



MICROSOFT EXCHANGE SERVER 2003

F5 Solutions Optimize, Accelerate and Secure Microsoft Exchange Server 2003 Deployments

Executive Summary

As enterprise email systems take on an increasingly significant role in business processes, Microsoft® and F5 Networks have developed a unique solution to enhance the capability of these systems. The result is an intelligent, highly available, extremely secure platform that ensures that email is delivered quickly and correctly. With the total number of email messages sent daily expected to exceed 60 billion worldwide by 2006, this remarkably scalable solution from F5 and Microsoft ensures that your network is prepared.

F5 Networks' BIG-IP product, a uniquely featured, highly available and secure solution, adds significant value to Microsoft Exchange Server implementations by increasing performance, ensuring mission-critical availability, and reducing management duties and associated costs. The BIG-IP system's intelligent application traffic management and server offload features deliver cost-effective efficiency gains to the Exchange Server network. Adaptable HTTP compression provides performance enhancements for the end-user while supporting a lean deployment of Outlook® Web Access.

In recent Gomez Performance Network testing, the BIG-IP product increased application delivery speeds for Outlook Web Access by more than 50% while providing a greater than 65% reduction in bandwidth consumption. These results are particularly impressive because, in contrast to LAN-based testing and best case claims, the Gomez Testing service uses real clients from all corners of the globe in order to provide a true representation of Internet conditions, WAN issues and other inefficiencies seen in full application transactions.

F5's groundbreaking TMOS architecture introduces unique WAN optimization benefits for Outlook Web Access and Exchange Server deployments. TCP Express optimization features utilize independent client and server side TCP stacks to optimize every connection, including those between legacy or suboptimal clients and servers. The performance and availability gains provided TMOS make F5 devices the ideal solution for securing and optimizing Microsoft Exchange Server deployments.

For remote users, F5 Networks' FirePass controller enables enterprises to provide secure, reliable and intuitive access to corporate applications and data using standard web browser technology. This SSL VPN solution offers features designed specifically for remote access to resources such as Microsoft Exchange Server and Outlook Web Access.

Challenges

The increasing demand on communication solutions, reflected in both the number of requests and the speed with which they are fulfilled, is an ongoing issue that many enterprises struggle to resolve. Organizations also face the challenge of extending access to enterprise resources to their remote or mobile employees. IT professionals using Microsoft Exchange Server, a widely deployed and robust enterprise communication solution, experience these challenges in building and managing high volume messaging server farms. Scalability, performance, availability, and ease of managing these large deployments are all issues they face.

Solution

When enterprises deploy the BIG-IP system with Microsoft Exchange Server, they benefit from state-of-the-art application acceleration features as well as centralized, intelligent application traffic management. For example, the BIG-IP product increases the availability, scalability, and performance of Microsoft Exchange Server deployment by taking advantage of its front-end/backend topology to dynamically distribute Outlook Web Access requests (HTTP, POP3, IMAP4, and SMTP), and offload the high overhead of SSL (Secure Sockets Layer) processing. Through its unique Extended Application Verification (EAV) advanced health checking capability, the BIG-IP product can detect front-end servers that are unavailable and dynamically route traffic to healthy servers.

The BIG-IP solution provides further server processing efficiency and performance enhancements with selective HTTP compression. BIG-IP Intelligent Compression functionality squeezes down Outlook Web Access traffic using industry-standard GZIP and Deflate compression algorithms to reduce bandwidth consumption and to speed user download times over slower or low bandwidth connections. During recent Gomez real-world performance testing, BIG-IP Intelligent Compression provided a 67% reduction in bandwidth consumption for Outlook Web Access 2003 deployment. Improving performance while reducing bandwidth use, Intelligent Compression allows organizations to increase the capacity of their existing infrastructure and improve the application performance experienced by their end users.

Key Benefits of F5

- TMOS acceleration features enhance end-to-end performance with a 55% improvement in application response time
- F5 provides 67% reduction in bandwidth consumption for OWA deployments
- Dial-up users experience greater than 25% reduction in time-out errors



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Solution - Continued

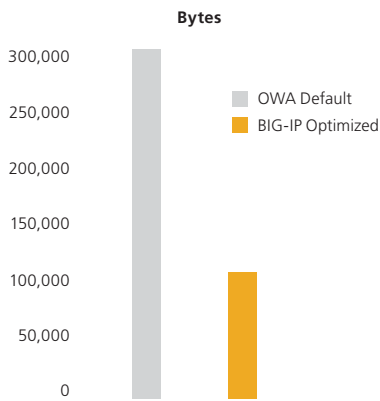


Figure 2 - Bandwidth savings with BIG-IP Intelligent Compression

Version 9 of the BIG-IP system offers an impressive new set of features to improve application reliability, decrease user response times, and optimize WAN communications for the Exchange Server and Outlook Web Access. At the heart of BIG-IP v9 lies the unique TMOS architecture. Acting as a full proxy for Exchange Server, TMOS offloads and manages traffic control and increases server capacity for any application running through the BIG-IP device. TMOS acceleration features enhance the end-to-end performance with a 55% improvement in application response time for Outlook Web Access 2003 in Gomez performance testing.

Utilizing the independent client and server side TCP stack architecture of its Traffic Management Operating System, BIG-IP TCP Express functionality bridges the gap between client and backend servers. This feature enables the BIG-IP device to independently optimize each client-server connection and to shield and transparently optimize noncompliant TCP stacks running across servers within the corporate data center, thus providing dramatic performance improvements across the Exchange Server deployment. For example, when remote users connect to Outlook Web Access at varying connection rates, the BIG-IP device independently handles each connection, optimizing both end user experience and server performance.

Utilizing these TCP optimization features, the BIG-IP system provides the highest levels of optimization, packet loss recovery and intermediation between suboptimal servers and clients. Thus the solution masks inefficiencies in the network while dramatically improving overall performance, reducing the cost and complexity of Exchange Server deployment, and extending server capacity.

In order to provide their mobile workforce with access to email and collaboration tools like Exchange Server, many organizations need a solution that can extend network access securely to users away from the corporate LAN. The FirePass controller, F5 Networks' SSL VPN solution, provides these remote users with direct, secure access to internal servers as easily as from inside the corporate LAN, or to specific desktop clients delivered by the Application Tunnel proxy interface. Once authenticated by FirePass controller, users pass through the corporate firewall and are able to access server resources from any device in any location without having to re-authenticate when accessing multiple resources.

The FirePass controller also provides features specifically designed to extend access to Exchange email without requiring the client to be running Microsoft Windows. The FirePass controller offers a plug in for mobile email so that an embedded device like a PDA or cell phone with simple web surfing capability is now able to access email with the familiar formatting of a web-based view. The FirePass controller has been tuned specifically to optimize the performance of Outlook Web Access for clients who want to access their email remotely without authenticating to the internal LAN. And for all users accessing Exchange Server resources remotely, the FirePass controller's compression capabilities provide additional performance enhancement and server offload while securely delivering business-critical content.

To enhance end-point security for Exchange Server deployments, the FirePass device can be configured to perform pre-login checks for viruses and for anti-virus software on remote clients, denying access to users infected with a virus, or with inadequate virus scanning. The FirePass controller's Protected Workspace feature ensures that downloaded files, cookies, and cached content are not left behind on the client device. With these end-to-end security features, the FirePass controller provides comprehensive security for Microsoft Exchange Server resources.

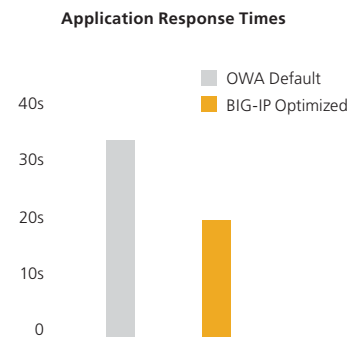


Figure 2 - Performance enhancement for Microsoft OWA when deployed with the BIG-IP system; application response time improved by 55%.

Benefits

Access From Anywhere - F5 Networks' FirePass controller enables enterprises to provide secure, reliable and intuitive remote access to corporate applications and data using standard web browser technology. This award-winning SSL VPN solution provides complete cross-platform support without resource-draining client software installation and configuration or changes to server-side applications. FirePass extends support for any IP application to Apple Macintosh, PocketPC and Linux clients, in addition to Microsoft Windows, and expands client and application security for web, email and file application access. It also offers the only open API and SDK that enables 3rd party application vendors to build seamless, secure remote access into their client applications.



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Benefits - Continued

Application Acceleration - Integrating the BIG-IP solution with Microsoft Exchange servers provides a specialized Layer 4-7 architecture with superior processing power, optimizing application speed and Quality of Service levels. The BIG-IP system's Intelligent Compression module centralizes HTTP compression, removing this processing load from servers. By efficiently compressing a broad variety of content types, including HTML, XML, Javascript, J2EE applications and many others, organizations can reduce their bandwidth bills by up to 90%. In addition to the bandwidth savings provided by Intelligent Compression, this solution maximizes application availability, allows for trouble-free maintenance and reduces administration overhead.

F5's TMOS provides a full TCP/IP proxy that allows for independent TCP optimizations on the client and server sides of a connection. The BIG-IP system's unique TCP Express features ensures that both client and server are transmitting data at the optimal rate and thus simultaneously reduces server download times, improves bandwidth link utilization for a site, and minimizes errors associated with lost and reordered packets. These dramatic WAN optimization and client performance improvements can not be found in other networking devices or server operating systems.

High availability - Because every minute an application is down or not responding properly can cost an enterprise thousands of dollars, deploying the BIG-IP system with Microsoft Exchange Server is essential for providing organizations with business-critical availability. Through the use of its advanced health checking capabilities, the BIG-IP device can recognize when a resource is unavailable or under-performing and direct traffic to an available resource. With the BIG-IP product, all of your applications can achieve 99.999% uptime, while reducing operational complexity and costs.

Scalability - The BIG-IP product provides a highly scalable solution that allows enterprises to meet growing organizational demands on Web and application resources. If one service is nearing capacity, scaling it is as simple as adding another instance of the service to your network and then to the BIG-IP load balancing pool.

Security - The BIG-IP product comes standard with numerous security features that provide an extremely scalable, highly available and secure solution for both internal and external applications. The BIG-IP product can be used to balance both inbound and outbound traffic for devices like firewalls, caches, or routers. It enables stringent access control, secure administration, and helps resist common attacks.

SSL acceleration - For encrypted traffic, the BIG-IP solution provides integrated SSL encryption and decryption capabilities. Offloading processor-intensive SSL transactions from the front-end servers greatly improves the performance of the server cluster, freeing it to fill more user requests. The BIG-IP product is also the first application traffic management solution with a FIPS (Federal Information Processing Standard) 140-2 Level 3 certified cryptographic/SSL accelerator. F5's FIPS products meet higher levels of security standards, required by Government agencies, financial services, and healthcare organizations, by integrating a tamper-resistant, key protection module and sophisticated key management capabilities. The management cost savings of centralizing this function on the BIG-IP product, instead of every server, is estimated to be 20 - 25%.

Traffic Control - Unlike other networking products on the market, the BIG-IP product can read any value(s) of an IP-based packet header or payload and direct it to the appropriate resource. Based on precise business criteria and requirements, the Universal Inspection Engine (UIE) and iRules allow an organization to easily incorporate application specific logic into the BIG-IP product, resulting in significant operational efficiencies. The BIG-IP solution also offers extensible integration management with iControl, the industry's first open application program interface (API) for a comprehensive suite of application traffic management products. Made available as a free SDK, the iControl architectural approach overcomes the greatest challenges of managing integration - making it quick and easy to create intercommunication between 3rd party applications and the network via F5's products.

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 Microsoft Exchange Server 2003

Exchange Server, the Microsoft messaging and collaboration server, is software that runs on servers that enables you to send and receive electronic mail and other forms of interactive communication through computer networks. Designed to interoperate with a software client application such as Microsoft Outlook, Exchange Server also interoperates with Outlook Express and other e-mail client applications.