

# CASE STUDY: Cubist Pharmaceuticals

## IN BRIEF

### Industry

- Pharmaceutical

### Challenges

- Deliver LAN-like application performance in a globally consolidated IT environment
- Enable accelerated replication of data and virtual server infrastructure to enable DR
- Overcome a bandwidth constrained environment running multiple applications, VoIP and videoconferencing

### Solution

- Steelhead appliances deployed in main offices and disaster recovery facility

### Benefits

- Migrate VMware server images to remote DR site 55x faster
- Improved application performance while still delivering VoIP and videoconferencing over a low bandwidth link
- Accelerate Oracle ERP database replication for compliance and DR
- Achieve significant cost savings by deferring costly international bandwidth upgrade

**CUBIST**  
PHARMACEUTICALS



## Riverbed® Steelhead® Appliances Accelerate VMware Image Replication and Applications for Pharmaceutical Firm

Cubist Pharmaceuticals ([www.cubist.com](http://www.cubist.com)) is a rapidly growing biopharmaceutical firm that focuses on the development of anti-infective drugs. Its flagship product, CUBICIN, was the first IV antibiotic developed from lipopeptides and is used in the treatment of complicated skin and skin structure infections, as well as other blood-stream infections. Headquartered in Lexington, MA, Cubist Pharmaceuticals maintains an international presence with a manufacturing facility in Italy, global partnerships for distribution of CUBICIN and a U.S. sales force. With over \$190MM in annual revenue, the firm employs over 400 people and continues to innovate in anti-infective biopharmaceutical development and is publicly traded on the Nasdaq (NASDAQ: CBST).

### Challenge: Improving Application Performance for Consolidated IT

Cubist Pharmaceuticals faced a number of limitations to deploying IT services efficiently via its distributed WAN environment. The company had embraced a consolidated infrastructure model and wanted to deliver applications globally while at the same time enabling VoIP and videoconferencing to their manufacturing facility located in Italy. With limited bandwidth overseas, and large data transfers into their Italian manufacturing facility, Cubist also sought to avoid a costly circuit upgrade without compromising application performance and future technology deployments.

Michael Geldart, Sr. Manager of Computer Operations at Cubist, described the situation. "We had a couple of challenges with Italy because of the amount of data that needed to be transferred on a daily/weekly basis and the fact that we also wanted to be able to do video conferencing and VoIP across the link. We got to a point where the link could not support the demands we were placing on it and we had a choice of either upping that link to a more robust size or bringing in some type of acceleration on a one-time fixed cost. Upping the bandwidth is a very expensive proposition."

Geldart went on to comment on the consolidated architecture, "All of our servers reside in Lexington, so the Italian employees access everything across the WAN. We utilize that infrastructure for a number of things – email obviously through Microsoft Exchange 2003, as well as network files transfers; CIFS/Microsoft networking and FTP."

### Leveraging VMware and Data Replication for Accelerated DR

At the same time, Cubist Pharmaceuticals needed to enhance its disaster recovery replication strategy for both compliance and business continuity reasons. The company had established a disaster recovery facility in Philadelphia and was looking to replicate data from its Oracle ERP application on a nightly basis. To create additional resiliency from a DR perspective, Cubist had also implemented VMware virtual server technology and was seeking to replicate the virtual machine images to the disaster recovery site as well.

"We do replication of a number of different types of data," Geldart stated. "Major data downloads for our sales data get replicated every day and we replicate our entire ERP and Oracle AERS environment, which is a compliance requirement for a pharmaceutical company."

Discussing the virtual server environment, he added, "we're an early adopter and heavy user of newer enabling technologies, VMware being one of those. Two years ago, we embarked upon utilization of VMware and ESX Server as our primary server platform. We now have roughly 90% of our Windows and Linux servers running inside of VMware ESX server as a virtual machine, so one of the benefits that we wanted to get was the ability to do a snap of these machines and replicate them to other sites."

**"We now see upwards of 50 to 55x improvement in data transfer for a snap of a VMware machine."**

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### SUMMARY

Cubist Pharmaceuticals was looking to address several performance challenges across their globally distributed network. The firm sought to deliver LAN-like application performance to remote users through a consolidated IT model, as well as replicate VMware virtual machine images as part of a next generation DR strategy.

Cubist looked to wide-area data services (WDS) as the technology enabler for their forward-looking IT strategy. After examining the alternatives, they found that Riverbed's solutions could provide benefits for a range of scenarios through a unified solution.

With Riverbed Steelhead products, Cubist Pharmaceuticals has overcome performance-related consolidation issues and accelerated both data and virtual server replication for DR.

### Steelhead Appliances Accelerate Performance and Enable DR

After performing due diligence and research, as well as discussing the technology with analyst groups, Cubist decided to move forward with a Riverbed Steelhead implementation. "The top applications that we really needed to have accelerated, especially when it came to the Italy link, were Exchange 2003, Microsoft networking/CIFS, and for the

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disaster recovery link, FTP and NFS. For the main applications to Italy, we were able to achieve a 15 to 35x improvement in performance while still driving VoIP and videoconferencing over the link."

Cubist has also been able to effectively replicate their virtualized server infra-

structure to the DR site and have seen some dramatic improvement. Geldart stated, "the Steelhead products have given us unbelievable performance when replicating VMware. We now see upwards of 50 to 55x improvement in data transfer for a snap of a VMware machine, which is just incredible."

The acceleration has also been considerable for other DR data replication. "For our Oracle ERP, we replicate the entire system on a nightly basis, both the 240GB and 120 GB database over a 1Mbps link, and it's taking 1.5 hours to replicate, which is pretty incredible for those of us who've been in the industry a long time and suffered with slow WAN speeds and latency for years."

### Benefits: Acceleration Across Multiple Use Cases with Significant ROI

By using Riverbed, Cubist Pharmaceuticals has been able to improve performance for several key enterprise applications as well as augment their DR data replication strategy. Riverbed Steelhead products have also enabled Cubist to snap virtual machine images and replicate them across the distributed environment to overcome bandwidth and geographical constraints, and give the company a truly virtual server infrastructure.

Additionally, the cost savings for the company have been significant. Geldart approached the ROI analysis from two separate perspectives. With regard to cost savings through deferred bandwidth upgrades, he stated, "in one year, the Steelhead appliances have paid for themselves vs. recurring bandwidth costs and will continue to pay for themselves over and over again. That was easily demonstrated to the head of our manufacturing department, who ultimately was asked to provide funding for it."

Geldart also commented on Cubist's enhanced DR capabilities. "The ability to replicate our most critical systems on a nightly basis has been a huge win for the business and is going to allow us to reduce our disaster recovery costs. By the end of this year, our expectation is that we'll be able to have all of our tier one and probably the majority of our tier two production systems available as hot backups to our data center in Lexington. We can deploy this model for a minute fraction of the money that you would have had to pay five years ago for that type of capability and the bandwidth requirements."

### 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).

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