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Vince Power, Integration Architect, Medavie Blue Cross Blue Cross

Medavie Blue Cross Scales Web Application Infrastructure with F5 BIG-IP Solution

Medavie Blue Cross, in Moncton, New Brunswick, provides health, travel, life, and disability income coverage to groups and individuals throughout Canada. In addition, the not-for-profit supports claims payment processing for various government programs. It has 30.5 million customer contacts annually, with \$3 billion in revenue and claims under administration. Over the last decade, Medavie Blue Cross has grown its employee base from approximately 400 to 1,500 people. Today its sprawling operation comprises 11 offices.

In recent years, Medavie Blue Cross has realized significant business value from providing web-based access to critical systems. To ensure its continued success, the company needed to improve the flexibility and scalability of its web application infrastructure. Using F5 solutions, the company optimized application performance and realized substantial ROI across a dynamic and scalable IT infrastructure.

Business Challenges

When Medavie Blue Cross began its foray into web applications, developers opted to use open source Apache software as a proxy server. From web browsers, employees plugged in a single URL no matter what type of form or report they needed to access. Behind the scenes, the Apache server redirected client requests to the appropriate IBM or Oracle backend application servers.

While great on the IT budget, and technically a fine choice, the Apache configuration turned into a troubleshooting nightmare.

“Apache wasn’t a supported configuration, so any time we’d call for support, we’d have to prove that it wasn’t causing the issue before anyone would even talk to us,” described Ryanne Frost, Web Application Team Lead at Medavie Blue Cross. And

Overview

Industry

Health insurance

Challenges

- Efficiently scale the web application infrastructure
- Reduce IT support burden
- Maintain ability to manage traffic at layer 7
- Improve application performance

Solution

- BIG-IP Local Traffic Manager with caching, compression, and SSL acceleration
- iRules scripting language

Benefits

- Streamlined troubleshooting
- Flexibility to customize traffic management on the fly
- Faster response times
- Improved performance over slow WAN links
- Quick ROI

these weren't complicated problems, she added. "We were just going through the normal growing pains of implementing a new application server."

If Medavie Blue Cross didn't address the problem, scaling the production web application environment was going to be tough. The company needed to find a commercially supported product that provided the layer 7 pass-through capability it had with the Apache software.

Solution

At the time, F5 BIG-IP® Local Traffic Manager™ (LTM) proved the only viable choice, said Vince Power, Integration Architect at Medavie Blue Cross. "There were a couple of other vendors, but they didn't have nearly the support that F5 provided."

F5's customizable iRules™ scripting language made the real difference. During the product evaluation, F5 posted the Medavie Blue Cross proxy dilemma to its online DevCentral community and, by the next afternoon, Power had loaded up a suggested rule. It worked, and Medavie Blue Cross had the answer it sought.

At that time, Medavie Blue Cross deployed one BIG-IP LTM device at its main data center and a second at a disaster recovery site. It relied on the public network for failover. Since then, Medavie Blue Cross has moved almost all of its applications to the web, from claims processing to email and finance applications. "Everything goes through F5 now, in one way or another," Power said.

Medavie Blue Cross currently has four BIG-IP LTM devices at disparate data centers across its wide-area network (WAN). The F5 appliances balance traffic loads from approximately 20 virtual and 100 physical servers running IBM, Oracle, Microsoft, and Sun software plus some custom applications. It also uses F5's caching, compression, and SSL acceleration modules to speed application delivery, ease server processing loads, and curb growth in its server environment.

"[BIG-IP LTM] is the only part of the environment that hasn't had an outage in the last five years."

Benefits

The F5 solution has taken Medavie Blue Cross well beyond its initial goal of improving support. Using BIG-IP LTM, add-on modules, and custom iRules, Medavie Blue Cross has evolved its first-generation web infrastructure into a state-of-the-art environment. The F5 solution helps optimize server processing, improve application response times, and keep bandwidth needs in check.

Quick ROI

Make no mistake—the initial sell was tough, said Power, noting that management wasn't too keen on the notion of moving from a cheap Apache solution to a full-license BIG-IP LTM purchase. But the web application team forecasted a quick return on investment (ROI). "We planned a one-year ROI based on support man-hours wasted with the Apache configuration," Power said.

Once the web team got the go-ahead and implemented BIG-IP LTM, they were able to show the business leaders other benefits, such as speedier applications and streamlined processing. Since deploying the F5 solution with caching and SSL acceleration, Medavie Blue Cross has slowed the rate at which it needs to add server capacity. And the compression helps the company get the most out of low-speed WAN links connecting its far-flung branch offices.

"We don't have the budget to buy separate WAN optimizers, but we can compress the traffic before it gets to the low-speed

connections. We cut our bandwidth requirements by about 50 percent for some of our applications," Power said.

60% faster performance

Power cites a significant response time improvement for a claims processing application taking advantage of BIG-IP LTM caching. "We moved to a new version of WebSphere and the application just wasn't behaving right. The caching module saved us about six months of development work and sped up the application by 60 percent."

Medavie Blue Cross's network team has found even more ways to leverage BIG-IP LTM as new challenges arise. For example, when they began considering options for improving the email experience, they could have either upgraded the Radware load balancers or selected another device. "We had the BIG-IP LTM devices sitting here, with extra capacity, so we moved incoming email over to them and reduced the processing overhead," said Power, noting that the team did not need new hardware to support the additional traffic.

"Anything we've needed from BIG-IP LTM we've just been able to do. We haven't had any problems," he added.

Easy customization

If an application quirk does crop up, Power resolves it with iRules—oftentimes with the help of the DevCentral community.

For example, in one case iRules circumvents a problematic client connection. For that client, the rule strips out the header and inserts another, then sends the request. "I don't know how we would have gotten through that problem without iRules functionality," Power said. In another instance, iRules turns off the compression mechanism for requests coming from a particular IP address. Other rules catch and fix error codes coming back from web servers, eliminating the application's responsibility to do so.

Overall, managing the web application traffic has been a fairly painless exercise

using the F5 solution. "It's the only part of the environment that hasn't had an outage in the last five years," Power said. "I have had no unexplained downtime with my F5 devices, ever. They're rock solid."

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