



## Data393

### Bringing backup and restore function in-house with high reliability, greater performance, and new efficiencies

Data393 is a leading managed IT infrastructure provider offering co-location, dedicated servers, and managed infrastructure services to local and national businesses. Based in Englewood, CO, Data393 operates a 76,000-square-foot facility featuring more than 20,000 square feet of secured, monitored raised flooring. The company is known for its “best of breed” technologies, superior quality bandwidth, and expert IT personnel, along with well-defined processes to deliver reliable, cost-effective services.

#### Benefits

- Backup windows reduced from as much as 20 hours to as little as 20 minutes
- Better resource utilization for servers, translating to higher performance for customers
- Success rates for backup and restore functions drastically improved
- Cost savings through replacement of outsourced vendor and greater efficiencies for internal team

#### Challenges

A dependable and cost-effective solution for data backup and recovery is critical for an IT service provider such as Data393, a company that has built a reputation on customer service and reliability. Until recently, Data393 was outsourcing its backup and recovery function to a third party, an arrangement that had grown untenable.

The outsourcing vendor was utilizing traditional tape backup technology to back up Data393's customer data, which had grown to more than five terabytes. With a workload of 14,000 to 17,000 backup jobs every month, Data393 had to hire a full-time employee to manage the vendor relationship and perform the administrative tasks required, in addition to interacting with customers for backup procedures. “We needed the full-time person because our backup success rate had fallen abysmally—60 to 70 percent on the average, and below 50 percent on bad months,” said Steve Merkel, chief information officer at Data393.

According to Merkel, one cause of the low success rate was the very long backup windows—up to 20 hours—that were resulting from the extremely high resource utilization of many of the servers Data393 was protecting. “Many of our devices have large amounts of disk space with up to 70 gigabytes of data and they’re running at 70-90 percent resource utilization,” said Merkel. “Trying to protect that much data on a nightly basis, using an outsourced vendor with tape backup, had really expanded our backup time. And, with such a large backup window, any small hiccup can place real performance strain on the server and affect backup success.”

#### EMC Avamar solution

To address the challenges, Data393 decided to bring the backup and recovery function in-house by implementing EMC® Avamar®—a software solution that enables fast and reliable backup and recovery across the entire enterprise. Avamar's patented global data de-duplication technology reduces the size of the backup data at the source, before it is transferred across the network. As a result, users are able to reduce required bandwidth and the amount of data backed up daily by up to 300 times. Avamar enables fast, secure remote office backups over existing network connections, eliminating the need to ship tapes.

## Business profile

### Data393

Managed IT infrastructure provider for local and national businesses

### Industry

High technology

### Geographies

Headquarters in Englewood, CO

### Business solution

Data backup and recovery

### EMC products

EMC Avamar

### Deployment summary

Enterprise system for backup and recovery of customer data

## *Slashing the backup window without affecting performance*

In only a short time, Data393 began to see significant improvements in backup performance as a result of the new Avamar-based system. With Avamar, the company's backup success rate has increased to 98 percent and backup windows have reduced across the board. In the most extreme example, the machine with extremely high resource consumption that was once taking almost 20 hours to back up, now only requires three hours. "A more typical situation is an enterprise server with 30 percent resource utilization and around 120 gigabytes of data," said Merkel. "Thanks to Avamar, we can now complete a full backup on this type of machine in less than 20 minutes."

"One of the great things about Avamar is that it gives priority to other processes that are competing for CPU resources on the machine, so we can perform backups without degrading application performance on the server," he added. "We don't have customers calling anymore and asking why their servers are running so slowly while we perform a backup."

## *Stress-proof restore capabilities*

In addition to improved backup performance, Avamar has made the data restoration function more dependable and foolproof at Data393. While the system is fully capable of performing full data recovery in the event of a catastrophic failure such as complete loss of a server, the typical situation is more mundane: restoring information that a customer has deleted by mistake, for example. On average, the company is now able to perform 50 to 100 data restore operations for customers every month, with a 100 percent success rate. "With our previous platform, we had nowhere near that level of restore success," said Merkel. "More times than I like to admit, when we had a catastrophic failure with a machine, we couldn't be 100 percent sure the data was on the tape or even how to locate the tape. Now that we're not working with tape, we don't have those kinds of logistical problems—and I'm sleeping a lot better at night! The system just does its job."

"EMC Avamar has had a huge, positive impact on our IT operations and our company's ability to provide high-quality, reliable service to our customers."

Steve Merkel, Chief Information Officer

## *Reduced overhead for system management*

By bringing the data backup and restore function back in-house with the Avamar-based system, Data393 has realized another, unanticipated benefit: greater efficiencies in managing the system. Before, the company had one full-time person who was committing almost his entire day to managing the relationship with the outsourced provider and dealing with failed backup jobs; likewise, the vendor had committed at least one full-time person to the Data393 backup task. "When we switched to the EMC Avamar environment, we were able to eliminate the provider altogether—and my employee is spending no more than half of his time on backup operations," said Merkel. "Just by reducing the management overhead from having to keep such a large backup environment running, we've realized significant ROI."

## Summary

By bringing its backup and restore function in-house and running on the EMC Avamar platform, Data393 has realized significant benefits. The company has been able to drastically shrink its backup windows and improve server performance, and the success rate for data restore operations has improved dramatically. Furthermore, the system has brought about new efficiencies and cost savings by replacing the outsourced vendor and reducing the time required for internal management of the backup and restore function. "EMC Avamar has had a huge, positive impact on our IT operations and our company's ability to provide high-quality, reliable service to our customers," said Merkel.



EMC Corporation  
176 South Street  
Hopkinton, MA 01748  
1-508-435-1000  
In North America 1-866-464-7381

EMC<sup>2</sup>, EMC, Avamar, and where information lives are registered trademarks of EMC Corporation. All other trademarks used herein are the property of their respective owners.

© Copyright 2007 EMC Corporation.  
All rights reserved. Published in the USA. 6/07

Customer Profile  
H2864