

Medical Center Boosts Storage Performance by 5-10x as VDI Expands, Cost Drops by 8-10x on Datrium DVX



NORTH BEND MEDICAL CENTER CASE STUDY



Healthcare
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Challenge

With a SAN, storage became a bottleneck at the medical center. North Bend Medical Center (NBMC) needed a way to scale storage to meet the needs of its expanding VDI infrastructure.

Results

- A massive 85% cost savings moving from array-based flash to host-based.
- Up to 100x space savings on flash with Datrium's data reduction.
- 80-90% time savings during maintenance windows – tasks completed in two minutes instead of 10-20 minutes.

“When I ran a head-to-head comparison, the Datrium DVX system performed critical tasks in a quarter of the time compared to Nimble Storage. During maintenance windows, we saw 5-10x time savings. Tasks that used to take 10-20 minutes on the current SAN now take less than two minutes to complete.”

Joshua Rabe
Systems Architect

Company Challenge

Improving VDI Performance While Keeping Costs Low

When Rabe joined NBMC, he was charged with designing and implementing a completely new network and server architecture, and deploying a virtual desktop infrastructure (VDI) solution. At NBMC, VDI not only means cost efficiency, but it gives providers much-needed flexibility to access records from any location within the medical center. Yet with 470 virtual desktops, and growing, Rabe and the team saw performance drop on their existing Nimble storage array.

“As our VDI environment expanded, storage became the bottleneck for our performance,” Rabe said. “Performing time-sensitive tasks grew from five minutes to up to 15-20 minutes. We wanted to find a way to scale our environment to meet the needs of our growing VDI infrastructure and do that in a way that’s not only cost-effective, but that increases performance as we continue to grow.”

NBMC evaluated a variety of storage solutions, and with most, found too many tradeoffs in trying to balance cost, flexibility, and scalability. While a hyperconverged solution such as Nutanix seemed to offer greater manageability, it was outweighed by the rip-and-replace requirement for the server infrastructure and the high cost of scaling the solution. Likewise, solid-state array maker Pure Storage offered the benefits of flash, but the up-front and ongoing cost of scaling such a solution was prohibitively expensive.

Results

Attractive Economics with a Shift to Server-Based Flash

By contrast, Datrium DVX offered a surprising mix of flexibility, manageability, and scalability. With DVX, SSD on the host replaces that in the storage array, and it frees users to choose any type of commodity flash device. NBMC could also retain its server infrastructure instead of being forced into a full server replacement, which would be required with another hyperconverged solution.

“The cool thing with Datrium DVX is it eliminated array-based flash and instead put it on the host,” Rabe said. “Now we add flash on the fly whenever we want and pay consumer flash costs instead of storage array premiums for flash.”

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In NBMC’s Unidesk environment, all applications and operating systems are duplicated across virtual machines, so DVX in-line deduplication and compression delivered terrific results. “At times, we’re seeing 100x space savings on the cache itself,” Rabe said. “Not only that, it enables more things to be kept in flash, so we’re getting an extremely low price per gigabyte. Cache is no longer a cost concern of ours.”

Improved Performance Means More Time Serving Patients

Rabe put the DVX through a direct comparison in a test environment, running the same cache on DVX as on the Nimble array. “When I ran a head-to-head comparison, the DVX performed critical tasks in a quarter of the time compared to Nimble,” Rabe said. “During maintenance windows, we saw an 80-90% savings in time, where tasks that used to take 10-20 minutes on the current SAN now take less than two minutes to complete.”

As NBMC fully rolled out the DVX platform, the company saw similar performance results. Rabe also found that instead of VM performance declining as additional servers were added, the performance of the Datrium system actually increased as the number of servers grew.

“The data reduction technology made it easier and more cost-effective for us to scale our environment,” stated Rabe. “Those two reasons alone were enough for me to buy the system, but on top of that, there’s also a huge performance increase. You already had me before, but now it’s also faster? I’m sold.” NBMC was effectively able to take significant cost out of the data management solution while improving scalability.

But ultimately, according to Rabe, it was the uptime that the providers and staff noticed most. Smaller maintenance windows mean more time for patients. “With Datrium, we’re able to complete tasks in less than half the time, so providers stay focused on a patient and not worrying about technology,” Rabe said.

About North Bend Medical Center

Electronic information in hospital systems is growing by as much as 40% annually, according to some estimates. Driven by adoption of electronic medical records (EMR) in particular, it’s no wonder that data storage ranks as one of the top IT challenges in healthcare organizations.

At North Bend Medical Center (NBMC), a 450-employee physician group in Coos Bay, Oregon, all that adds up to nearly 20 TB of data – information that must be continuously available to support physicians and staff in serving patients.

“Our number-one priority is our patients, so the more time we can help providers focus on a patient instead of looking at a broken computer screen, the better we’re able to serve our communities,” said Joshua Rabe, Systems Architect at NBMC.

Learn more about Datrium at www.datrium.com.