data center during peak traffic times. BIG-IP GTM provides comprehensive application management services that support the evolving application requirements your organization faces today.

Superior Global Load Balancing

BIG-IP GTM includes the industry's most advanced traffic distribution capabilities to match the needs of any organization or globally deployed application. These include:

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|----------------------------|---------------------------|--------------------------|------------------------|
| – Round Robin | – Geography | – Round Trip Time | – Dynamic Ratio |
| – Global Availability | – Virtual Server Capacity | – Hops | – LDNS |
| – LDNS Persistence | – Least Connections | – Packet Completion Rate | – Ratio |
| – Application Availability | – Packets Per Second | – User-defined QoS | – Kilobytes Per Second |

Superior Intelligence

BIG-IP GTM routes users to the best global resource based on comprehensive site and network metrics. For example, the QoS load balancing mode includes a hops coefficient, based on the number of hops between the client and the local DNS. Managers can use hop rate to send the user to the data center that requires the fewest hops, ensuring more rapid access. Dynamic Ratio load balancing mode solves the problem of “winner takes all” common to other global traffic management systems. Dynamic Ratio sends a portion of traffic to the best performing site, second best performing site, and so on—in proportion to the health and performance of the network and server resources.

Client Continuity for Stateful Applications

BIG-IP GTM tracks application state and provides the intelligence to deliver a superior user experience. End-user connections can persist across applications and data centers and be automatically routed to the appropriate data center or server based on application state. Session integrity is always maintained, with no more broken sessions or lost or corrupted data. The result is improved infrastructure scalability, lower TCO, and fewer support calls.

Intelligent Traffic Routing Control – iRules

BIG-IP GTM includes a simple yet powerful programming language, iRules, that you can use to customize the dynamic distribution of global traffic. BIG-IP GTM looks deep inside DNS messages to distribute application traffic to the desired data center, pool, or virtual server. This capability reduces latency, increases protection against malicious attacks, and improves application performance. Because iRules is based on an easy-to-use, TCL-based scripting language, administrative costs are nominal.

Wide Area Persistence

BIG-IP GTM provides sophisticated modes of persistence to ensure that users are directed to the right resources. It intelligently distributes traffic to the same site to maintain consistency for applications or transactions. BIG-IP GTM synchronizes persistence information across all devices, ensuring that users are directed back to the same site regardless of their entry point. Finally, it propagates the desired persistence information to local DNS servers, reducing the required frequency of synchronizing back-end databases.

Geographic Load Balancing

BIG-IP GTM resolves IP addresses down to the country, increasing topological control for managing global traffic. For sites maintaining content in different languages, this ensures that users around the world get the information they need in their own language.

Custom Topology Mapping

BIG-IP GTM offers organizations deploying Intranet applications the ability to set up custom topology mappings. By defining and saving custom region groupings, you can configure topology based on traffic distribution policies that match your internal infrastructure.

Unmatched DNS Performance

BIG-IP GTM delivers breakthrough DNS performance to handle even the busiest Internet sites. This helps your organization provide the best Quality of Service for your end users while eliminating poor application performance.

Superior Management and Lower Operational Costs

Managing a distributed network across multiple sites from a single point is an enormous challenge. BIG-IP GTM provides the tools that give you a global view of your infrastructure with the means to manage the network and business policies and ensure the highest availability for your business-critical applications.

ZoneRunner

ZoneRunner™ is an integrated zone file management tool that reduces DNS risks and simplifies DNS zone file management. It provides a secure environment to manage your DNS infrastructure while reducing administrative overhead by validating and error-checking zone files. Built on the newest version of BIND, ZoneRunner provides:

- Auto population of commonly used protocols
- Validation/error checking for zone file entries
- Rollback for the last transaction
- Secure environment for DNS management
- Command line version of zone management
- Zone importation from an external server or a file
- Automatic reverse lookups
- Easy creation, editing, and searching of all records
- Reduced administration for a lower TCO
- Improved infrastructure scalability



ZoneRunner reduces DNS risk and simplifies zone file management.

Powerful Web-based User Interface

BIG-IP GTM provides a simple and cost-effective way for your organization to manage its global infrastructure from a centralized location:

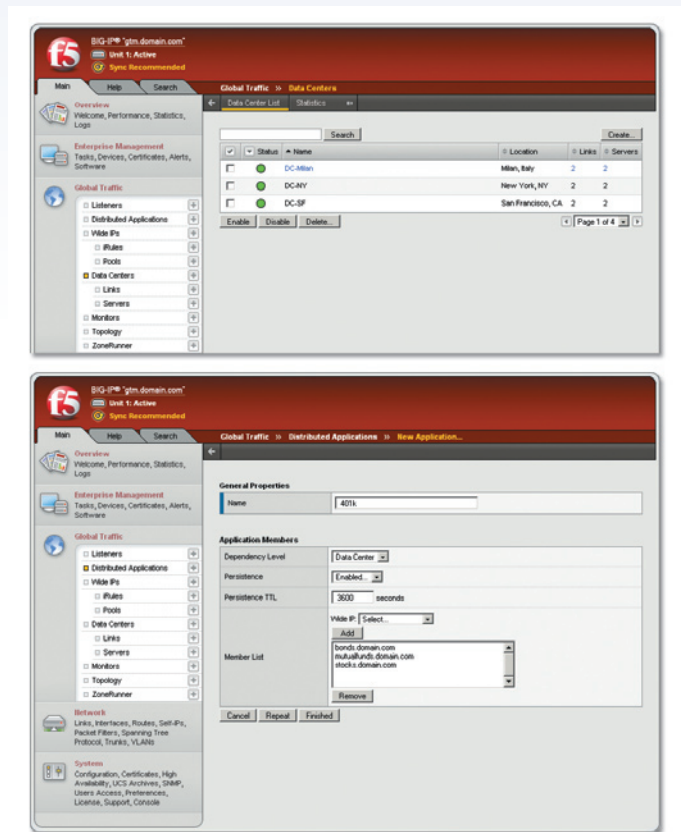
- Efficient list/object management for complete visibility of global resources
- Unique naming of global objects to reduce administration and build the infrastructure around business policies
- Superior sorting and searching for fast access to global objects
- Streamlined setup and object creation to reduce configuration times
- Context-sensitive help for information on objects, commands, and configuration examples
- Ability to manage distributed applications as part of one collective group

IPv6 Support

With the demand for IPv6 increasing, many sites are facing new requirements to handle IPv6 traffic. BIG-IP GTM provides scalability and support for the next generation network, resolving AAAA queries with improved manageability that doesn't require wholesale network and application upgrades.

Distributed Application Management

Organizations often struggle to align their applications and infrastructure with their business goals and policies. BIG-IP GTM gives your organization the ability to implement dependencies between application services and manage them efficiently. With distributed application management, you can reduce administrative costs, build scalable traffic distribution policies, and improve efficiency with granular control of data center objects.



BIG-IP Global Traffic Manager provides a simple and powerful way to manage your global resources.

Automated Setup and Synchronization

Autosync automates setup and secure synchronization of redundant BIG-IP GTM devices. With Autosync, you can make configuration changes from any BIG-IP GTM in the network, eliminating difficult hierarchical management common to DNS.

Configuration Retrieval

VS AutoDiscovery enables BIG-IP GTM to pull down configurations from any number of distributed BIG-IP systems. In large enterprises, this removes the need to repeat configurations across products, saving time.

SNMP Management Application Support

BIG-IP GTM integrates its MIBs and a SNMP agent with DNS. This allows SNMP management applications (for example, HP OpenView) to read statistical data about the current performance of BIG-IP GTM. SNMP management packages have an exact view of what BIG-IP GTM is doing, while keeping an eye on standard DNS information.

Data Center and Sync Groups

BIG-IP GTM allows the creation of logical groups of network equipment to ensure the efficient use of monitoring and metrics collection. The result is a highly scalable solution that can support the Internet's busiest sites by intelligently sharing the information with members in the logical group.

Network Integration and Flexibility

Third Party Integration

BIG-IP GTM also provides the industry's most flexible solution by communicating and integrating with a broad array of network devices. This includes support for various types of remote hosts, including SNMP agents: UCD, snmpd, Solstice Enterprise, and the NT/4.0 SNMP agent.

BIG-IP GTM also talks to third-party caches, servers, routers, and load balancers to accurately diagnose the health of your network end points and provide a heterogeneous solution for global traffic management.

Security for Critical Site Resources

Organizations are increasingly being exploited at the DNS level with DoS attacks that compromise the security of their web sites. Difficulty in differentiating between legitimate DNS requests and attacks is also a very real concern. BIG-IP GTM includes inherent security controls and features to protect against attacks and to keep applications and legitimate traffic moving.

Security Control

BIG-IP GTM strengthens site security and diffuses attacks before they can start. iRules can help you create policies that block DNS requests from rogue sites or known sources of attacks before they can do damage.

Inherent Security

BIG-IP GTM includes a number of inherent security features designed to protect against common attacks and provide added protection for your sites. BIG-IP GTM ships, by default, in a very secure mode with these features:

- Uses packet filtering to limit or deny access to and from web sites based on monitoring the traffic source, destination, or port
- Is a hardened device designed to resist common attacks by:
 - Thwarting teardrop attacks
 - Protecting itself and servers from ICMP attacks
 - Not running SMTPd, FTPd, Telnetd, or any other attackable daemons

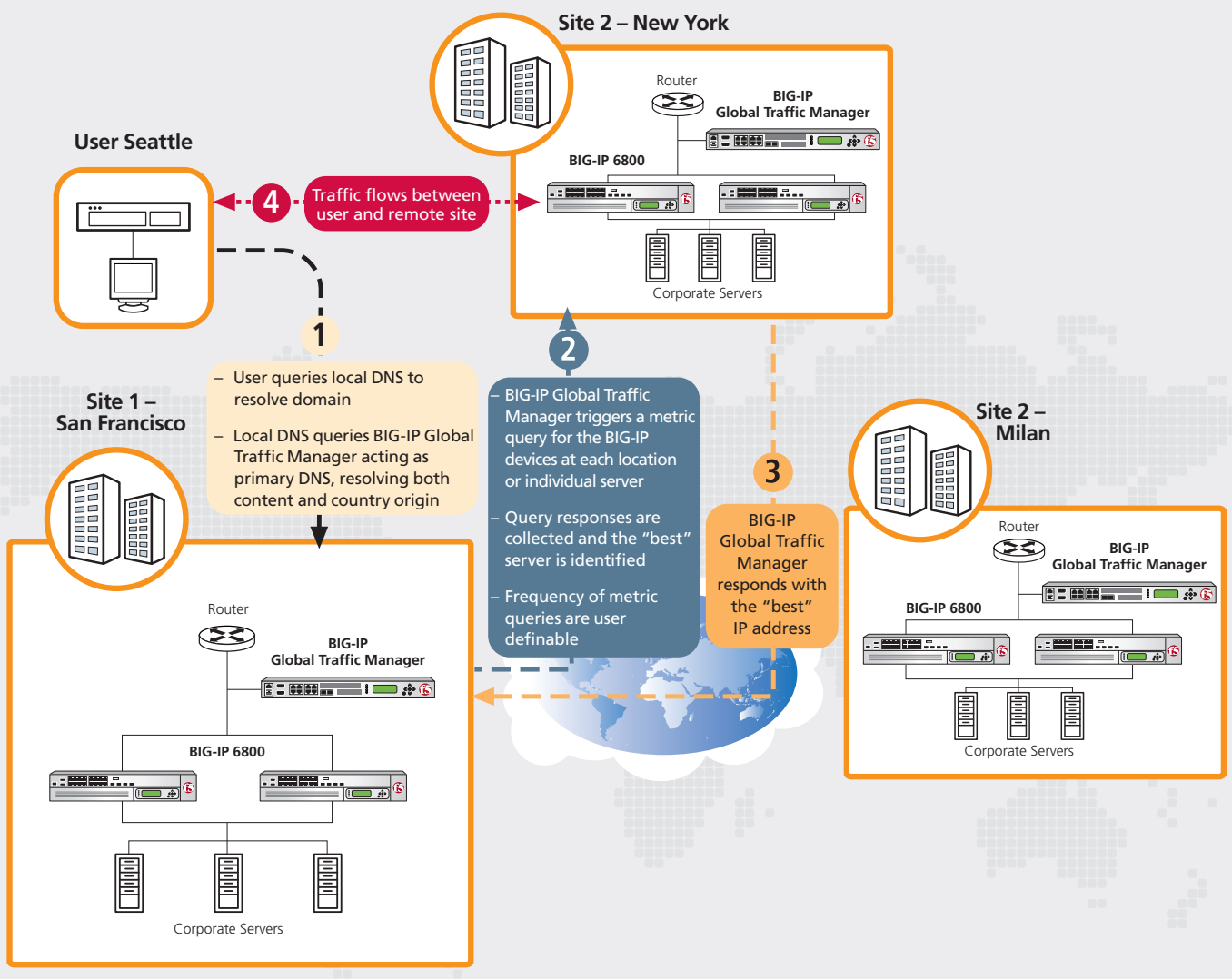
Scalable Security

BIG-IP GTM's unmatched DNS performance can tolerate high levels of DNS attacks, protecting your organization while still maintaining maximum and continuous availability for applications and services.

A Powerful Foundation

TMOS

At the heart of BIG-IP GTM is a revolutionary architecture called TMOS™ that provides a unified system for optimal application delivery, giving you total vision, flexibility, and control across all services. TMOS empowers BIG-IP GTM to intelligently adapt to the diverse and evolving requirements of applications and networks.



Ordering Information

BIG-IP GTM is available on the 1600 and 6400 platforms, and as an add-on module for integration with BIG-IP® Local Traffic Manager™ on the following platforms: BIG-IP 3600, 6400, 6800, 8400, and 8800.

An optional IPv6 module is available for BIG-IP GTM.

Please contact your F5 representative for details.

Hardware Platforms

BIG-IP Global Traffic Manager is available on two appliances. For detailed specifications, refer to the BIG-IP Product Family Hardware Datasheet. Additional software modules and hardware accelerators can be added as needed.



6400 Series



1600 Series



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