

IN BRIEF

Industry

- » Healthcare

Challenges

- » Deliver mission-critical applications and information to healthcare professionals in 125 remote offices
- » Consolidate the data center environment while improving customer satisfaction
- » Migrate to web-enabled database applications across the enterprise

Solution

- » Steelhead appliances were deployed to help target applications in 8 locations

Benefits

- » Data center consolidation achieved with improved transactional performance for database applications
- » 33% savings in annual bandwidth costs by optimizing the existing WAN infrastructure and deferring circuit upgrades
- » Improved customer satisfaction and reduced wait times for health delivery services



Universal Health Services, Inc.

Riverbed® Steelhead® Appliances Improve Application Speed for Major Healthcare Firm

Overview

Universal Health Services (UHS) (www.uhsinc.com) is the 3rd largest hospital management company in the United States employing over 30,000 people. With over \$4 billion in annual revenue, UHS consistently ranks in the Fortune 500. UHS provides high quality healthcare services through a network of 125 hospitals delivering acute care, behavioral health, oncology, and surgical services across the U.S. UHS hospitals have received dozens of awards for medical excellence and achievement across a wide-range of specialty areas.

Challenge: Consolidating Data Centers While Migrating to Web-based Applications

As a healthcare provider responsible for healing patients and saving lives, Universal Health Services understands that timely information is critical. UHS doctors require access to the latest patient data and clinical information, whether they are in an ER waiting for test results or in an operating room performing surgery. With a distributed environment of over 120 remote hospitals and two data centers, UHS wanted to centralize transaction-oriented database applications, while also delivering simple web-enabled interfaces for their physician customer base.

Matthew Moeller, senior network coordinator, stated: "Our main solution driver was going from green screen clinical apps to webified apps, which of course increases the amount of data we have to push over the WAN (wide area network) and also slows it down. Since we were consolidating our data center, it was very important to keep our doctors out in the field happy. They were complaining extensively that we consolidated our servers while migrating to web-based apps at the same time. These two factors combined to make performance problems even worse."

"We would roll a Steelhead device out and they would turn around and say, 'what'd you do? It seems like we're working locally again.'"

IT Environment: Cisco Networking Equipment with a Hybrid WAN

Seamless integration with the existing Cisco infrastructure topped the list of requirements for UHS. With a 400:1 network device to administrator ratio, any solution needed to be easy to deploy and require minimal administrative overhead. The WAN infrastructure at UHS leveraged hybrid connectivity and Cisco gear, and the Riverbed Steelhead appliances easily meshed with the existing environment.

"I have had virtually no support calls since we've deployed the Steelhead devices."

"We're running a hybrid of frame to ATM right now with DS3s going into two data centers. We run primarily webified clinical applications with database back-ends, such as SQL and Oracle, and the two data centers serve up two different types of apps."

Moeller continued, "We have 125 acute and behavioral health hospitals across the country and anywhere from 10,000 to 12,000 remote employees that access our applications at both data centers. Each of the hospitals has a blend of a primary access integrator at the edge, which is a Cisco 2801 to 3725 integrated access router front ending the WAN connections, and every one of the sites has at least a 6509 or dual 6509s at the core. There's a couple that have 11000s. We aggregate all our traffic at our data center on a Cisco 15454 ONS optical network services access integrator that is front-ended by an OC12 for the WAN."

Solution: Steelhead Appliances Improve Application Transaction Speed

Moeller evaluated Riverbed Steelhead appliances with an eye to improving UHS's database applications. Moeller commented, "What we were specifically interested in was the transaction times. We wanted to sit on one side of the WAN and make SQL calls across the WAN feel as if they were running locally."

The evaluation process became even more thorough when UHS wanted to install a Steelhead appliance at their Siemens Medical data center. "The Steelhead appliance was really put through its paces when we wanted to install one in front of our data center at Siemens Medical. They put it through a three-vendor RFP process, a scorecard and pilot selection process, and finally lab benchmark testing. It was quite rigorous."

"Without the Steelheads, we would have had to triple our spend on the WAN links."

As additional web-based applications were deployed, UHS found that the Steelhead appliances could alleviate performance problems over the WAN. Moeller talked about the application rollout: "We didn't want to have application servers out at the remote sites. When users would really get upset about the application speed over the WAN, we would put in a Steelhead appliance. Users would then turn around and say 'What did you do? It seems like we're working locally again.'"

UHS has also been satisfied with its relationship with Riverbed. Moeller noted, "They are very responsive and keep us informed about issues that impact us."

Benefits: Satisfied Customers, Consolidation Efficiencies, and Bandwidth Cost Savings

Riverbed Steelhead appliances have enabled UHS to consolidate their data center environment, improve the transactional response of their database applications, and deploy the next generation of clinical applications to their physicians. Moeller said: "The first couple of years that I worked here, before we put Steelhead appliances in place, I was constantly fielding calls from IT staff, C-level execs, and doctors complaining about application speed in the hospitals. I have had virtually no calls since we've deployed the Steelhead appliances."

In addition, UHS has avoided bandwidth upgrades at multiple sites, resulting in significant cost savings. "We run a few of our facilities as small as a 256k circuit and we have some bandwidth hogs like Lotus Notes," Moeller said. "There are even some AS400 FTP applications that blast out 45MB of traffic, and trying to aggregate that back on a tiny link became a real problem for us. It turned into a veritable nightmare, and upgrading every one of our sites to a full T1 seemed inevitable. But with Steelhead appliances, we never had to do that. Without Riverbed, we would have had to triple our spend on the WAN links."

Given the success UHS has achieved with their Riverbed implementation, they are planning to continue deploying Steelhead appliances at an additional 25 locations.

Universal Health Services (UHS) wanted to consolidate its data centers, improve the transaction speed of its database applications, and deploy the latest web-based clinical applications.

The bandwidth constraints of the 125 hospitals and healthcare centers UHS serves, combined with consolidation and web-based application deployment, led to inadequate application performance for UHS employees.

After deploying Riverbed Steelhead appliances, UHS was able to meet its goals for consolidation while improving application performance for its physicians, which also improved the patient experience.



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About Riverbed

Riverbed Technology is the IT infrastructure performance company. The Riverbed family of wide area network (WAN) optimization solutions liberates businesses from common IT constraints by increasing application performance, enabling consolidation, and providing enterprise-wide network and application visibility – all while eliminating the need to increase bandwidth, storage or servers. Thousands of companies with distributed operations use Riverbed to make their IT infrastructure faster, less expensive and more responsive. Additional information about Riverbed (NASDAQ: RVBD) is available at www.riverbed.com



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