

“F5’s iControl Architecture presents a unified solution, allowing users to scale out their applications while driving down costs.”

Garth Fort
Group Project Manager

F5 and Microsoft – Creating An Application-Aware Network With Microsoft Application Center and iControl



Industry:

Software

Challenges:

- Problems managing application availability and deployment
- Manual intervention and associated costs

Solution:

F5’s iControl open architecture

Benefits:

- Intercommunication between applications and the network
- Scales applications while driving down costs
- Creates a true “application aware” network

Overview

The goal for F5 and Microsoft® was to enable applications to send control messages to network devices, providing a layer between the network and the application as it added new intelligence. With this capability, the network can inform applications about availability, and the application instructs the network on where to direct traffic – without manual intervention and its associated costs. With this highly available, extremely secure solution in place, enterprises can expect increased ROI from their Web applications.

Challenge

Today’s applications consist of many bits and pieces that a limited workforce of skilled Web administrators may not have the time or resources to adequately manage and control. And efficiently managing application deployment and availability for large-scale web applications from multiple locales has been difficult at best.

“Customers are moving from a client-server architecture to a predominantly web-based distributed architecture,” said Garth Fort, Group Project Manager, Microsoft. “Microsoft’s .NET vision is about evolving our tools and our platform to help customer build the next generation applications. F5 Networks has built-out a comprehensive suite of products to

manage the delivery of those applications in a distributed environment. It’s an ideal fit.”

The goal for both F5 and Microsoft was to enable applications to send control messages to network devices, providing a layer between the network and the application as it added new intelligence. With this capability, the network can inform applications about availability, for instance, and the application instructs the network on where to direct traffic – without manual intervention.

F5 realized that using XML was an excellent way to enable this intercommunication – marking one of the first times that a company from the network side had provided application-side interfaces to add intercommunication functionality to the network.

Solution

F5’s iControl™ is an integrated and open architecture for managing Internet traffic and applications. It provides an open and secured method of communications between the network and applications for traffic management and content delivery with secure communications; configuration, monitoring and information exchange; and policy management of servers, applications and the network. It also enhances the overall behavior of the network and



enables applications to control network activity, and the network to provide important metrics and information to applications.

The iControl SDK (software development kit) is an open XML and CORBA API that 3rd party vendors and customers can use to securely interface with the F5 suite of products, enabling applications to optimize the use of the network to their advantage. The F5/Microsoft solution provided:

High availability through the use of advanced health checking capabilities that can recognize when a resource is unavailable or under-performing and direct traffic to another resource.

- **Increased ROI** by maximizing application availability, allowing for trouble-free maintenance and reduced administration overhead.
- **Scalability**, allowing enterprises to meet growing organizational demands on Web and application resources.

“For customers building really large-scale e-business applications, we find there is a great match between the Microsoft platform and the F5 suite of products,” said Fort. “Application Center 2000, for example, works with iControl to allow customers to deploy and manage high availability applications from a single console.”

According to Peter Christy, research fellow at Jupiter Research, in Los Altos, Calif., establishing standard ways for applications and networking devices to talk to each other is an important step forward.

“In the past there was black and white separation [between] the world of the network and the world of the content and applications. Once content was created it was then the network’s responsibility without much knowledge of the big picture to get it out to its recipients. Content delivery and traffic management shows there is a lot of intelligence you can add to improve this process,” Christy said. “What F5 recognized is that there are better ways to solve the problem using XML. This is one of the first times someone from the network side has provided application side interfaces to add this [functionality to the network].”

Utilizing an XML interface, Microsoft was able to integrate F5’s BIG-IP traffic manager with Application Center 2000 clusters (clustering servers together increases the amount of traffic that the Web site can handle and guarantees availability when a server becomes disabled).

The BIG-IP product is a high availability traffic manager that utilizes Microsoft application-specific information to influence local traffic control. When new servers are added, for example, the Application 2000 Cluster Controller duplicates server content on the new web servers. The Cluster Controller informs BIG-IP that the new servers are now ready for service. BIG-IP load balances web traffic across all available Application 2000 web servers – ensuring high availability, seamless scalability, and high performance.

“That [BIG-IP and Application Center 2000] combination allows customers to build mainframe-class applications at a fraction of the

cost,” said Fort. “For example, when customers are performing routine operation tasks on their web clusters — adding a machine to a cluster, removing one from a cluster, taking one off-line for maintenance – the user enjoys a seamless experience. From Application Center 2000, users simply mark a server as offline, and we’re automatically managing the F5 product on the backend for [the customer].”

Today, the BIG-IP serves as a traffic management/load balancing device for Application Center 2000 installations. XML is used as the communication protocol, and application health, server status, server additions or deletions are automatically communicated between Application Center\ 2000 and the BIG-IP product.

“The combination of Application Center 2000 and F5’s iControl Architecture presents a unified solution, allowing users to scale out their applications while driving down costs,” Fort said. “It represents a giant leap forward in the creation of a complete application-aware network. The other good news is that this functionality is available today.”

In other words, F5’s iControl represents a new standard for intelligence, performance and control for managing Internet traffic – enabling applications to control traffic and content in an intelligent and automated way through end-to-end solutions that are secure, extensible, and help enterprises lower their costs and optimize their available resources – or put those resources to more beneficial uses.



Customers' large-scale e-business applications have reaped the benefits of the match between the Microsoft Application 2000 platform and F5's iControl Architecture – allowing them to build, deploy and

manage high availability applications from a single console while giving rise to large cost and time savings for the entire enterprise.

“Microsoft has really found a great partner in F5 Networks,” Fort concluded. “Together, we're building comprehensive solutions for customers.”

About Microsoft and Application Center 2000

Microsoft is the worldwide leader in software for personal and business computing. Microsoft Application Center 2000 is Microsoft's deployment and management tool for high availability Web applications built on the Microsoft Windows® 2000 operating system. Application Center 2000 makes managing groups of servers as simple as managing a single computer, empowering developers and Web site administrators to deploy applications quickly and easily while minimizing in-depth application knowledge requirements.

Application Center 2000 streamlines application deployment, simplifying the task of migrating applications through the development cycle. By automating deployment of applications from one server to another, it speeds transfer times, eliminates manual errors, and improves the quality of releases.

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