EMC CLARiiON storage infrastructure helps optimize patient care by providing rapid and continuous access to information

For over 50 years the residents of the Twin Cities area of Minnesota have relied on North Memorial Health Care’s comprehensive network of centers and clinics to help ensure their health and wellbeing. Nationally recognized for leading-edge medicine, this independent healthcare provider offers a wide range of inpatient and outpatient services supported by an integrated hospital-based medical transport system that includes seven helicopters and more than 115 ambulances.

The fast and continuous delivery of information and images critical to patient care is made possible through Midwave Corporation, an EMC Authorized Services Network Professional Services Partner within the EMC Velocity Partner Program. Midwave designed and deployed a consolidated storage infrastructure based on powerful, highly reliable EMC CLARiiON® CX series-based storage. EMC Navisphere®, EMC MirrorView™, and EMC PowerPath® software are also part of this comprehensive information management solution and provide the features and functionality to simplify storage and path management and facilitate uninterrupted operations.

“As part of our IT Infrastructure strategic planning, we recognized several years ago that we needed to prepare for the increased data storage and availability demands of corporate initiatives like enterprise PACS and hospital-wide EMR,” says Mike Sweet, Director of IT Infrastructure. “We purchased our first EMC CLARiiON CX system at that time and have since expanded to eight CLARiiON systems to support growing needs. The partnership with EMC and Midwave has enabled us to centralize data storage and storage management and implement high availability strategies across our two data centers. This is a requirement that is part of our overall IT Infrastructure strategy to ensure that clinical and business information is continuously available for patient care as well as for business decisions.”

Success leads to expanded use

Before the deployment of the first EMC CLARiiON CX series system, applications such as admissions, discharges, and transfers; pharmacy; and human resources were supported by standalone systems. Consolidating storage onto a state-of-the-art EMC CLARiiON CX series platform augmented by EMC Navisphere and EMC PowerPath software brought infrastructure and management simplicity, as well as levels of availability and resiliency not readily achievable within the previous dispersed environment.
Within the span of four years, eight EMC CLARiiON systems have been acquired to provide consistent, reliable support for a growing number of key applications including an Epic Systems Corporation Hospital Information System (HIS) with electronic medical record (EMR) functionality, FUJIFILM Medical Systems Synapse PACS, Microsoft SQL Server, and Sybase, Inc. applications. Today, approximately 110 to 120 terabytes of EMC CLARiiON storage are currently in use with 30 to 50 terabytes purchased each year to accommodate the growth and extension of existing applications, such as PACS, as well as new applications coming onboard.

The ability to meet varying application service levels while facilitating more cost-efficient operations is easily addressed by a choice of high-performance Fibre Channel or ATA drives which can coexist within the same EMC CLARiiON system. Fibre Channel drives are reserved for patient- and business-critical applications, while the more economical ATA drives are used in instances where capacity rather than performance is a requirement, such as for security camera images.

Providing the capability to quickly and easily monitor, manage, and provision arrays, EMC Navisphere software is used to oversee the organization’s entire EMC CLARiiON CX series infrastructure. Cited for their value in simplifying and streamlining storage management are the software’s reporting functionality and automatic alert capabilities which flag critical changes. These features enable the organization to proactively address growing and changing storage capacity needs.

EMC PowerPath software is used for almost every application with data residing on EMC CLARiiON CX series storage. It optimizes both reliability and performance through multi-path and load balancing features.

Unsurpassed performance and business continuity for Epic and FUJIFILM applications

Epic Systems Corporation’s EMR software is a very demanding application from a storage performance perspective. Through the creative use of EMC Navisphere and metaLUN configuration Midwave and EMC have been able to create a finely tuned, high performance storage environment.

Supporting the highest level of business continuity possible, Midwave and EMC have also co-created a state-of-the-art, 24x7 disaster recovery/business continuity solution for Epic HIS applications that leads the industry in innovation and functionality. Unlike other disaster recovery/business continuity solutions on the market today that support Epic environments, EMC and Midwave have given North Memorial Health Care the advantages of read/write access through their disaster recovery site. This access allows the delivery of healthcare to continue uninterrupted through significant events. EMC CLARiiON systems located in separate data centers provide the foundation for this resilient infrastructure along with third-party clustering and replication solutions.

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Within the organization’s FUJIFILM Medical Systems Synapse PACS environment, which was deployed to replace a film-based process, EMC MirrorView software provides advanced remote replication capabilities to help ensure uninterrupted access to image archives.

“The CLARiiON CX series storage solution gives us the ability to create a highly reliable environment that supports replication of Epic and PACS records for disaster recovery,” says Steve Lazer, a long-term consultant to the healthcare facility from Midwave Corporation. “North Memorial Health Care doesn’t have an option about being available 24x7. They are currently operating one hospital and building another hospital at this time. Their services simply need to be there.”

EMC CLARiiON to support one of the largest hospital-based ambulance services in the nation

North Memorial Ambulance Service, which is affiliated with North Memorial Health Care, will soon replace its direct-attached storage-to-server environment with a consolidated EMC CLARiiON CX series storage infrastructure. Chosen for its power and reliability, the EMC CLARiiON CX series platform will support critical applications that demand the highest level of availability possible, such as those involved with 911 dispatching of ambulances and helicopters. It will also be used for AVL tracking information and billing purposes.

“Given the criticality of our operation, it is necessary for us to not only look for solutions that are stable, but also solutions that have the redundancy in place for when things go wrong. The EMC CLARiiON CX series allows us to plan for the worst so that we can be at our best,” says Joe Glaccum, Director, Ambulance Services Technology.