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Scott Lokey, Manager of Network Engineering, RelayHealth

SaaS Provider RelayHealth Delivers Innovative Healthcare Applications with F5 Solutions

RelayHealth, an online connectivity service owned by McKesson, provides a software as a service (SaaS) platform for the healthcare industry that connects patients, providers, pharmacies, payers, and financial institutions. Operating as a neutral partner in an open network environment, RelayHealth securely processes more than 12 billion financial and clinical transactions a year.

With a tremendous diversity of operating systems and protocols used throughout its data centers, RelayHealth was looking to simplify its application delivery infrastructure and improve the performance, reliability, and manageability of its applications. By implementing F5 BIG-IP® solutions, RelayHealth has been able to unify application delivery services across multiple data centers, reduce application deployment times by 30 percent, improve the user experience, and dramatically simplify management of its infrastructure.

Business Challenges

Thousands of healthcare-related organizations rely on RelayHealth for the transactions that keep their businesses running every day. RelayHealth operates two major data centers—one in Atlanta and one in Sacramento—plus several smaller ones. The two large data centers house hundreds of physical and virtual servers running Linux, UNIX, Windows, and a range of other operating systems. The IT department's overarching challenge, according to Scott Lokey, RelayHealth's manager of network engineering, was to build a modern

infrastructure capable of interacting with a huge variety of systems—including connectivity protocols that range from legacy serial connectivity to modern TCP/IP.

Within RelayHealth's data centers, load balancing was handled by host software on each server. Some servers had none, requiring developers to write custom software. This approach led to many variations of application delivery software all trying to operate within the same data center, resulting in intermittent downtime and slow response times.

Overview

Industry

Healthcare online connectivity services

Challenges

- Standardize application delivery across disparate systems
- Improve application performance and availability
- Simplify management of SSL termination
- Deploy applications across geographically diverse data centers

Solution

- BIG-IP Local Traffic Manager
- BIG-IP Global Traffic Manager

Benefits

- Faster response times
- Downtime virtually eliminated
- Reduced hardware and management costs
- 30 percent less development time and cost for new applications

In addition, SSL connections terminated directly on RelayHealth's web servers, each of which had its own SSL certificate and its own way of handling SSL encryption. An expired certificate could take a server down for up to 24 hours—and with so many certificates distributed over so many servers, it was next to impossible to track their expiration dates.

Finally, RelayHealth wanted to be able to move application traffic between its data centers in Atlanta and Sacramento to improve response times and ensure high availability for users. But DNS dependencies in some of its products made moving traffic back and forth a slow process. With no mechanism to make an intelligent decision as to when traffic should be moved, it typically happened only after a major slowdown had occurred.

The company needed to implement a standardized application delivery solution that not only offers fast response times and rock-solid stability and security, but is also flexible and intelligent enough to support a wide variety of platforms and connectivity protocols across multiple data centers.

Solution

RelayHealth turned to F5 for a comprehensive solution to address its application delivery challenges. The company purchased 17 BIG-IP® Local Traffic Manager™ (LTM) devices and two BIG-IP® Global Traffic Manager™ (GTM) devices. These now manage all incoming Internet traffic for RelayHealth and ensure high availability and fast response times for users, regardless of their location or the applications they are accessing.

BIG-IP LTM performs health checks for the company's web servers and routes traffic based on current network and server conditions. It also performs SSL encryption and decryption, offloading the servers and dramatically

simplifying SSL certificate management. By centralizing and standardizing these functions,

BIG-IP LTM has dramatically improved the control RelayHealth has over the performance and manageability of its applications.

At the same time, BIG-IP GTM monitors application availability and routes traffic between data centers as needed to deliver the best user experience at all times. BIG-IP GTM enables RelayHealth to deploy applications across multiple data centers to ensure availability and fast response times for users.

"Now, for the first time, we can create geographically diverse applications that live on both sides of the country," says Lokey.

Benefits

Together, the F5 solutions solve all of RelayHealth's application delivery challenges. RelayHealth has gained the flexibility needed to more effectively and efficiently manage traffic across the huge variety of server platforms within the RelayHealth network. By offloading SSL termination from the application servers, the company is saving significant management resources and application development time.

With BIG-IP LTM and BIG-IP GTM in place, RelayHealth has virtually eliminated slow application performance and downtime for users. Lokey notes, "F5 solutions have helped us develop our data centers into more modern, Internet-oriented environments that are stable, offer faster response times, and are much easier to manage."

Faster response times

"We do a lot of real-time transactions, so response time is really critical," says Lokey. "The F5 devices have significantly decreased our response times."

Hardware and management savings

Each BIG-IP LTM device can service a wide range of RelayHealth's products on a variety of websites—each with its own needs. For example, with some products, RelayHealth needs to direct a customer to the same server each time; for others, it needs to put a cookie on the remote PC. With BIG-IP LTM, RelayHealth is able to tailor application delivery and performance to product and customer needs.

"That capability alone saves us a ton of money," says Lokey. "Not only do we need to buy far less hardware than if we needed a separate application delivery system for each product, but this approach makes our network a lot easier to manage and troubleshoot."

Reduced time to market

With BIG-IP LTM providing both load balancing and SSL termination, RelayHealth's application software developers no longer have to write their own code for these functions. "That cuts about 30 percent off the time and cost required to create a new application, so we can get new applications to market faster," says Lokey.

Improved manageability

In addition, the various developers used to write application delivery code differently from each other. "This diversity was always causing problems," Lokey explained. "Since we've standardized on the BIG-IP devices, our network runs much more smoothly and is far easier to manage. Plus we can take a server offline for maintenance if we need to, without worrying about inconveniencing our customers."

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