

Nimbus Data's Gemini All-Flash Array Puts St. Joseph Healthcare on Fast Track by Reducing Wait Times for Both Patients and Doctors

St. Joseph Healthcare needed a faster, more efficient storage solution that it could scale up to meet the capacity and performance requirements of virtualized desktops. By introducing the Nimbus Gemini F620 all-flash array into its data center, St. Joseph put itself on a fast track toward virtualizing 400 desktops while reducing the wait times for both its patients and its doctors.

By Jerome M Wendt, DCIG Lead Analyst

Company

St. Joseph Healthcare
G360 Broadway
Bangor, ME 04402-0403
Tel: 207.907.1000

www.stjoeshealing.org



St. Joseph healthcare
St. Joseph Hospital
In the Spirit of Healing

Challenges

- Existing storage solution lacked performance to support VM rollout
- Limited IT budget to replace aging physical machines
- Needed to virtualize 400 Windows XP desktops
- Doctors hampered in treating patients by inefficient IT infrastructure

Solution

- Nimbus Data Gemini F620 All-Flash Array

Benefits

- Doctors' virtual desktops could follow them as they moved between offices
- Gemini array could start small and scale to match future business needs
- Gemini array offered sufficient performance to meet IT needs for foreseeable future
- St. Joseph staff saw 4–5x improvements in application performance

“The Nimbus Gemini appliance allowed us to quadruple the amount of read/write speeds within our XenDesktop environment. We no longer experience Bootstorm events when the VM's power on each morning.”

— Bryan Grivois
St. Joseph Healthcare's Director of
Technology & Information Security

Overview

St. Joseph Healthcare's Director of Technology and Information Security, Bryan Grivois, recognized that the time had come to upgrade its IT infrastructure as part of improving the service it provides. Having to deal with a limited IT budget, Grivois sought out a new storage solution that would offer St Joseph the capacity, performance and flexibility it would need now and into the future. The Nimbus Gemini all-flash array was the remedy to its problems. St Joseph now runs virtualized applications faster and more economically than it did on desktops contributing to an improved doctor-patient relationship.

St. Joseph Healthcare Company Profile

St. Joseph Healthcare has been a part of the Bangor, Maine, community for 60 years and owes its existence to the Felician Sisters of the Enfield, Connecticut Province, who founded the Organization in 1947. The St. Joseph Healthcare ministry is rooted in the tradition of Felician Foundress Blessed Mary Angela's vision of renewing society through compassionate caring of the whole person in all circumstances. Today the organization is sponsored by Covenant Health Systems and is licensed for 112 beds.

St. Joseph's PC Infrastructure Goes on Life Support

No one likes bad news and St Joseph's Director of Technology and Information Security, Bryan Grivois, had just received some. Microsoft had officially announced its plans to suspend its support for Windows XP. This meant that the 350+ Windows XP desktops St Joseph had running in its environment officially went on life support.

The upside was that St Joseph knew this day was coming. It had already taken steps to mitigate its reliance on desktop PCs by hosting nearly 500 thin clients using Citrix XenDesktop.

However certain practical obstacles outside of its control had precluded it from completely virtualizing its environment. Multiple power users still used direct-attached peripherals like scanners or printers that were not conducive to being virtualized. The healthcare industry was also notoriously slow to adopt new technologies. As a result many applications that St Joseph's staff relied upon had only just recently become officially supported in virtualized environments.

The larger issue confronting St Joseph was finding an affordable, scalable storage solution to host a fully virtualized desktop infrastructure (VDI). Despite using storage from an established provider, this storage solution would not meet the increased demands that many more hundreds of clients in a VDI environment would place upon it.

Its existing storage solution specifically did not support solid state drives (SSDs) needed to power a VDI rollout. Since St Joseph's strategic direction was to virtualize its desktops and the applications needed by its physicians, Grivois began to search for a new storage solution that would meet St Joseph's specific needs.

St. Joseph's Identifies Nimbus as a Potential Cure

St Joseph identified a cure to its challenges almost immediately when one of its IT staff attended a meeting of a local New England-based virtualization group. While in attendance, he began talking to Nimbus Data about its Gemini all-flash arrays.

The Nimbus Gemini all-flash arrays provided St. Joseph with a means to achieve the higher IOPS needed for its VDI deployment without changing its budget. Using Nimbus Data St Joseph Healthcare could start with the capacity it needed and then seamlessly add more capacity by scaling up as it rolled out more virtual desktops.

One Instance Where Positive Results Are a Good Sign

After researching the flash market, St Joseph purchased a Gemini array to support and accelerate its VDI environment. St Joseph arrived at that number based on the

capacity and performance requirements associated with initially virtualizing 200 desktops and its own budgetary constraints.

In establishing the I/O requirements for each virtual desktop, St Joseph estimated that each one would need about 200 IOPS based on manufacturer specifications (160 IOPS for the operating system and another 40 IOPS for the GE Centricity application that each virtual desktop would host.) To support the initial deployment, St Joseph needed the Nimbus Data Gemini array to host 200 virtual desktops while delivering 40,000 IOPS to support this environment successfully. This requirement was more than two times what St Joseph's existing storage system could deliver.

St Joseph IT team knew that Nimbus Data had a fast flash array and proved this after testing the new virtual desktops using the Gemini array. The difference was night and day. Nimbus Data's Gemini array not only was it able to handle the workload of all 200 virtual desktops, but users also reported that performance on their new virtual desktops was 4–5x **better** than the performance they were previously accustomed to seeing on their physical desktops. Grivois says, "The Nimbus Gemini appliance allowed us to quadruple the amount of read/write speeds within our XenDesktop environment. We no longer experience Bootstorm events when the VM's power on each morning."

More encouraging to Grivois was the knowledge that St Joseph was not even close to maxing out either the storage capacity or performance capabilities of the Nimbus Gemini array. While Grivois was bracing for the 200 virtual desktops to generate up to 40,000 IOPS, they barely scratched the surface of the capabilities of Gemini array generating only about 10,000 IOPS. While that number of IOPS would have pushed St Joseph's existing storage system to its limits, the Gemini array had plenty of headroom left as it can support **up to 2,000,000 IOPS**.

The scalability of the Nimbus system also came into play with St Joseph's plans to add another 200 virtual desktops in the next year. This will require it to add more storage capacity without sacrificing performance. Grivois is not concerned knowing he has plenty of performance overhead left. He adds, "Nimbus is ideal for our needs. It

"Nimbus is ideal for our needs. It allowed us to deploy flash storage that we initially needed to meet the needs of our first 200 virtual desktops and then later expand the same array by adding drives to the same enclosure to host the next 200 virtual desktops."

— Bryan Grivois
St. Joseph Healthcare's Director of
Technology & Information Security

allowed us to deploy flash storage that we initially needed to meet the needs of our first 200 virtual desktops and then later expand the same array by adding drives to the same enclosure to host the next 200 virtual desktops."

Nimbus Data Brings an End to Both Doctor and Patient Wait Times

Before implementing the Nimbus Gemini all-flash array, users at St. Joseph Healthcare had to contend with old PCs running an out-of-date operating system. Physicians were also inconvenienced as they first needed to pull up patient records in one room and then log into yet another machine in the exam room.

Now the wait times for both doctors and patients are substantially reduced. Physicians no longer need to read a patient's file and then redo all of their work as they meet with the patients in the exam room. Instead using their virtualized desktop, physicians can much more quickly access the information they need. Equally important, they can pull up exactly what they want anytime they want regardless of where they are working.

Grivois points out that the reduced amount of time that doctors have to spend getting to needed patient information and the resulting improved doctor-patient relationship has more than justified the investment St Joseph Healthcare made in the Gemini all-flash array. He says, "Those benefits are much larger than any cost savings we would have realized if we had only looked at the hardware costs." ■

About DCIG

DCIG is a group of analysts with IT industry expertise who provide informed, insightful, third party analysis and commentary on IT hardware, software and services. DCIG independently develops and licenses access to DCIG Buyer's Guides. DCIG also develops sponsored content in the form of blog entries, case studies, product reviews, special reports and white papers. More information is available at www.dcig.com.

About Nimbus Data Systems

Nimbus Data Systems, Inc. develops award-winning **Sustainable Storage®** systems, the most intelligent, efficient and fault-tolerant solid state storage platform engineered for server and desktop virtualization, databases, HPC, and next-generation cloud infrastructure. Combining low-latency flash memory hardware, comprehensive data management and protection software, and highly-scalable multiprotocol storage features, Nimbus systems deliver dramatically greater performance at a significantly lower operating cost than conventional disk-based primary storage arrays, all at a comparable acquisition cost.



DCIG, LLC | 7511 Madison Street | Omaha NE 68127 | 402.884.9594
dcig.com