



CASE STUDY | RiverBend Medical Group August 2010

RiverBend Medical Group Ensures a Secure and Highly Available EMR Application with Coyote Point's E450GX & VLB Advanced™

RiverBend Medical Group has been a pioneer in using technology to enhance their physician's effectiveness in patient care. They were among the first in the region to incorporate Electronic Medical Records (EMRs) into their practice thus freeing doctors from the paperwork associated with conventional medical records. For doctors and patients who have adopted this new technology, constant and reliable access to the application is imperative and required a robust application delivery solution. RiverBend selected Coyote Point Equalizer™ E450GX Application Delivery Controllers with VLB Advanced™ to guarantee a highly available and secure delivery of their proprietary web application.

OVERVIEW

Industry

- Healthcare
- Application Service Provider

Challenges

- Guarantee 100% uptime
- Ensure Data Security
- Optimize VMware Capabilities

Solution

- 2 Equalizer E450GX's
- VLB Advanced

Benefits

- 100% Application Availability
- Securing Network & Data Applications
- Increased Performance
- Optimization of VMware Servers

CHALLENGE

RiverBend Medical Group is among the first in its region to incorporate Electronic Medical Records (EMRs) into their services. Delivering EMR applications, patient care records and standard office applications to both internal and external customers over the web required a fast, safe and reliable delivery.

RiverBend quickly realized that without incorporating an Application Delivery Controller into their infrastructure they would not be able to overcome the limitations of Windows NLB™ (a clustering technology included in the Microsoft Windows 2000 Advanced Server and Datacenter Server OS) and could do little to accelerate their applications. A hub and spoke topology means their central data center serves the primary site, remote offices and external EMR users. RiverBend needed a solution that would ensure the security of their networks and the privacy of patient information.

Additionally, a recent migration to a virtualized environment from traditional web servers meant they also needed a solution that had a tight integration with VMware in order to optimize the delivery of their proprietary EMR Application, "Epic".

SOLUTION

RiverBend's IT department evaluated Application Delivery Controllers from a number of manufacturers and eventually narrowed their search to an in-depth comparison of F5's Big-IP 3600 and Coyote Point's E450GX, looking at SSL capabilities, throughput and usability.

After a thorough evaluation of features and functionality, RiverBend chose to deploy two Coyote Point E450GX's with VLB Advanced behind an Edge firewall to load balance traffic across 10 VMware ESX servers.

Securing RiverBend's application requires almost every transaction to be encrypted using SSL. This placed a heavy burden on their web application servers. Because the E450GX has purpose-built hardware specifically designed to process heavy loads of encrypted traffic, they were able to eliminate this problem by offloading the CPU-intensive encryption and decryption to Equalizer.

The E450GX is capable of processing more than 8,500 encrypted HTTPS transactions per second, simultaneously delivering high performance Layer 7 load balancing, powerful application acceleration, intuitive configuration and robust reporting for servers and clusters.

"Equalizer had all of the functionality of the Big-IP and was a third of the cost. The key differentiator was Coyote Point's VLB integration with VMware."

*Matthew S.,
Systems Administrator*

By utilizing VLB Advanced, Coyote Point's software application for virtualization optimization, RiverBend added an additional layer of application awareness to VMware management. This allows them to retrieve real-time virtual server performance information from VMware. This VMware information is combined with Coyote Point's application and network aware capabilities to manage the traffic flowing to the virtual machines running on their ESX servers.

"With VLB Advanced we were able to utilize Smart Control™ to define threshold conditions that trigger a VMware response allowing us to further optimize our virtualization effort," stated the Systems Administrator for RiverBend Medical Group. "For instance, we now have the

ability to automate the powering down of servers that are not needed due to low traffic, or spin up more VMs if we experience an unexpected spike."

BENEFITS

100% Application Availability

For RiverBend, keeping their services available is absolutely critical in helping physicians provide the best patient care and directly affects their bottom line. By running Equalizer appliances in a fault-tolerant configuration with a redundant unit in hot standby, RiverBend is guaranteed that their EMR application, email, file shares and other internal applications will never be compromised due to a server or application failure.

Security and Performance

By offloading SSL traffic, RiverBend Medical increased the ability of their existing servers to handle 10x more traffic. This resulted in noticeable network performance gains, faster response times and a better overall user experience.

Optimization of VMware Servers

By incorporating Equalizer VLB Advanced, RiverBend is able to automate workload distribution as well as optimize resource availability, ensuring the most efficient utilization of their virtual hardware resources. They recognized a significant reduction in both CAPEX and OPEX by reducing the number servers in their data center and dramatically lowering the costs associated with power, cooling and management.

"The proactive management tools provided by Coyote Point's VLB Advanced and Smart Control enable an immediate and significant cost savings" added Matthew. "Equalizer was the only product on the market that provided outstanding performance with an immediate return on investment."