



ENTERPRISE APPLICATION INTEGRATION

Description of the Application

Organizations spend millions of dollars each year developing and acquiring enterprise applications that fit their business needs. While trying to create a comprehensive solution, organizations typically deploy products from various vendors. These products are developed on different platforms, installed on different operating systems, in different locations. Therefore, organizations end up with disparate systems that are unable to share information between the systems. Enterprise application integration (EAI) solutions bridge the gap by providing a common framework from which all applications can interoperate.

Challenges to the Application Type

The integration role that these application types provide is critical to the health of an organization. Without an enterprise application integration solution, daily data analysis and vital business decisions are made without the highest degree of certainty. Key challenges are:

Providing high availability - With the high demand on EAI solutions, the availability of the individual applications is critical. A network device is needed that is able to ensure the service availability and validity of EAI solutions, and direct requests to healthy resources.

Providing scalability - EAI deployments vary greatly. These deployments are often so complex that they can change for different departments, or change every year. Deployment scenarios must be flexible and free to adapt as organizational needs change. As additional integration resources are required, the solution needs to be able to add these resources and continue to serve requests without interruption.

Increasing reliability and QoS - The distributed nature of enterprise applications demand a stable and reliable network environment and server infrastructure. With different components scattered across geographically dispersed networks, reliable communication and application performance becomes extremely important to deployment success. In addition to communication reliability, organizations need mechanisms to prioritize requests. Requests need to be intercepted, analyzed and directed to the proper resource to provide granular Quality of Service, based on business policies.

Enhancing performance - EAI communication can place large demands on network infrastructures. Organizations need systems that not only function properly, but also enhance network performance.

Increasing application and network security - The need to secure applications without sacrificing performance is crucial. Enterprises must offload intensive SSL processing from application servers, allowing them to handle performance demands required in an EAI environment. Organizations are challenged with finding traditional network devices and tools that not only increase their reliability, but also provide an extra layer of security themselves. These network devices need flexible, comprehensive, and secure feature sets that increase an enterprise's control over network traffic and protect them from existing and future attacks.

F5 Solution Overview

With powerful local and global traffic management network devices, F5 Networks offers valuable benefits for deploying EAI solutions for mission-critical services. Key features include numerous static and dynamic load balancing algorithms, advanced health checking capabilities, and SSL acceleration. Through the use of its advanced feature set, F5 Networks BIG-IP product allows enterprises to enhance scalability and security for EAI solutions, as well as reduce management overhead and optimize network performance through intelligent Layer 7 traffic/application management.

The BIG-IP LTM 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.

Utilizing this full 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. And 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.

Utilizing these TCP optimization features, the BIG-IP system provides the highest level of optimization, packet loss recovery and intermediation between suboptimal servers and clients. Thus the solution helps reduce inefficiencies in the network while dramatically improving overall performance, decreasing the cost and complexity of the deployment, and reducing the need to update servers.