UMassMemorial Health Care

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UMass Memorial Health Care Migrates Disparate Medical Data onto New Storage Infrastructure

THE CHALLENGE

Kevin Davis, Senior Storage Engineer, Systems Administration, and Information Services for UMass Memorial Health Care knows that in today's digitally focused world, extraordinary health care is not ensured by the medical professionals alone. To provide exceptional care and services, healthcare organizations must employ equally advanced, innovative, and reliable technology.

Earlier this year, the UMass Memorial Health Care data center recognized it was time to update a portion of its data storage infrastructure. It was and still is, employing a network-attached storage (NAS) platform to manage and store a variety of data, including medical applications and patient records, as well as administrative files. The goal was to move all of this data off the previous storage and onto new, higher performing storage.

"The existing storage had over a petabyte of NAS data, but any engineer that is confronting having to move data across platforms, let alone this much data, understands the problems that can arise can be insurmountable," explained Davis. "Making things even more complicated is that, although much of the data is decades old and we estimated that about 70% of it should be archived, the storage was still in production, so new business-critical data is being written to it all the time. And the data is complex – there are countless disparate apps being used by the doctors and departments across the UMass Memorial Health Care network."

"As we began to plan, it felt like when you move houses and you throw everything you own into boxes to bring to your new home, even though you know that much of it should be put into storage, or gotten rid of altogether," Davis said. "Plus, we had an added pressure to move quickly. The existing storage had been end-of-lifed, meaning updates, support, and services are now virtually nonexistent. So, not only is it much more expensive to support this gear, it can put data at risk."

About the Customer

UMass Memorial Health Care is the largest health care system in central Massachusetts. It is the clinical partner of University of Massachusetts Medical School, with access to the latest technology, research, and clinical trials. Its hospitals receive full accreditation by The Joint Commission, a national organization that sets quality standards for hospitals.

In addition to its fully equipped hospitals, UMass Memorial Health Care's system also includes home health and hospice programs, behavioral health programs, and community-based physician practices. UMass Memorial Health Care has an affiliation with CareWell Urgent Care to provide regional urgent care services. Also, the UMass Memorial Medical Group provides high-quality, low-cost outpatient surgery services at The Surgery Center in Shrewsbury.

UMass Memorial Health Care by the numbers:

- 1,700 physicians on its active medical staff
- 3,000 registered nurses
- 14,000+ total employees
- 1,125 beds in its hospitals

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THE SOLUTION

Acknowledging the magnitude and critical importance of the task, Davis and his team carefully researched and evaluated potential solutions.

"I looked at NetApp® XCP® software, but their CIFS (Common Internet File System) tool is lacking," Davis said. "And I had previous experience with Robocopy and rsync, but I just didn't have the time for all the planning, troubleshooting, and scripting that I knew would be involved with those tools. Moreover, Robocopy and rsync lack reporting capabilities, except for some very basic logs. That means more work when it is time to create any type of report for management."

Davis chose Datadobi, as its DobiMigrate® enterprise-class software would enable them to migrate file or object data between any storage platform, on-premises or in the cloud – safely, quickly, easily, and cost-effectively.

DobiMigrate made the cutover time seamless and the change management process easy. "Change is tough everywhere. But hospitals run on slightly tighter margins. With DobiMigrate we are able to dry run a change, see how long it will take, and accurately advise other data center team members, as well as those outside of IT that could be affected."

Migration speed and ease of management were of great importance to Davis. He and his team were impressed with their ability to complete tasks in moments that had previously taken hours. "The initial replication is fast, but after DobiMigrate completes it, it is ridiculously fast. You can open as many threads as your network can handle," he said. "Also, it is able to plow through metadata and discover changes in our databases in an incredibly fast and efficient manner. And any kind of error is also a cakewalk. DobiMigrate manages it all, even when users add something as foreign as emojis in the file name. Yes, that actually happens."

In addition, the fact that DobiMigrate offered a single, multiprotocol-supported solution was also a boon. "We needed to be able to handle CIFS and SMB protocols, as well as NFS, and DobiMigrate delivered."

Last but not least, DobiMigrate's continuous monitoring capabilities also rated high. "Hospitals have long-term retention needs. My end users – caregivers and administrators – need to hold and protect data for years as part of our operations and to meet regulatory requirements. That can stretch to decades for clinical data. With DobiMigrate, we can see what data is being actively used, the exact age of each file, and when it was last touched, down to the department level and user."

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THE FUTURE

Not surprisingly, COVID-19 caused new priorities to arise, and UMass Memorial Health Care has had to put the final changeover to the new NetApp infrastructure on hold. To date approximately half the storage, or about 500 TBs, has been migrated to the new NetApp storage. Until the changeover is complete, DobiMigrate is being leveraged to replicate data every three hours.

"All the departmental shares have been moved, but the home directories are still hanging," said Davis.

In the coming months, the plan is to complete the migration onto the NetApp, and decommission the existing storage. The dated existing storage is currently connected to a variety of equally dated network switches. Once the move is complete, the networking team will be able to decommission the switches as well.

"Thanks to Datadobi, the storage team has all of our ducks in a row," Davis said. "Once the move is complete, we don't need to make any complicated changes on our old storage here or in our disaster recovery site. We can just flip the switch, and turn out the lights."

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sales@datadobi.com | www.datadobi.com

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