

# CASE STUDY: Silicon Image

## IN BRIEF

### Industry

- Engineering

### Challenge

- Enable inter-office collaboration in real-time
- Accelerate application performance
- Eliminate network congestion due to increased CIFS and NFS traffic
- Overcome performance and configuration limitations in existing alternatives from Silver Peak and Blue Coat

### Solution

- Deployment of Steelhead appliances across all remote offices
- Deployment of the Riverbed Central Management Console (CMC)

### Benefits

- Enabled real-time collaboration across offices
- Accelerated application performance
- Quick and easy deployment across all remote offices
- Reduced network congestion and faster data throughput



## Riverbed® Steelhead® Products Solve Data Management and Application Performance Problems for a Leading Engineering Enterprise

Silicon Image (<http://www.siliconimage.com/>) is an engineering company providing robust, high bandwidth semiconductors in the global PC/display, consumer electronics and storage arenas. Silicon Image creates and drives industry standards for digital content delivery such as HDMI, DVI, and SATA, leveraging partnerships with global leaders in the consumer electronics and personal computing markets to meet the growing digital content needs of consumers worldwide. The company has branch offices in Japan, Korea, China, Taiwan, Germany, US and the U.K. Silicon Image has 600+ employees and a revenue base of US \$295 million (2006).

### Challenge: Enabling Real-Time Collaboration for a Distributed Workforce

With projects typically operating across geographically distributed locations, employees at Silicon Image share a large amount of data across the WAN. Mr. Alan Ayer, network systems manager at Silicon Image noted, "We have specialized engineers in various locations who regularly share project data across offices. As a result, there is a lot of data that moves regularly over the WAN. It's critical that our engineers are able to access data and applications anytime to get their work done, no matter where they are."

However, Silicon Image faced serious challenges in enabling effective collaboration over the WAN. Ayer noted, "Ping times across the WAN were about 200 ms; so it would take a long time for the file structure in Windows to come up. This led to frustration among the users. It was the same when downloading files: it would take ten minutes, 20 minutes or more to download a single file." Ayer also commented, "We had lot of network traffic on CIFS and NFS, so we knew part of the problem was that the applications weren't designed for the WAN. But with an increasing workforce, we experienced performance issues due to network congestion as well. Our engineers would end up frustrated with the poor application speed and the long waits while transferring data."

### Solution: Steelhead Appliances Overcome Network Limitations

Ayer recalled the process of trying different WDS products. "We had deployed Silver Peak and also tested Blue Coat. But both had significant limitations."

### Benefits: Application Acceleration and Easy Deployment

Riverbed Steelhead appliances have enabled Silicon Image to deliver the best possible work experience to its distributed workforce. With Riverbed, the frustrations caused by long wait times are a thing of the past. Users are more productive and can also collaborate more effectively over the WAN.

Recounting Riverbed benefits Ayer said, "Riverbed provided a two-fold solution to Silicon Image. The solution both improved data throughput and accelerated application performance, while also delivering ease-of-configuration." Explaining in detail he said, "It took just a few minutes to deploy and configure Steelhead appliances. Our technical staff in the remote site could manage the process in a single phone call.

"With the CMC, it was easy to deploy updates to all the devices and view reports, even without delving into the company's well-written documentation." Ayer continued, "We are extremely satisfied with the reporting and monitoring functions that it offers; we can actually see how much bandwidth we're saving and what kind of data is being accelerated." Ayer recalled, "People noticed something was dramatically different with the performance of their applications. Riverbed helped us eliminate downtime for employees in all our offices, and that has led to a more effective and more enjoyable work environment. Our workers can now do their jobs faster."

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**"When you deploy the Steelhead appliance, your workers can do their jobs faster. The most valuable benefit for our organization is an extremely productive and satisfied workforce."**

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### SUMMARY

Silicon Image is an engineering company with a workforce spread across multiple locations in Asia, Europe, and North America. Facing a wide range of performance-related issues, their most critical requirement was to enable effective real-time inter-office collaboration. Silicon Image had deployed products from Silver Peak and also tested Blue Coat, but found that they provided only partial solutions or were too time consuming to configure. Looking for a comprehensive alternative, Silicon Image deployed Riverbed Steelhead appliances. Riverbed enabled Silicon Image to achieve faster data sharing, accelerated application performance, optimized bandwidth utilization, and did so while enabling an easy to use wide-area data services infrastructure.

### Comparative Analysis: Riverbed Demonstrates Superior Performance

Ayer commented "The limitations in the offerings from Silver Peak and Blue Coat drove us to try Riverbed. But the superior performance of Riverbed blew the competition away."

#### Application Performance over the WAN

**"The limitations in the offerings from Silver Peak and Blue Coat drove us to try Riverbed, but the superior performance delivered by Riverbed blew the competition away"**

LAN-like performance in our remote sites."

The major challenge Silicon Image faced was the time it took for its engineers to upload or download a set of data files. They deployed Silver Peak in the UK and in Irvine and found that its products were only a partial solution. The Riverbed Steelhead appliances did a better job at accelerating CIFS. According to Mr Ayer, "Tasks like file sharing were still slow with Silver Peak, however, with Riverbed, we have

#### Auto-Discovery and Ease-of-Use

Riverbed appliances have an auto-discovery feature that makes them very easy to configure and deploy. The deployment process consists of two steps: give the Steelhead appliance its own IP address, and then connect the Steelhead appliance physically into the network. The Steelhead appliance automatically discovers all other Steelhead appliances in the network without any additional assistance. According to Ayer, "In contrast to Riverbed, with Silver Peak you actually have to go in, make configurations and then adjust the bandwidth tunnels as well. With Blue Coat, the deployment is far too complicated, confusing and tedious."

**"People noticed something was dramatically different with the network. Riverbed helped eliminate frustration for employees in all our offices, leading to a more effective and enjoyable work environment."**

#### Low TCO + Bandwidth savings = Great ROI

According to Ayer, "Riverbed is a massive cost saver. For us, the costs of implementing a bandwidth upgrade would be 3.4 times more expensive than deploying the Riverbed Steelhead appliances. The Riverbed solution pays for itself in a short period of time." He added "The Riverbed cost of operations is very low. We have an IT department of four people supporting a workforce of 600+ people worldwide. But it took us just about two weeks to deploy the Riverbed solution across all remote offices. In addition, we haven't needed to add any staff to manage and run our Riverbed appliances."

**"You have to pay for other application acceleration products; but Riverbed's WDS pays for itself."**

#### Quality Support Service (Sales and Technical)

The Riverbed technical team support covers both hardware and software and is available worldwide, 24 hours a day, seven days a week, by phone, email, and Web. And, Ayer expressed his satisfaction at the promptness of the sales team in responding to their call for a demo. After a successful deployment of Steelhead appliances, the sales engineering team stayed in regular touch with them to ensure smooth operations. Ayer noted "The sales team was quick to send us the demo boxes. When deployed, the demo boxes did extremely well. As a matter of fact, we have been using the demo boxes as our production boxes. Once they were in, there was no way we wanted to get the old complaints again."

#### About Riverbed

Riverbed Technology is the performance leader in wide-area data services (WDS) solutions for companies worldwide. By enabling application performance over the wide area network (WAN) that is orders of magnitude faster than what users experience today, Riverbed is changing the way people work, and enabling a distributed workforce that can collaborate as if they were local. Additional information about Riverbed (Nasdaq: RVBD) is available at [www.riverbed.com](http://www.riverbed.com).

Riverbed Technology, Inc.  
199 Fremont Street  
San Francisco, CA 94105  
Tel: +1 415 247 8800  
Fax: +1 415 247 8801  
[www.riverbed.com](http://www.riverbed.com)

Riverbed Technology Ltd.  
1, The Courtyard, Eastern Road  
Bracknell  
Berkshire RG12 2XB  
United Kingdom  
Tel: +44 1344 354 910

Riverbed Technology Pte. Ltd.  
350 Orchard Road #21-01 03  
Shaw House  
Singapore 238868  
Tel: +65 68328082

Riverbed Technology K.K.  
Shiba-Koen Plaza Building 9F  
3-6-9, Shiba, Minato-ku  
Tokyo, Japan 105-0014  
Tel: +81 3 5419 1990