

IN BRIEF

Industry

- » Professional Services (Consulting)

Challenges

- » Improve email performance while migrating to Exchange 2003
- » Consolidate Exchange servers for cost reductions and operational simplicity
- » Eliminate wasted time waiting for email

Solution

- » A Steelhead appliance was deployed in each of 15 offices

Benefits

- » LAN-like performance of email in all offices
- » 84% reduction in Exchange data across the WAN
- » The number of Exchange servers reduced from 9 to 2
- » Certain offices are now serverless



Stanley Consultants

A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide



Stanley Consultants

Riverbed® Steelhead® Appliances Enable Exchange Consolidation and Serverless Offices for Global Consulting Company

Stanley Consultants (www.stanleyconsultants.com) is a worldwide provider of engineering, environmental and construction services. Since 1913, the company has successfully completed more than 23,000 engagements in all 50 states, U.S. territories and in 98 countries. The firm provides consulting, planning studies, design, environmental, and construction management services in a diverse range of markets including architecture, power and energy, military, water resources, water and wastewater systems, transportation, land development and institutional systems. Stanley Consultants is a member-owned firm. The company maintains offices in 15 domestic and select international locations. With more than 1,100 members, the firm is consistently ranked among the top engineering firms in the country and internationally. It has received numerous engineering awards and was recently named by AARP as the country's best employer for workers over 50.

Challenge: Simplifying Exchange Infrastructure while Maintaining Performance

As a consulting company focused on delivering on-time, on-budget projects for clients, Stanley Consultants' IT team is always looking for ways to make the organization more flexible and more cost effective. As projects become more demanding, consultants require technology to simplify the way they work.

"We conservatively estimated that...this product pays for itself in under a year."

should have its own Exchange server. Performance of email was so important to us that we were willing to take on the cost and complexity of managing this system.

"But with Exchange 2003 and its 'cached mode' functionality, we thought we might finally be able to consolidate our Exchange infrastructure." Cached mode stores copies of emails on a local users' hard drive for easy access. Madsen continued, "But when we started the consolidation process in some of our smaller offices, we saw a large spike in our network utilization, and overall performance was not acceptable. We knew we would have to address this issue in order to make this consolidation project a success."

"It just so happened that, at the same time we were doing this project, we were opening another small office in San Juan, Puerto Rico. We were also looking for ways to accelerate the performance of all applications – email, file sharing, Microstation, and more – over the WAN so that we could avoid deploying any servers to this new location. And that's when we discovered the Riverbed Steelhead appliance."

"We were actively migrating to Exchange 2003," noted Kevin Madsen, Senior Network Analyst at Stanley Consultants. "At the time, we had a distributed Exchange server strategy for the company. Our rule of thumb was that any office with 25 or more members

"The end result of deploying Steelhead appliances was that they make our applications faster – exactly what we needed for a successful consolidation project."

Solution: Steelhead Appliances Overcome Performance Limitations

Madsen and his team researched various WAN optimization products that might meet their needs. "We also spent some time exploring some file replication products, but it was pretty easy to see they weren't a fit. Replication products simply create multiple copies of the file in different locations, which really wasn't viable for us. We didn't want to have many copies of a file floating around – we wanted users to be able to access the original file, or the email server in the case of Exchange – in an accelerated manner over the WAN. File replication couldn't do that for us. In the end, we decided only to bring in Riverbed for evaluation."

"Using the reporting on the Steelhead appliance, I can see that we get an average of 72% data reduction across the WAN. For Exchange, it's as high as 84%."

Madsen started by deploying a Steelhead appliance to the new office coming online. "Our first deployment gave us a taste of the Steelhead appliance. It enabled us to create a serverless remote office, saving us the cost and effort of deploying a number of servers to this new office.

"After that, we decided to test in our larger offices, deploying it to a site with more than

200 people as part of the Exchange consolidation project. It was then that we saw the power of these devices. They were able to give us LAN-like application performance without heavy burdens on the WAN infrastructure." Riverbed is the only WAN optimization solutions vendor to include an Application Streamlining module to address chattiness for Exchange and MAPI 2003, the underlying application protocol.

Benefits: Consolidated Exchange Servers, Reduced Network Strain, Simpler IT Management – with Happy End Users

Riverbed Steelhead appliances have enabled Stanley Consultants to consolidate its Exchange servers across the organization. "Whereas we used to have 9 Exchange servers, we now have only 2 Exchange servers that are in just one location. Administratively, this is a huge benefit to us. At the same time, it makes no difference to end users. The end result of deploying Steelhead appliances was that they make our applications faster – exactly what we needed for a successful consolidation project."

"We also use the Steelhead appliances to prepopulate large files across the WAN. For our projects that require multiple offices to collaborate on huge CAD files or design documents, this has proven to be a time-saver. Once we prepopulate the file, access is local. Changes or edits can quickly be prepopulated as well.

"Despite the large files and all the email we move around, Steelhead appliances have enabled us to drastically reduce the bandwidth utilization we would otherwise see. Using the reporting on the Steelhead appliance, I can see that we get an average of 72% data reduction across the wide-area network. For Exchange, it's as high as 84%.

"Finally, we get the benefits of keeping some offices serverless. While we can't make all our offices serverless, there is a savings in capital expenses that Steelhead appliances make possible in some cases."

In all three of these use cases, the common element is making applications perform faster for the end user.

Data Reduction in Various Applications: Total Traffic – LAN (952.5 GB), WAN (267.4 GB)

Applications	Reduction	LAN	WAN	Traffic %
FTP (21)	38.6%	27.8 GB	17 GB	2.9 %
HTTP	40%	159.3 GB	95.4 GB	16.7%
CIFS: NetBIOS (139)	73.7%	15.1 GB	3.9 GB	1.5%
CIFS: TCP (445)	69.7%	55.3 GB	16.7 GB	5.8%
SQL: TDS (1433)	77%	2.3 GB	560.2 GB	0.2%
Projectwise (5800)	70.7%	3.6 GB	1 GB	0.3%
MAPI (7830)	84.5%	195 GB	30.1 GB	20.4%
RCU: PrepPop	98.1%	393.5 GB	7.3 GB	41.2%
Other (Optimized)	40.7%	12.9 GB	7.6 GB	1.3%
Passed Through (Unoptimized)	0%	87.4 GB	87.4 GB	9.1%

Return on Investment

Madsen acknowledged that a successful Exchange consolidation project could save the organization significant capital investment. Each Exchange server can cost somewhere between \$10,000 and \$15,000 to deploy, and then the ongoing management and maintenance costs can significantly impact the productivity of the IT team. But these savings assumed that end user performance was acceptable and there weren't additional bandwidth upgrades – assumptions realized by the Steelhead appliance.

Madsen followed this point with the fundamental justification for the Steelhead appliance purchase. "While saving some money on Exchange servers is nice, we really justified this project based on productivity. When you look at the performance benefits of the Steelhead appliance, you can easily see how it might save our workers significant amounts of time that they could be spending on client projects. We conservatively estimated that, if we could save our workers just 5 minutes a week, and then multiply that by 50% of our workforce and our average billing rate, this product pays for itself in under a year. That's a big return on investment for us."

SUMMARY

Stanley Consultants needed to optimize its email performance in order to help its members complete projects on time and on budget. At the same time the firm wanted to consolidate its Exchange server infrastructure.

After reviewing competitive products, Stanley Consultants deployed the Riverbed Steelhead solution in order to overcome latency and bandwidth limitations.

With Steelhead appliances, Stanley Consultants' members have LAN-like email access, regardless of their location. At the same time, the firm was able to consolidate 9 Exchange servers down to 2. The WAN optimization solutions project paid for itself in less than a year.



Think fast.™

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



2005, 2006, 2007, 2008, 2009



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.
Farley Hall, London Road
Binfield
Bracknell
Berks RG42 4EU
Tel: +44 (0) 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: +81 3 5419 1990

© 2009 Riverbed Technology. All rights reserved. Portions of Riverbed's products are protected under Riverbed patents, as well as patents pending. Riverbed Technology, Riverbed, Steelhead, RiOS, Interceptor, Think Fast, the Riverbed logo, Mazu, Profiler, Atlas and Cascade are trademarks or registered trademarks of Riverbed Technology All other trademarks used or mentioned herein belong to their respective owners.