riverbed

NOTICE:
New Product Names

The contents of this asset do not reflect our recent product name changes. Here are the new Riverbed® names:

Old Names	New Names
Steelhead	SteelHead™
RPM, OPNET, Cascade	SteelCentral™
Stingray	SteelApp™
Granite	SteelFusion™
Flyscript	SteelScript™
Whitewater	SteelStore™

riverbed®

IN BRIEF

Industry
» Social services

Challenges
» Five-months to create an entire IT infrastructure for a bureau of more than 250

» Small IT staff and limited budget

» Promise to employees of better application performance

Solution
» Steelhead® appliances for optimizing WAN traffic

» VMware for virtualized desktops

Benefits
» LAN-like speeds; hour-long login times eliminated

» Sensitive data never leaves data center

» 76 percent reduction in WAN traffic (weekly average)

» WAN optimization technology will pay for itself in two years

wisconsin department of
children & families

Wisconsin Department of Children and Families

Greenfield IT implementation relies on WAN optimization to deliver LAN-like performance in remote offices.

The mission of the Wisconsin Department of Children and Families (DCF) is to promote the economic and social well being of the state's children and families. It has five goals: 1) to see that children are nurtured, safe, and engaged; 2) to enhance prevention and early intervention efforts throughout Wisconsin; 3) to make sure families have access to quality early care and education; 4) to help parents secure and maintain meaningful jobs; and 5) to assist fathers in being more engaged in the lives of their children. This translates into practical tasks such as inspecting day care centers, monitoring child support payments, helping people find childcare, and stepping in to help children living in abusive homes.

Wisconsin DCF is relatively new, having been created by a governor's order in 2008. Two existing

> "Performance is far beyond what we thought it would be."

divisions, one from within the state's Department of Health Services and one from the Department of Workforce Development, were combined to form the DCF.

"We inherited the child welfare, child care, and child support programs," explains DCF's CIO and IT director, Maytee Aspuro, who had the task of creating the IT infrastructure for the new department. She was starting from scratch. "We had no infrastructure when DCF was created," Aspuro explains. "My job was to hire the key people, create the infrastructure and proceed with establishing our independence from the legacy agencies."

Challenge: Clean-slate IT infrastructure on a limited budget

Several factors complicated Aspuro's task. First, due to factors beyond her control, she had only five months to accomplish the first phase of the infrastructure build. Second, she had assured the DCF Bureau of Milwaukee Child Welfare employees, which comprise one quarter of all agency staff, that as part of the move to the new department, they would get a better computer system than the one they were used to. (The old infrastructure was a distributed computing environment supported by servers in the regional offices.) Aspuro made this promise even though the new IT configuration would centralize data and applications in Madison, with regional offices connected by a wide area network (WAN). Aspuro was effectively promising WAN performance that would improve on the former LAN environment. Third, as with most state budgets, Wisconsin's is tight, which meant that there was limited funding for all that Aspuro needed to do.

> "Riverbed was a critical component for us to keep our promises."

Aspuro hired Christopher Luter to be the DCF's technical services section chief. He explains the decision to consolidate and deliver IT services over a WAN this way. "When I was brought here to create and run the team, I thought a lot about how to be successful with the limited staff I would have. I wanted to make as tight a footprint as possible with a small team of skilled professionals. That drove the need for centralization." Not only would a centralized IT infrastructure allow fewer people to manage the IT resources. Not having to put servers in the remote offices would be an additional cost-saving measure.

Solution: VDI and WAN optimization

Luter and his team chose VMware's virtualization software and WAN optimization technology from Riverbed Technology to ensure that DCF's IT infrastructure would deliver the performance improvement Aspuro had promised. VMware virtualizes the DCF's desktop applications (Microsoft office tools, a call center solution, mainframe- and server-based custom applications, and SACWIS, a federally mandated, web-based application). By decoupling these applications and the user data from the underlying hardware, VMware allows Luter and his colleagues to centrally manage and provision these desktop components from the Madison facility. Luter eventually grew his staff to 27 people, who are progressively taking over the management of a network of 1,200 nodes at 22 sites.

> **"The Steelhead appliances provide LAN-like speeds at all times."**

"VDI (virtualized desktop infrastructure) was imperative," explains Russell Brudos, Technical Services lead at DCF. "Users slide between DCF locations all the time and it used to take them as long as an hour to log into a different machine with roaming profiles. VDI will allow us to address that, as well as the need to centrally manage this environment, without having to go out and touch all those 1,200 nodes."

Another important advantage for DCF is that VDI keeps the agency's data secure, which is important for the protection of sensitive client information. "Data never leaves the data center," Brudos adds. "By not having it on local machines and laptops, we benefit substantially."

WAN optimization technology was seen as equally critical. Luter and others on his team had enough previous experience to know that even with VDI, network latency could slow the system's response and frustrate users. In addition to the Riverbed® WAN optimization solution, they evaluated Cisco's Wide Area Application Service (WAAS). The IT team conducted a 90-day proof-of-concept of both products.

"The Riverbed Steelhead® appliances performed out of the box," says Robert Beck, a DCF network engineer. "We turned them on and they worked. Cisco required some modifications, and being such a small group, we need tools that are easy for us to manage while we wear multiple hats. The Riverbed solution was a much better fit in that respect." Beck adds that Riverbed personnel were on-site when the DCF kicked off the solution, and that "we can call them anytime." Another advantage from Beck's point of view: "It is easy to put a Steelhead appliance in bypass mode and rule it out as an issue for troubleshooting."

Benefits: Secure data, satisfied users, and a fast ROI

Wisconsin DCF determined the break-even point for the Steelhead appliances to be sites with five employees or more, or a circuit smaller than 1.5 megabits/second. The IT team originally installed four Steelhead appliances at remote sites, along with two at its central data center. The remaining sites are on track to get their own Steelhead appliances within the year.

"Performance is far beyond what we thought it would be," says Luter. "The Steelhead appliances provide LAN-like speeds at all times." The DCF's weekly WAN traffic is reduced by an average of 76 percent. WAN data traffic is 20 gigabytes in a week, compared to LAN traffic averaging 85 gigabytes/week. Although as a new agency, the DCF doesn't have prior performance data to compare with the Riverbed solution, they did have the experience of the legacy agencies. "During the proof of concept we saw the higher end of the four-to-six-times improvement that Riverbed claims in their literature," Luter adds.

This IT infrastructure enabled Aspuro to deliver on her promise of better application performance for the DCF employees. Hour-long login times are a thing of the past, and the system's responsiveness is just as good in the remote offices as it is in the Madison headquarters. In addition, DCF workers can easily move between offices without worrying about the availability of a computer or compromising sensitive data. "Riverbed was a critical component for us to keep our promises," Aspuro says.

The Riverbed solution also made good financial sense. "It was a very strict ROI calculation that convinced me to purchase the Steelhead appliances," Aspuro says. She estimates that Riverbed technology will pay for itself after approximately two years.

To complete its vision, the IT team is now considering the use of tablet computers to improve field operations. Additional Riverbed technology is being considered as well, such as Steelhead Mobile software to accelerate performance for users with laptops.

Although the DCF IT team met the challenge of creating a green-field IT infrastructure in five months, "I don't recommend that anyone try that," Aspuro says. "But it's good to have a sense of urgency so you don't lose momentum." She purposely hired IT team leaders from the private sector to bring in a new culture. That new culture, along with an upgraded IT infrastructure that includes an optimized WAN, helps this department deliver better services to Wisconsin's children and families.

SUMMARY

The Wisconsin Department of Children and Families (DCF), a newly created agency, had approximately five months to create an IT infrastructure for its Bureau of Milwaukee Child Welfare operations, which will ultimately serve the entire agency, involving nearly 1,200 staff members at 22 sites. Having a limited budget, yet also having promised the employees better computer performance than what they were used to (a distributed infrastructure), the DCF IT team made the decision to centralize operations in the Madison office and deliver services to the remote offices over a WAN.

The team chose a VMware VDI solution and implemented WAN optimization technology from Riverbed® to ensure fast application response over the WAN. The Riverbed technology, which will pay for itself in two years, delivers LAN-like speeds at all times, eliminating hour-long login times and fulfilling the promise of a better computer experience for the DCF employees who now easily move between locations. Sensitive data never leaves the data center. The Riverbed Steelhead® appliances reduce WAN traffic on a weekly average of 76 percent.

riverbed®

About Riverbed

Riverbed delivers performance for the globally connected enterprise. With Riverbed, enterprises can successfully and intelligently implement strategic initiatives such as virtualization, consolidation, cloud computing, and disaster recovery without fear of compromising performance. By giving enterprises the platform they need to understand, optimize and consolidate their IT, Riverbed helps enterprises to build a fast, fluid and dynamic IT architecture that aligns with the business needs of the organization. Additional information about Riverbed (NASDAQ: RVBD) is available at www.riverbed.com.

InfoWorld 2011 TECHNOLOGY OF THE YEAR AWARDS

2005, 2006, 2007, 2008, 2009, 2011

NETWORK WORLD BEST OF THE TESTS '08

2006 Network Computing WELL-CONNECTED AWARDS WINNER

Riverbed Technology
199 Fremont Street
San Francisco, CA 94105
Tel: +1 415 247 8800
Fax: +1 415 247 8801
www.riverbed.com

Riverbed Technology Ltd.
One Thames Valley
Wokingham Road, Level 2
Bracknell BG42 1BG
United Kingdom
Tel: +44 1344 401900

Riverbed Technology Pte. Ltd.
391A Orchard Road #22-06/10
Ngee Ann City Tower A
Singapore 238873
Tel: +65 6508-7400

Riverbed Technology K.K.
Shiba-Koen Plaza Building 9F
3-6-9, Shiba, Minato-ku
Tokyo, Japan 105-0014
Tel: +813 5419 1990