



IBM WEBSHERE

Integrating IBM WebSphere Servers and F5 Networks Application Delivery Networking Devices

Executive Summary

Enterprises are searching for ways to maximize their network infrastructure investment. IBM® and F5 Networks provide a solution that provides security, scalability, intelligent performance, and high availability for WebSphere® servers. This integrated solution reduces network complexity, increases efficiency, and improves customer satisfaction, while significantly reducing costs.

F5's BIG-IP Local Traffic Manager (LTM) provides the top-level distribution that allows for simple and effective scalability of WebSphere servers. The BIG-IP LTM adds a host of application acceleration and optimization features to industry-leading Layer 4-7 traffic management capabilities. The BIG-IP Global Traffic Manager (GTM) enables the transparent delivery of applications and web services across multiple sites and ensures global business continuity and application availability.

F5's TMOS architecture, with independent client and server side TCP stacks, enables a suite of TCP optimization features that improve application performance across the WAN, translate among legacy TCP implementations in the LAN, and reduce connection errors for dial-up users. These communication enhancements further increase ROI and ease network integration for IBM WebSphere investments.

F5's WAN optimization devices can accelerate web applications like IBM WebSphere, for remote and mobile users by up to 10x; as well as ensuring high-speed application performance and reducing the amount of data transferred over the WAN by up to 95%. F5 delivers significantly more bandwidth for IBM WebSphere deployments and effectively expands WAN capacity above specified rates.

For the mobile workforce, the F5 FirePass SSL VPN extends secure access to this highly available, optimally performing network to remote users. With the FirePass controller, employees or partners can access IBM WebSphere resources from any device in any location as easily and securely as from within the corporate LAN.

Challenges

When customers deploy a IBM WebSphere Server farm, a WebSphere Server cookie keeps track of server instances that host the client session data. When deploying a application/traffic management device in front of Web servers, organizations must ensure they have a solution capable of tracking end user persistence to WebSphere servers in a way that does not hinder the WebSphere cookie used for this client session data.

Scaled solutions need assurance that all business-critical traffic is properly distributed across the available resources and delivered to the intended destination. Flexible deployment scenarios are needed to easily accommodate infrastructure modifications, without costly disruptions.

Because of the increasing complexity and sophistication of applications available over the network, administrators need solutions that enhance application performance both within the corporate data center and throughout the WAN. Enterprises are also trying to decrease the manual intervention required to adjust applications, servers, and network conditions to achieve maximum performance and high availability by allowing the network and applications to communicate.

Organizations are also looking for a way to provide their remote work force with reliable, secure, access to enterprise applications and business information. This functionality must be flexible enough to accommodate the variety of platforms, operating systems and devices utilized by the mobile workforce without burdening network administrators.

Solution

F5 technology provides an adaptable network framework for WebSphere deployments that allows organizations to apply business policies and rules to content delivery, support increasing traffic volumes, ensure quality of service and manageability, deliver applications securely, and remain flexible to future application and infrastructure changes to protect their investments.

F5 provides dramatic WAN optimization and application acceleration to IBM WebSphere deployments. From its position in the front of the network, the BIG-IP LTM offloads server-intensive processing with client-aware HTTP compression and caching as well as authentication and authorization functionality. And the F5 WebAccelerator enhances web application performance from any location to improve interactive performance, decrease download times for static and dynamic data, reduce bandwidth usage, and lower the cost of delivering web applications. When deployed in a symmetric configuration, the WebAccelerator provides acceleration above and beyond TCP optimizations and HTTP compression. The WebAccelerator includes an application-specific optimization profile for IBM WebSphere. The F5 WANJet delivers LAN-like application performance over the WAN, and ensures high-speed application performance and reduces the amount of data transferred over the WAN by up to 95%.

Key Benefits of F5

- Provides extensive connection management and TCP optimizations that increase server performance and dramatically speed page load times
- Gives granular, application level protection for IBM WebSphere servers
- Allows secure remote access to WebSphere from any device, anywhere



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Solution - Continued

The BIG-IP LTM's OneConnect™ feature uses Session Keep Alive to reduce overhead on the network, server, and client by maintaining a single TCP connection for HTTP traffic. This enables greater capacity for WebSphere servers and can lower bandwidth costs by up to 20%. Prior to OneConnect and HTTP 1.1, a single communication between client and server could comprise several TCP sessions, causing unnecessary overhead from the setup and teardown of these extra connections. By optimizing this communication, the BIG-IP solution and WebSphere servers are able to support a streamlined traffic flow from client to server.

The BIG-IP product monitors the availability and performance of WebSphere servers to route requests to the best available server in the farm. Organizations can run advanced content and application checks such as Extended Application Verification (EAV) that simulate an end user request and monitor the true availability of the content that is being served by that service or application. The BIG-IP product detects a variety of device failures to ensure that mission-critical resources are responding properly.

The BIG-IP Application Security Manager (ASM), which can also run as a module on the BIG-IP LTM system, significantly reduces the risk of loss or damage to data, intellectual property and web applications, greatly increasing the security of IBM WebSphere deployments. The ICSA-certified BIG-IP ASM identifies, isolates, and blocks sophisticated attacks without impacting legitimate application transactions. ASM utilizes a highly efficient positive security model to validate each user transaction at the application level based on user session context, authorization privileges, user input, and application response time. Unlike signature inspection methods, the ASM also uses a positive security model to protect against entire classes of HTTP and HTTPS-based threats (both known and unknown) rather than guarding solely against a limited list of known attacks. New attacks that can defeat signature inspection because they have no known signature are easily blocked by the positive security model.

With F5's FirePass controller, organizations are able to extend access to highly performing IBM WebSphere resources to their remote workforce, partners, or customers. The FirePass SSL VPN provides secured, clientless access to off-sight users as easily as if they were in the corporate LAN. Once authenticated by the FirePass controller, users pass through the corporate firewall and are able to access applications running on IBM WebSphere from any device in any location without having to re-authenticate for multiple resources. The FirePass controller's compression capabilities provide additional server offload and performance gains while securely delivering business-critical content to users accessing applications on IBM WebSphere servers remotely. The FirePass controller also offers network administrators simplicity and granular control of access to intranet resources on a group basis, improving quality of service for the enterprise while reducing overhead.

About F5

F5 Networks is the global leader in Application Delivery Networking. F5 provides solutions that make applications secure, fast and available for everyone, helping organizations get the most out of their investment. By adding intelligence and manageability into the network to offload applications, F5 optimizes applications and allows them to work faster and consume fewer resources. F5's extensible architecture intelligently integrates application optimization, protects the application and the network, and delivers application reliability—all on one universal platform. Over 10,000 organizations and service providers worldwide trust F5 to keep their applications running. The company is headquartered in Seattle, Washington with offices worldwide. For more information, go to www.f5.com.

About IBM

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