



Simply Better Storage.

CONTINUING

GEO Foundation Case Study



FAST FACTS

The Greater Educational Opportunities (GEO) Foundation improves education through the sponsorship of charter schools across the country. With a limited budget, GEO used storage from Scale Computing to pursue an aggressive virtualization plan that reduced server and desktop costs and improved student computer access.

Plan Results:

- Deployment of unified, scale-out storage for server and desktop virtualization
- Total cost savings of \$85,000
- Achievement of a 2:1 student to computer ratio in half the planned time
- Storage Virtualization Project of the Year award from Data Centre Solutions
- InfoWorld CTO 25 Award to Brian Beck for improving student PC access



Using the Scale solution, Brian Beck was awarded the InfoWorld CTO 25 Awards and saved GEO over \$60k in the first month of implementation!

Case Study

Based in Indianapolis, Indiana, the Greater Educational Opportunities (GEO) Foundation has worked to improve public education since 1998. Specifically, GEO Foundation helped foster support for charter school law and now sponsors four schools (three in Indiana, one in Colorado) that serve more than 1,200 students.

As the GEO Foundation grew, it faced a number of mounting IT challenges. GEO needed to support the server farms of multiple schools, each with growing storage needs and expensive cooling requirements. GEO also faced increasingly difficult and expensive physical desktop support. Desktop upgrades alone cost the GEO Foundation more than \$75,000 per school every four to five years.

In light of these costs and complexities, GEO decided to implement a new server and desktop infrastructure, divided over a multiple phase project:

1. Buy and install the required storage and networking equipment and integrate it with their current IT infrastructure
2. Virtualize current servers and reallocate hardware
3. Deploy desktop virtualization

Solution

With a one-time grant budget of only \$20,000 per school to address these challenges, the GEO Foundation needed to find a storage solution that would preserve enough of the budget to deploy a virtualization solution affecting both servers and desktops.

For the virtualization platform, the GEO Foundation selected Citrix® XenServer®. Citrix was selected due to its position as the only enterprise-class server virtualization platform that delivers two critical functions for GEO at no charge: live migration of VMs and centralized multi-server management. XenServer is an open server virtualization solution that radically reduces datacenter costs by transforming static and complex datacenter environments into more dynamic, easy-to-manage IT service delivery centers.

For the underlying storage, the GEO Foundation began looking at solutions from Hewlett-Packard and Dell. They came close to placing an order for HP LeftHand storage before discovering Scale Computing.

"We were extremely excited to come across Scale Computing, as their solutions were exactly what we were looking for, at a price point well below what we had expected," said Brian Beck, CTO, GEO Foundation. "Scale's entry price is comparable to the most basic systems, yet its ability to grow over time exceeds that of even the most complex solutions, which is something we looked for as we expand."



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CONSULTING

Solution - Continued

Scale Computing develops and manufactures storage products designed to preserve the cost savings of virtualization using an intelligent, scale-out architecture. A scale-out architecture allows the capacity and performance of the storage to grow in tandem with the virtual environment. Just adding disks to a legacy scale-up storage system will only support growth in the virtual environment until the aggregate storage bandwidth needs of the VMs exceed the controller's performance. The single step of adding a node to a Scale Computing cluster adds both the capacity and performance needed for additional VMs in the environment.

Each Scale Computing node includes ICOS™ technology. ICOS is a proven storage operating system that can be described as a "virtual" IT administrator in each storage cluster. It provides a layer of control for the storage that ensures the data on the cluster is available and protected. ICOS enables a Scale Computing storage cluster to simultaneously support iSCSI, CIFS, and NFS protocols in a unified storage pool, thus eliminating the need for separate block-level and file-level storage systems. A unified Scale Computing storage cluster also adds the flexibility to deploy virtualization using either iSCSI or NFS protocols on a VMware Ready or Citrix Ready storage system.

Companies of all sizes recognize the critical need to keep data available and protected. ICOS powered storage clusters mirror and stripe data across multiple nodes for optimal performance and data redundancy. In the rare event of a failed drive, that data is automatically rebalanced to another node, without interruption to users. ICOS also provides snapshot and replication capabilities to avoid data loss from user error or regional disasters.

Getting started with Scale Computing storage is easy. Select a starter cluster that meets today's storage need; then scale out with additional nodes of any size as storage needs grow. All starter clusters are composed of three nodes that start as small as 3TB of usable capacity.

Business Benefits

By combining storage solutions from Scale Computing and virtualization products from Citrix, the GEO Foundation immediately saw tangible results and cost savings. In a little over one month, the GEO Foundation transitioned all of their storage onto Scale Computing's solutions, virtualized six existing servers and retired five other existing servers – all at just one of GEO's schools.

They also condensed their data to a single backup repository on Scale Computing storage. By the end of phase 2, the Geo Foundation had retired or repurposed 14 physical servers - resulting in more than \$85,000 in savings.

"The upgrade has been smoother and saved us more money than we had planned," said Beck. "We were able to save a lot of time with setup, free up a great amount of server space and reduce cooling and electric costs, all without our users ever missing a moment of productivity. Of our budgeted \$20,000 per school, we only spent \$15,000 for each of the three school sites, leaving close to \$15,000 to be allocated into other projects that benefit the students. We've already seen our investment pay for itself."

With Scale Computing and Citrix solutions in place, the GEO Foundation has already begun the third phase of its upgrade project: deploying thin client workstations. Because of the initial cost savings GEO saw by choosing the right products and virtualizing their environment, they are now able to service their students at a 2:1 student-to-computer ratio, substantially exceeding their previous estimate of one computer for every four students.

Future Plans

The GEO Foundation plans to continue using solutions from Scale Computing and Citrix as they work to finish the third phase of their upgrade project. GEO will begin to use Citrix XenApp™ to help with desktop virtualization, enabling them to improve application management by centralizing applications, ultimately reducing costs and delivering applications instantly to users anywhere. By deploying thin clients, GEO expects tremendous performance boosts for their users. Thin clients will also save GEO thousands of dollars by avoiding costly desktop replacements.

"Scale and Citrix have made it possible to realize the true benefits of server and desktop virtualization," said Beck. "Nearly all other storage offerings would have made it cheaper to just keep buying replacement desktops, costing us well over \$75,000 per school every 4 to 5 years. But with Scale's cost-effective storage, combined with Citrix's unmatched family of virtualization products, not only does our IT staff benefit from lower costs and greater ease of manageability, but our students are the real winners."

For more information about Scale Computing, please visit www.scalecomputing.com.
For more information about CitrixSystems, Inc., please visit www.citrix.com.