NEXGEN™ STORAGE

Colby·Sawyer College

inside · outside · planetwide

Organization

Colby-Sawyer College

Industry

Higher Education

IT Environment

Mixed application workload with 600 VDI desktops

Challenge

Adequate storage performance for their VDI environment at a low cost

Solution

NexGen n5 Storage System

Benefits

- 81% Reduction in client boot times
- 5X more IOPS in 80% less rack space
- 518% more capacity (GB) per rack unit
- $28 storage costs per desktop

CUSTOMER PROBLEM

Colby-Sawyer College has been on the front lines of innovation before. As an early adopter of scale-out storage, the college took advantage of geographically distributed storage and its inherent high availability for years. But when virtual desktop management threatened to overwhelm the existing storage infrastructure, something had to be done.

An exhaustive research project resulted in three key challenges that had to be addressed for a successful VDI implementation:

1. The ability to manage desktop images
2. Adequate storage system performance, specifically around boot storms and virus scans
3. Low storage costs

To address its image management challenge, Colby-Sawyer College deployed Unidesk. The innovative software solution allows users to update a gold image once, then have the update propagate out to all desktops.

The second two challenges required a stringent evaluation of the available storage options. The existing storage system couldn't handle the new demands of the VDI workload. After several sizing iterations, Assistant IT Director David Blaisdell just wasn't comfortable with adding additional disk drives and hoping it would suffice.

"Our existing system delivered around 4500 IOPS. The VDI environment was going to require short spikes of five to six times that amount. The SAN upgrade recommended by the vendor was going to increase performance to 8000 IOPS, but we weren't comfortable with the ability of that approach to meet our requirements during activity spikes."

"NexGen's raw performance along with QoS capabilities gave us the confidence that NexGen could handle the VDI spikes and deliver consistent performance to other application workloads simultaneously.

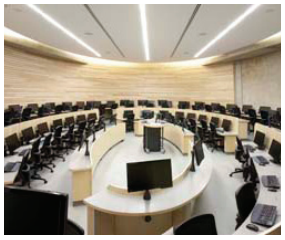
After we tested the NexGen system, we knew it had enough horsepower; the bonus was the cost. Because NexGen integrates PCIe solid-state with high capacity disk using a Quality of Service engine, the overall $/GB was much lower than expected."

-**David Blaisdell**,
Assistant IT Director

In addition to the cost of the upgrade, the existing system maintenance was a drag on the IT budget and presented ongoing budgeting pressure. The team looked at Virtual Storage Appliance technology from VMware and HP, combined with caching software between the hypervisor and storage layers. Although this solution was cost effective, the added complexity was a detriment. Plus, managing storage hardware, virtual storage appliances, and storage caching software was too much for a small IT team.

NEXGEN SOLUTION

Colby-Sawyer College turned to NexGen Storage. The initial appeal of the solution was its simplicity, but what separated NexGen from other options were its Quality of Service (QoS) capabilities. "NexGen's raw performance along with QoS capabilities gave us the confidence that NexGen could handle the VDI spikes and deliver consistent performance to other application workloads simultaneously," said Blaisdell.



Also important to Colby-Sawyer College was the quick deployment and limited management overhead of the NexGen n5 Storage System. The ability to make a single purchase that could satisfy the capacity and performance needs for the projected size of the VDI environment was viewed as a strong advantage.

Initial testing showed NexGen delivering around five times more performance in a much smaller footprint than the existing system. Colby-Sawyer College also ran full client boot operations that took between two and three minutes on the existing system. With NexGen, the boot operation was reduced to 34 seconds, resulting in a very noticeable difference in desktop performance for its end users.

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The final storage cost for Colby Sawyer's VDI implementation was $28 per desktop.

The NexGen system is not fully consumed with the VDI implementation. Future plans include consolidating the virtual server environment onto the NexGen system.