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Centralizing Data Lowers Risk and Allows Global Reach with Fewer Data Centers

Paul Hastings LLP is a leading international law firm that serves many of the world's top financial institutions and *Fortune* Global 500 companies.

Challenge: Inefficiencies created by data center sprawl; threats to data security in some regions

With 19 offices across Asia, Europe, and the U.S., Paul Hastings has the global reach to deliver international legal services. But as its IT infrastructure grew to support this global work, the firm ended up with data center sprawl. In addition to four hub data centers (Los Angeles, New York, Paris, and Hong Kong) that support multiple offices, the firm operates smaller data centers that support remote offices not served by the hubs.

"It was a combination of organic growth and acquisitions that led to this situation," explains Searl Tate, Paul Hastings' director of engineering. What began as a way to deliver performance to remote offices ended up being an inefficient use of IT resources, requiring a manager

and one or two analysts at each data center, as well as the necessary physical host servers and tape backup systems. (Critical applications at all Paul Hastings offices include Microsoft Exchange, Outlook, Office, SQL Server, and Windows Server, as well as the Autonomy iManage document management application, which Paul Hastings uses to manage 100 million active documents).

Another drawback to that approach was the fact that remote data centers in a few locations were not as secure as Tate would have liked, with the possibility of data exposure if equipment were taken. Even at remote data centers in more secure regions, there were still aspects of data security that could have been stronger, such as more than once-a-day recovery points and encryption to protect data at rest.

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Searl Tate
Director Engineering
Paul Hastings LLP

In Brief

Challenges

- Contain global data center sprawl
- Improve data security
- Increase administrative efficiency to lower operating costs

Solution

- Decouple data storage from application servers in remote offices
- Manage data at secure hub data centers and deliver it to offices via WAN

Benefits

- LAN-like performance boosts user productivity and satisfaction
- Improved data security through snapshotting, encryption, and removal of storage media from remote offices
- Lower TCO due to fewer servers and storage systems to buy and maintain
- Greater IT efficiency because of fewer data centers to staff, and centralized backup practices

Solution: Decouple storage from servers and manage data in secure hub data centers

Data center sprawl, and particularly the threat this posed to data security, led Tate to consider a new solution from his firm's WAN optimization vendor, Riverbed Technology. This solution, called SteelFusion™, would make it possible to store data in centralized data centers yet access the data from remote application servers as though it were local and without compromising performance.

SteelFusion™ technology does this by accelerating block-level storage from a data center to remote offices at the edge of an organization's IT infrastructure. In Paul Hastings' case, SteelFusion™ Edge would allow IT to control data securely in one of the firm's four hub data centers, with projected instances of the data running in the branch-bound applications at the edge. Data would be managed on NetApp storage area network (SAN) and network attached storage (NAS) devices in the secure hub data centers, even though that data would be serving the needs of the remote offices.

The SteelFusion™ solution consists of two components: SteelFusion™ Core, a physical or virtualized appliance that resides in the data center alongside the centralized storage, and SteelFusion™ Edge, a branch converged infrastructure appliance, which also features WAN optimization and the VMware-based Riverbed Virtual Services Platform (VSP). Paul Hastings has installed SteelFusion™ Core at each of its hub data centers' SteelHead EX 1260 appliances with SteelFusion™ Edge at remote offices. The firm connects existing branch-resident VMware servers to the SteelFusion™ solution for access to centralized data. "We have high-performance HP servers serving as our (VMware) virtualization hosts. We drive our storage systems quite hard, so for now we plan to reserve the computing power of the SteelFusion™ Edge for storage and WAN optimization."

Benefits: Users notice nothing; more advanced security practices coat savings

“For us to be successful with this SteelFusion™ deployment, it has to be transparent. If our end-user customers can tell we replaced the infrastructure we’ve failed,” says Tate. “Our experience is that they don’t notice a performance penalty. The applications perform as they did when the data was stored locally.”

The SteelFusion™ deployment improved data security in a number of ways. First, having data stored centrally in NetApp SAN/NAS systems enables snapshotting, which supports a greater choice of recovery points. Second, the SteelFusion™ encryption protects data at rest, eliminating the risk posed by having equipment stolen or confiscated. Similarly, removing physical tape media and backup devices from the remote offices eliminates that risk as well.

With the SteelFusion™ Edge, Paul Hastings can also take advantage of more of the reliability functionality built into VMware, such as vMotion, which requires centrally managed storage.

Tate expects the SteelFusion™ solution to deliver the efficiency enhancements he was hoping for, which will result in cost savings for the firm. “We are still in the process of deploying this solution, but I can see that there are very obvious benefits in terms of financial savings,” he says.

There will be a reduction in IT staff as all data is consolidated in the firm’s four hub data centers and the smaller data centers are shut down. However, Tate expects avoided capital expenses, such as no longer having to purchase as many servers and backup systems, to be the main source of savings.

“There isn’t really another product exactly like SteelFusion™,” concludes Tate. “There are companies that offer some components separately, but by having it all under one administrative umbrella, you have a product that does this turnkey. That’s the magic here.”

“There are very obvious benefits in terms of financial savings.”

Searl Tate
Director Engineering
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Summary

As this international law firm grew to include 19 offices across Asia, Europe, and the U.S, it developed “data center sprawl” (four hub data centers as well as multiple smaller data centers). Although this architecture ensured performance at the remote offices, it also required a manager and one or two analysts, as well as physical host servers and tape backup systems, at each data center. This was costly, and in some regions, the data was not as secure as the firm wanted.

SteelFusion™ enabled the firm to remove data storage from the remote offices, and manage it instead in one of the firm’s secure data centers. Data is delivered to the application servers in the offices via the WAN with no loss in performance.

The SteelFusion™ deployment has improved data security in several ways:

- The firm has removed storage media from offices where it wasn’t completely safe
- SteelFusion™ encryption protects data at rest something that wasn’t happening previously
- Increased security and efficiency is possible now that the data is centrally managed. SteelFusion™ saves the firm money because there are fewer data centers to staff and fewer servers and storage systems to buy and maintain.

About Riverbed

Riverbed, at more than \$1 billion in annual revenue, is the leader in application performance infrastructure, delivering the most complete platform for the hybrid enterprise to ensure applications perform as expected, data is always available when needed, and performance issues can be proactively detected and resolved before impacting business performance. Riverbed enables hybrid enterprises to transform application performance into a competitive advantage by maximizing employee productivity and leveraging IT to create new forms of operational agility. Riverbed’s 26,000+ customers include 97% of the *Fortune* 100 and 98% of the *Forbes* Global 100. Learn more at riverbed.com.

The Riverbed logo consists of the word "riverbed" in a lowercase, bold, orange sans-serif font.