

A black rectangular banner with a yellow and black diagonal hazard stripe pattern.

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™

IN BRIEF

Industry

- » Insurance

Challenges

- » Distributed, global IT environment was costly to maintain
- » Employees had poor access to corporate applications and information, which limited global collaboration
- » Many international locations were hampered by inadequate bandwidth and infrastructure

Solution

- » 107 Steelhead® appliances deployed around the world
- » Clustered Interceptors deployed in the main U.S. data center

Benefits

- » Projected cost savings of \$30 million over five years
- » Consolidated two data centers into one and removed servers and other IT infrastructure from many international offices
- » Consolidated 200 major applications, including Microsoft Exchange, and several thousand small applications into one location
- » Improved employee access to information globally

Willis



Willis Group Holdings

Riverbed® Steelhead® Products Enable IT Consolidation at Global Insurance Company

Willis Group Holdings Limited (www.willis.com) is a leading global insurance broker, delivering professional insurance, reinsurance, risk management, financial and human resource consulting, and actuarial services to institutions around the world. Willis has more than 300 offices in 100 countries, with a global team of approximately 16,000 employees serving clients in 190 countries. Willis is publicly traded (NYSE: WSH) and generated \$2.6 billion in revenue in 2007.

Challenge: Costly IT Infrastructure and Limited Global Access to Information

Willis had grown organically and through acquisitions, which resulted in a distributed IT network running many applications, often with significant overlap. Some of these applications, such as Microsoft SharePoint and Microsoft Exchange, were housed in the company's two main data centers, as well as a number of international locations. Other applications, such as a web-based human resources application, were centralized and accessed globally from one data center.

This complex environment created a few challenges for Willis. First, employees around the world had difficulty accessing the centralized applications, particularly from locations

The insurance world is all about information, and a significant challenge of our business is getting access to information quickly and efficiently.

with limited IT infrastructure. This translated into a lack of key business information for many employees. "The insurance world is all about information, and a significant challenge of our business is getting access to information quickly and efficiently," said Eoghan Doyle, director of infrastructure and

Operations. "A broker who's based in Indonesia may be working with colleagues in London, New York, and various other locations where expertise resides in the company. Getting access to that information can be difficult, particularly from locations that have limited IT infrastructure."

In addition, the distributed IT environment was expensive to maintain. "Each major office or region had its own mail server," said Doyle. "We wanted to consolidate that infrastructure to reduce both the overhead and support costs." Willis also had two primary data centers – one in Nashville in the US and one in Ipswich in the UK. Each data center performed many of the same functions, so there were duplicate environments for many applications.

Finally, many locations had bandwidth constraints. "In some locations, like South Africa, communication costs are reasonable within the country, but once you go outside the country they are incredibly expensive," said Doyle. "The ability to get good quality, cost-effective bandwidth was difficult in many places."

Solution: Riverbed Steelhead Appliances and Interceptor Deployed Globally to Create Scalable Solution

To address these challenges, Doyle and his team evaluated WAN optimization solutions from several vendors, including Expand and Cisco. Riverbed was chosen over the other vendors, particularly Cisco, because of the breadth of functionality. "The Cisco solution met one of six criteria, but Riverbed gave us five of the six we wanted, and that breadth of capability was the key differentiator."

After a successful trial in five offices, Doyle and his team began installing appliances around the world. To enable increased scalability and resilience, Willis opted to cluster the Steelhead appliances in out-of-path deployments in the Nashville data center and in one

The ability to cluster the Steelheads using the Interceptor helps us increase the capacity and also provides very good fail over capabilities.

of the main U.K. locations. This design was facilitated by Riverbed Interceptors deployed in the primary data center, which sit between the WAN routers and the Steelhead appliances and distribute TCP connections evenly across a stack of appliances. The result is greater scalability and flexibility – each Interceptor enables

large numbers of Steelhead appliances to work in parallel, optimizing up to 1,000,000 connections, and allows for real-time addition or removal of appliances within a group.

Compared to other alternatives that are designed to enhance scalability – such as load balancers, WCCP, or policy-based routing (PBR) – the Riverbed Interceptor has several advantages. First, the Interceptor has more network integration options, which enables greater flexibility. Second, the Interceptor has better management and administration capabilities, making it easier to maintain a large cluster of appliances. Finally, the Interceptor has peer affinity with the Steelhead appliances, which provides improved performance over WCCP or PBR. Peer affinity increases the probability of delivering warm data to remote sites and enables efficient use of the cluster's overall data store by ensuring redundant data is not written to multiple Steelhead appliances.

To date, Willis has deployed 107 Steelhead appliances around the world and two Interceptors. The implementation went smoothly, without requiring significant changes to Willis's existing network. "We didn't have to dramatically change or reinvest in anything, like Cisco equipment or any other equipment," said Doyle. "Essentially, the appliances worked out of the box."

The performance improvements have been dramatic, with LAN-like application performance over the WAN, peak data reduction of 82%, and a capacity increase of 4.2x. Specific data reduction levels for Willis's main applications can be seen in the table below.

Benefits: IT Consolidation Saves \$30 Million Over Five Years

The most significant benefit of the Riverbed solution has been Willis' ability to consolidate its technology infrastructure, while improving the user experience and allowing remote workers to collaborate seamlessly. Given the high costs of operating and maintaining both data centers in Nashville and Ipswich, Willis had previously explored consolidating the two, but was unable to do so because of high latency across the global network.

Steelhead appliances removed this roadblock and allowed Willis to consolidate most services to the Nashville data center. 200 major applications, including Microsoft Exchange, and several thousand small applications have now been consolidated globally

to Nashville. The Ipswich location now only houses file services, some small applications, and supporting infrastructure. This consolidation was achieved while maintaining business application performance across international networks.

The Riverbed appliances have also become a key element of Willis's strategy for smaller international offices, allowing Willis to consolidate branch infrastructure with no performance hit to the end users. In a number of international offices where latency is between 250 and 380 ms, Willis was able to remove all e-mail servers, local file servers, and Citrix based applications. In many of these offices, a small print server is the only server remaining in the office. "An increasing amount of our international offices no longer need local IT professionals or significant local infrastructure," said Doyle.

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This consolidation of infrastructure has helped Willis achieve a significant ROI on the investment, with anticipated savings of \$30 million over five years. These savings are driven by the physical consolidation of locations (including building, equipment, and personnel costs), but also the lower ongoing maintenance costs.

Finally, the fault tolerant nature of the solution has also been very important for Willis. Steelhead appliances "fail to wire"—meaning if an appliance fails, data will be passed through un-optimized. "Many of our international sites have just one Steelhead appliance, so it's imperative that it fail to wire," said Doyle. The Interceptors have further strengthened this resiliency, allowing Willis to expand the Steelhead infrastructure to five 5520 models that manage all traffic to and from their global data center in Nashville. "The ability to cluster the Steelhead appliances using the Interceptor helps us increase the capacity and also provides very good fail over capabilities," said Doyle.

SUMMARY

Willis's distributed IT infrastructure was costly to maintain, and employees in many locations had poor access to information due to bandwidth constraints.

After evaluating competing products, including Cisco and Expand, Willis chose the Riverbed solution to consolidate IT infrastructure and improve application performance over the wide area network (WAN).

The Riverbed deployment has enabled Willis to consolidate IT infrastructure, with anticipated savings of \$30 million over five years, while improving access to information for their global workforce.

CASE STUDY: riverbed®

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



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