



BEA WEBLOGIC

F5 Accelerates and Optimizes BEA WebLogic Server

Executive Summary

With the proven compatibility of F5 Networks BIG-IP application traffic management device and the WebLogic® server from BEA®, enterprises benefit from a solution that is secure and scalable, providing intelligent, optimized performance and the highest availability for today's enterprise applications. F5 Networks and BEA have worked to ensure that the BIG-IP application delivery networking devices and the WebLogic Server deliver a solution that provides exceptional performance, scalability, and security for those deploying services and applications on the WebLogic Enterprise Platform.

The BIG-IP system not only offers unmatched scalability, high availability and security for applications and web services, but also provides industry leading performance and optimization features that result in greater than 120% performance improvement for the end user based on real-world testing. And with F5's WAN optimization devices, end users of BEA WebLogic and other applications experience LAN-like performance over the WAN, with greatly improved download times and decreased bandwidth usage.

For comprehensive application security, the BIG-IP Application Security Manager allows only valid application transactions to pass to the WebLogic servers; the rest are blocked. 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.

And for remote users who need to access applications served by BEA WebLogic servers, the F5 FirePass controller offers secure access to the internal network, from any device in any location. The end results are improved efficiency, reduced complexity, satisfied customers, and a lower cost of doing business.

Challenges

BEA WebLogic E-Business Platform supports the entire spectrum of web services being delivered over the Internet. Enterprise applications and their content are becoming more sophisticated and accessible, so the risk of bandwidth consumption and threats to network security are much more prevalent. Today's applications consume a tremendous amount of resources, so there is an urgent need for a platform that can offload tasks from the servers, as well as optimize and accelerate the applications.

WebLogic servers rely on client connections returning to the same point-of-contact server over the duration of a transaction. Distributing traffic across all available WebLogic servers requires that any new connections be distributed logically to the available servers based on health, capacity and performance, while traffic that is part of an existing connection is directed to the original point-of-contact server. Performing this task effectively and efficiently requires an intelligent application delivery networking solution.

Organizations are also looking for a way to provide their traveling or remote work force with an extremely secure, yet easy to use, means of accessing internal resources. Making it even more challenging are the requirements for the solution to allow access to any user regardless of location, platform or operating system.

Solution

F5 provides superior performance, security and scalability for BEA WebLogic deployments through a comprehensive Application Delivery Network, combining intelligent local and global traffic management, WAN optimization technology, application-specific security, and secure remote access to give organizations using WebLogic server an optimized and adaptable network framework.

The core functionality of the BIG-IP Local Traffic Manager (LTM) allows WebLogic clusters to be deployed and operated in a load balanced environment, enabling organizations to seamlessly scale capacity. The BIG-IP product's intelligent Application Delivery Networking system inspects traffic and directs existing connections back to their point-of-contact servers while assigning new connections to the best WebLogic Server based on advanced load balancing methods. By taking advantage of the BIG-IP LTM's Layer 7 capabilities and integrated SSL (Secure Sockets Layer) processing, BEA WebLogic servers can more efficiently deliver an increasing number of IP-based applications and services. With this unique foundation, the BIG-IP system provides the critical building blocks that help organizations deliver a better implementation of BEA WebLogic.

With the optimization and acceleration features provided by the BIG-IP LTM, as well as the intelligent, granular control provided by enhanced iRules and the Universal Inspection Engine, F5 has launched from its foundation to give organizations an amazingly powerful platform that is changing the way companies conduct business on BEA WebLogic Servers.

Key Benefits of F5

- BIG-IP TCP Express WAN optimizations increase WebLogic Server performance by over 120%
- Achieve 70% bandwidth reduction for WebLogic clusters
- 77% improvement in connection reliability for dial-up users
- Offload 78% of server connections with BIG-IP Fast Cache



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Solution - Continued

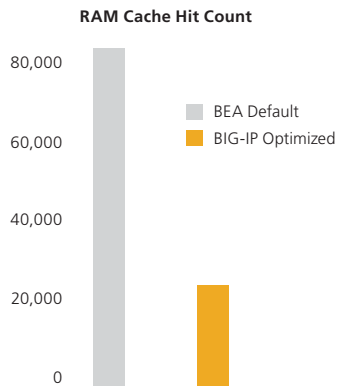


Figure 1 - Fast Cache offloads 78% of the connections from the WebLogic Server

The BIG-IP system's Fast Cache functionality increases the scalability and cost benefits of BEA WebLogic deployments by offloading repetitive traffic from the servers. Fast Cache provides the flexibility and control needed to extend caching on a per application basis, adapting to an organization's specialized caching needs. Through caching, organizations integrating the BIG-IP solution with BEA WebLogic can achieve significant server connection offload while increasing end user performance for their frequently accessed pages.

Recent results using the Gomez® Testing service showed over 75% offload of requests from an example web site (Figure 1). The Gomez Testing service uses real clients from all corners of the globe, which (in contrast to LAN-based testing and best case claims) provides a true representation of Internet conditions, WAN issues, and other inefficiencies seen in full application transactions.

When combined with the BIG-IP system's Intelligent Compression functionality, caching provides even more dramatic efficiencies by serving compressed data. The Intelligent Compression module proficiently compresses a broad variety of content types including HTTP, XML, JavaScript, and J2EE applications using industry-standard GZIP & Deflate compression algorithms. With these features, BEA WebLogic users experience twice the performance while organizations achieve a 70% reduction in bandwidth consumption (Figure 2).

And F5's WAN optimization devices further enhance 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. The F5 WANJet device employs adaptive TCP optimization (which combines session-level application awareness, persistent tunnels, selective acknowledgements, error correction, and optimized TCP windows) to fully utilize available bandwidth. This enables WANJet to adapt, in real time, to the latency, packet loss, and congestion characteristics of WAN links, and accelerate virtually all application traffic. The WebAccelerator device 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. The WebAccelerator device includes a specific application profile for optimizing BEA WebLogic servers.

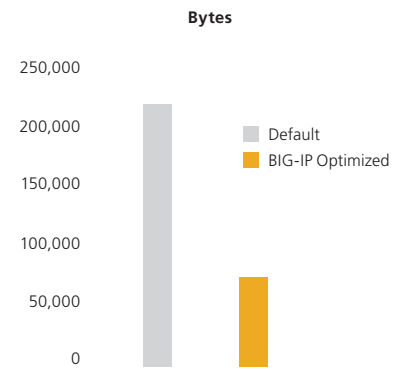


Figure 2 - With Intelligent Compression WebLogic deployments consume 70% less bandwidth

At the heart of F5 technology lies the unique TMOS architecture, providing organizations with a unified system for optimal application delivery. TMOS, acting as a full proxy for WebLogic Servers, offloads and manages traffic control, freeing server resources and increasing server capacity for any application running through the device. In the Gomez testing, TMOS acceleration dramatically enhanced the end user performance for WebLogic with a 121% improvement in application response time (Figure 3).

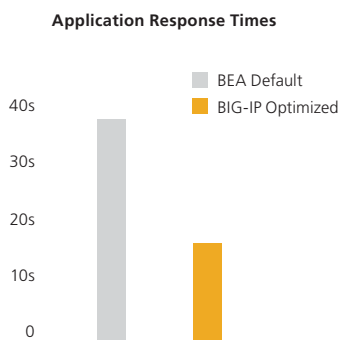


Figure 3 - Application response time in seconds

The BIG-IP system's TCP Express feature provides a number of enhancements and optimizations to TCP handling. Utilizing independent client and server side TCP stacks, the TCP Express features bridge the gap between client and backend servers, optimizing each connection independently. This functionality also enables the BIG-IP device to shield and transparently optimize non compliant TCP stacks running across servers within the corporate data center, thus providing dramatic performance improvements across WebLogic deployments.

Utilizing this TCP/IP proxy architecture, TCP Express also ensures both client and server are transmitting data at the optimal rate, thus reducing user download times, improving bandwidth link utilization for a site, and minimizing errors associated with lost and reordered packets. For example, the reduction in TCP errors with TCP Express improves the transmission quality of WebLogic with a 77% reduction in timeout errors for dialup users in real world testing, providing dramatic performance and reliability gains for WAN communications. With the content spooling component of TCP Express, the BIG-IP system provides additional benefits for communications to any endpoint, allowing servers to process their workloads more efficiently, increasing server capacity for any application running through the BIG-IP device, and improving end user experience.



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Solution - Continued

By adding the BIG-IP product to the BEA WebLogic solution, customers can easily configure application persistence to WebLogic servers, ensuring that each user is sent to the proper server. The BIG-IP product's patented Cookie Persistence works seamlessly with WebLogic fail-over support. The BIG-IP device also enables JSESSION persistence via iRules, allowing session persistence for WebLogic services for users who do not have cookies enabled or who are connecting with lightweight clients including those on PDA and wireless devices.

The ICSA-certified BIG-IP Application Security Manager (ASM) enhances F5's robust application delivery networking solutions through secure application layer filtering, resulting in best-in-class security technology on a powerful traffic management platform. The result is a complete, flexible, easy to manage web application security solution for BEA WebLogic deployments. The ASM hides the web infrastructure so that hackers can't tell which servers are running on the network. It strips out identifying OS and web server information (such as version strings, messages, signatures, and fingerprinting) from message headers, conceals any HTTP error messages from users, and removes application error messages from pages sent to users while checking to ensure no server code or private HTML comments leak out onto public web pages. Working as a reverse proxy, the ASM provides SSL acceleration, termination, and re-encryption to web servers, SSL key management, load balancing, and failover handling. The BIG-IP ASM identifies, isolates, and blocks sophisticated attacks without impacting legitimate application transactions.

When organizations want to extend access to server resources to remote users, F5 Networks' FirePass SSL VPN provides secure access to application running on BEA WebLogic servers as easily as from inside the corporate LAN. Once authenticated by FirePass, users pass through the corporate firewall and are able to access web services and data from any device in any location without having to re-authenticate when accessing multiple resources. The FirePass controller not only delivers and secures access to BEA WebLogic servers, but also allows for granular control of access to intranet resources on a group basis. For example, employees can be provided access to all intranet sites; partners can be restricted to a special web host. For users accessing applications on BEA WebLogic servers remotely, the FirePass controller's compression capabilities provide additional performance enhancement and server offload while securely delivering business-critical content.

Finally, the BIG-IP Global Traffic Manager (GTM) enables the transparent delivery of applications and web services across multiple sites, ensuring global business continuity and WebLogic application availability. The BIG-IP GTM dramatically improves performance and client experience by directing users to the best site on a global basis. The BIG-IP Global Traffic Manager is the only solution that tracks application state and provides the intelligence to deliver a superior client 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, lost or corrupted data. Organizations gain improved infrastructure scalability, lower TCO, and fewer support calls.

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 BEA

BEA is the world's leading application infrastructure company providing more than 13,000 customers worldwide with a complete platform for building, integrating and extending enterprise applications. As the #1 Web application server, BEA WebLogic Server implements J2EE 1.3 technologies, Web Services, and other leading Internet standards to provide a reliable framework for scalable and secure applications.