



ORACLE 9i APPLICATION SERVER

Integrating F5's Application Delivery Network with Oracle 9i Application Server

Executive Summary

Oracle and F5 Networks have validated the interoperability between F5's BIG-IP® application delivery networking solution and Oracle9i™ Application Server (Oracle9iAS). Customers running Oracle9iAS benefit from the BIG-IP solution by achieving unmatched scalability and high availability for their Web services and applications. This enables customers to achieve higher uptime and better performance of their Internet applications, while increasing the return on investment of their e-business infrastructures.

F5's BIG-IP Local Traffic Manager (LTM) adds a host of application acceleration and optimization features to industry-leading Layer 4-7 traffic management capabilities. With Fast Cache functionality and Intelligent Compression, the BIG-IP device provides significant improvement to both network efficiency and end-user performance for Oracle Application Server deployments. The BIG-IP solution'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 Oracle Application Server investments. And with the addition of F5's WAN optimization products, remote users of Oracle 9i Application Server experience LAN-like performance over the wide area network.

For comprehensive application security, the BIG-IP Application Security Manager allows only valid application transactions to pass to the Oracle 9i application 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.

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 Oracle Application Server resources from any device in any location as easily and securely as from within the corporate LAN.

F5 Networks has also teamed up with Oracle to enhance application robustness of the Maximum Availability Architecture (MAA), Oracle's complete High Availability (HA) blueprint. The Oracle MAA is a technical architecture that incorporates Oracle's leading HA technologies and best practice guidelines. As a Member Partner of the Oracle PartnerNetwork, F5 is working with Oracle to help ensure reliable and scalable enterprise applications and web services. Specific to the development of the Oracle MAA, F5 supplies Oracle with proven expertise in Application Traffic Management along with F5's market-leading solutions.

Challenges

Oracle 9iAS Application Server is designed to satisfy the demand for up-to-date business information. However, the application servers alone cannot manage requests to the best available server or application. The goal is to combine the Application Server with a powerful and intelligent traffic management solution that takes into account a number of factors in directing requests, including the health and capacity of applications, servers, and the network.

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's application delivery networking solutions maximize the performance and ROI of Oracle 9iAS deployments at every level, augmenting intelligent Layer 4-7 traffic management and load balancing with application acceleration, network optimization and advanced security.

The BIG-IP Local Traffic Manager (LTM) is capable of tracking end user and session persistence to the Oracle 9iAS without hindering the 9iAS cookie used for this client session data. Using the Cookie persistence feature, the BIG-IP product inserts a separate cookie into a user's Web browser, which ensures that the client continues to access the primary server hosting the

About Oracle

Oracle Corporation is the world's largest enterprise software company, providing enterprise software to the world's largest and most successful businesses. Oracle is the first software company to develop and deploy 100 percent Internet-enabled enterprise software across its entire product line: database, server, enterprise business applications, application development, and decision support tools.



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Solution - Continued

session data; the 9iAS cookie remains intact and unused. In the event of a server failure, however, the 9iAS cookie provides the location of the secondary session state, enabling the client to fail-over to any available server instance. The BIG-IP LTM has been designed and tested to properly manage user connections to Oracle 9iAS.

The BIG-IP LTM significantly enhances application performance by offloading processing-intensive tasks from Oracle web servers, allowing them to more efficiently serve application content to end-users. From its position in the front of the network, the BIG-IP device offloads tasks such as SSL processing, as well as compression, caching and authentication and authorization functionality. The Fast Cache memory-based caching module improves end-user performance by serving content more quickly while it increases server efficiency.

F5's TMOS architecture provides a suite of TCP optimizations that accelerate Oracle 9iAS application delivery. Separate client and server side TCP stacks enable the TCP Express feature set to individually optimize every connection running through the device, including those running across backend servers in the data center and those between client and server. The result is an optimally performing Oracle 9iAS deployment. By utilizing TMOS architecture, F5 reduces overhead and increases the capacity of Oracle 9iAS. Accepting and buffering the complete server response, the BIG-IP device allows the server to send data at its optimal rate while the client receives data at the rate appropriate to its connection. By streaming communication to the client and server individually, this process also improves bandwidth link utilization for a site and minimizes errors associated with lost and reordered packets.

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 Oracle Portal.

F5 also provides a complete, flexible, easy to manage web application security solution for Oracle 9iAS deployments. 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 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. The BIG-IP ASM identifies, isolates, and blocks sophisticated attacks without impacting legitimate application transactions.

For Oracle 9i Application Server deployments in multiple data centers, the BIG-IP Global Traffic Manager (GTM) enables the transparent delivery of applications and web services across multiple sites, ensuring global business continuity and Oracle 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. Organizations gain improved infrastructure scalability, lower TCO, and fewer support calls.

With F5's FirePass controller, organizations are able to extend access to highly performing Oracle 9iAS resources to their remote workforce, partners, or customers. The FirePass SSL VPN provides secured, clientless access to off-site 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 Oracle 9iAS applications 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 Oracle 9iAS 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.